PLANNING BOARD

Tuesday, July 8, 2025 at 4:30 PM
Room 24 (Ground Level of City Hall) and Zoom

MEMBERS
Brandon Mazer, Chair
David Silk, Vice Chair
Michael Fox
Nicholas Messina
Kelsey Robertson
Austin Smith
Joseph Zamboni

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AGENDA:

WORKSHOP - 4:30 PM

i. Text Amendment to Inclusionary Zoning for Hotel Projects; City of Portland, Applicant. The Planning Board will hold a hybrid workshop to consider potential amendments to the hotel inclusionary zoning requirements of Article 17 of the Land Use Code.

PUBLIC HEARING - 5:30 PM

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATION AND REPORTS

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON JUNE 24, 2025.

Public Hearing
61 Preble Street : Fox, Messina, Robertson, Smith, and Zamboni present. Silk absent. Mazer recused.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON JUNE 24, 2025.

i. Major Site Plan; 61 Preble Street; 60 Elm Street, LLC Applicant. Messina motioned and Robertson seconded a motion to approve the major site plan application. Vote 5-0 (Silk absent and Mazer recused). Messina motioned and Robertson seconded a motion to adopt the approval letter as the Planning Board's decision, and to authorize the Board Chair to sign the approval letter as drafted. Vote 5-0 (Silk absent and Mazer recused).

5. NEW BUSINESS

i. Text Amendment to the Pedestrian Activities District (PAD) Overlay; City of Portland, Applicant. The Planning Board will hold a hybrid public hearing where the Board will make a recommendation to the City Council around a proposed amendment to the PAD Overlay of Article 8 of the Land Use Code.

ii. Master Development Plan Amendment; 385 Congress Street; Reger Dasco Properties and The Fathom Companies, Applicant. The Planning Board will hold a hybrid public hearing to consider an application to amend a previously approved Master Development Plan (MDP) to facilitate changes in removing the southwest portion of the MDP boundary, increase the proposed heights of the structures from 150 to 250 feet, and increase the number of structure parking spaces from 337 to 449. The subject properties are located in the B-3 Downtown Business District, Downtown Entertainment Overlay District, and Pedestrian Activities District Overlay District. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-003359-2025.

iii. Major Site Plan and Traffic Movement Permit; 203 Fore Street; Chatham Lodging Trust, Applicant. The Planning Board will hold a hybrid public hearing to consider a proposal to develop a new 132-room Home 2 Suites hotel with three ground-level retail spaces, a valet parking area with space for 105 vehicles, and a new pocket park along Middle Street. The subject property totals 48,000 square feet and is zoned India Street Form Based Code (ISFBC). A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002892-2024.

iv. Major Site Plan; 1584 Forest Avenue; Acre Properties, Applicant. The Planning Board will hold a hybrid public hearing to consider a major site plan application to facilitate the development of a 50-unit multi-family development with 50 off-street parking spaces on property located at 1584 Forest Avenue, to be accessed via Belfort Street. The subject property totals 66,650 square feet and is zoned RN-5 Residential and B-1 Neighborhood Business. A

project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-003161-2024.

To:	Chair Brandon Mazer & Members of the Planning Board
From:	Matthew Grooms
Date:	July 3, 2025
Re:	Zoning Text Amendment – Article 17
Meeting Date:	July 8, 2025

I. INTRODUCTION

On November 4, 2024, the City Council passed Order 77-24/25 (6-2, Mayor Dion & Councilor Rodriguez – No, Councilor Fournier Absent) (Attachment A) establishing a 180-day moratorium on new hotel projects in the City of Portland. The Council cited multiple factors in consideration of this moratorium, including:

- Current lack of affordable housing within the City;
- Percentage of new jobs created as a result of new hotel development that are expected to pay below 60% of the area median income (AMI);
- Prevalence of new hotel development since the City's Hotel IZ policy went into effect in 2018;
- Lack of new long-term low-income housing developed as part of new hotel development.
- Contribution of only $3,556,000 in fees into the Jill C. Duson Housing Trust Fund;
- Hotel Inclusionary Zoning Ordinance has not been substantially changed since its initial passage in 2019, and is inadequate to provide sufficient affordable housing for hotel employees.

The moratorium took effect on December 4, 2024, and was scheduled to expire on June 2, 2025. On May 5, 2025, the City Council passed Order 177-24/25 (9-0) (Attachment B), extending the moratorium by 180 days. As detailed in Order 77-24/25, the purpose of this moratorium was to provide time for the Housing and Economic Development Committee to review the City's hotel inclusionary zoning ordinance and identify policy concerns for the Planning Board to consider in developing potential amendments to the ordinance.

On April 15, 2025, Planning & Urban Development Department (PUD) staff met with the City Council's Housing and Economic Development Committee to discuss the history, background, and development trends related to the City's hotel inclusionary zoning ordinance (Attachment D). At this meeting, staff presented three alternatives based on an updated linkage fee study completed by the Greater Portland Council of Governments (GPCOG) in March 2025 (Attachment F). At this meeting, one Councilor raised questions regarding the methodology used to generate the City's current inclusionary zoning hotel linkage fee, and the three alternatives presented by staff, which were derived from an identified affordability gap between the median hotel employee household income and the cost to rent a market-rate two-bedroom apartment. The Councilor encouraged staff to explore an alternative methodology that directly correlated the new fee with the cost to

construct new affordable dwelling units as required to serve the demand generated by the hotel development. (A video recording of and meeting materials for the April 15th HEDC Meeting can be found at the following link: https://portlandme.portal.civicclerk.com/event/7340/files/attachment/25813)

Following the April 15th HEDC meeting, staff reviewed other commercial and hotel linkage fee programs to understand how those fees were developed. Staff subsequently developed a fourth alternative for consideration by the Planning Board and City Council.

The purpose of the July 8th Planning Board workshop is to orient the Board to the moratorium, provide background on the City's current hotel inclusionary zoning ordinance, present the potential hotel IZ alternatives prepared by staff, and seek feedback on next steps.

The Planning Board Workshop for this zoning text amendment was advertised in the June 26th and 27th editions of the Portland Press Herald.

II. BACKGROUND

A. History of Hotel Inclusionary Zoning Policy

In 2019, the City proposed and established a hotel inclusionary zoning (IZ) ordinance. The requirement applies to hotel projects with 10 or more rooms and any hotel expansions of 10 or more rooms within any five-year period. To meet the requirement, hotel projects may provide one unit of low-income housing for rent within the city for every 28 hotel rooms. Portland considers a low-income housing unit to mean one that is rented to households earning 80% of the area median income (AMI) or less. The other alternative is for a hotel project to pay a linkage fee (fee-in-lieu) with a 2019 basis of $3,806 per room, which is deposited into the City's Housing Trust Fund at the time the Certificate of Occupancy is issued. The linkage fee is adjusted annually, with the 2025 hotel linkage fee being $4,831 per guest room.

The impetus for creating a hotel inclusionary zoning ordinance was a steady rise in hotel/inn/motel development between 2012 and 2018. Local and national data indicated that job creation in the hospitality industry would involve a considerable number of workforce households at average wage rates below what was required to afford housing in Portland at the time (Attachment D). As a result of the specifics of the industry's profile, and anticipation of a further increase in hotel/inn/motel development in the coming years, the hotel inclusionary zoning ordinance was adopted on January 23, 2019, Order 134-18/19 (Attachment C) and became effective on February 22, 2019.

B. Hotel Development Following the Adoption of the Hotel IZ Ordinance

Since the adoption of the ordinance in 2019, 14 hotel projects have been approved. Of the 14 projects, three hotel projects approved in that timeframe were not subject to hotel inclusionary zoning requirements (Table 1). One project was too small (<10 rooms) to trigger the requirement and the other two were products of approved master development plans (Thompsons Point and

Portland Foreside), which gave them pending proceeding status under the pre-inclusionary zoning code.

Table 1: Approved Hotel Projects Exempt From Hotel IZ Regulations[1]				
Address	Common Name	Approval Year	Total Rooms	Status
148 Coveside Drive	Diamond Cove	2024	8	Approved
Thompson's Point	Forefront Hotel	2023	148	Under Construction
58 Fore Street	Portland Foreside	2023	128	Approved
Total	3		284	

1. Project data related to approved hotel developments, including room counts, status, and fee contributions, was compiled by Planning & Urban Development Department staff based on site plan application records maintained by the City of Portland. Information reflects the status of projects as of July 3, 2025.

Of the 11 remaining projects (Table 2), four have been constructed and completed, resulting in a combined total of 223 rooms. Each of these projects elected to contribute to the Housing Trust Fund, generating a total of $834,373 in contributions. Two additional projects are currently under construction: The Docent's Collection at 178–184 Middle Street, which will contain 19 rooms and contribute $86,602 into the Housing Trust Fund and 215 Commercial Street, which will contain 15 rooms and contribute $70,380 into the housing trust fund. Both are smaller-scale renovations of former office spaces in the Old Port. The remaining five projects have received approval but have not yet begun construction. If built, the five remaining projects would add 623 new rooms. If all 11 projects are constructed as approved, they would collectively generate approximately $3.8 million in contributions to the Housing Trust Fund and 880 hotel rooms.

Table 2: Approved Hotel Projects Subject to Hotel IZ Regulations[1]					
Address	Common Name	Approval Year	Total Rooms	Fee-in-Lieu	Status
121 Middle Street	Docent's Collection	2019	26	$72,314	Construction Complete
1 Center Street	Canopy by Hilton	2019	135	$513,810	Construction Complete
754 Congress Street	The Longfellow Hotel	2020	48	$182,688	Construction Complete
54 Yok Street	The Weldon Hotel	2024	14	$65,562	Construction Complete
178-184-Middle Street	Docent's Collection	2023	19	$86,602	Under Construction

215 Commercial Street	-	2024	15	$70,380	Under Construction
477 Congress Street	Time & Temperature	2023	181	$849,252	Approved
1060 Westbrook Street	Hyatt Jetport	2024	119	$558,348	Approved
465 Congress Street	Monument Hotel	2024	92	$431,664	Approved
385 Congress Street	Fathom	2023	179	$815,882	Approved
245 Commercial Street	Portland Harbor Hotel Expansion	2024	52	$243,984	Approved
Total	**11**		**880**	**$3,890,486**	

1. Project data related to approved hotel developments, including room counts, status, and fee contributions, was compiled by Planning & Urban Development Department staff based on site plan application records maintained by the City of Portland. Information reflects the status of projects as of July 3, 2025

Regarding location, of the 14 projects approved since implementing the Hotel IZ policy, approximately 57% of the eight projects (699 rooms), are located in the City's B-3 Downtown Business zone. This zone spans roughly from Franklin Street to State Street and includes the Old Port and the Arts District, and abuts the City's iconic working waterfront. The B-3 zone is recognized as the region's hub for arts, culture, commerce, and civic life, where hotel development is anticipated and encouraged. For comparison, between 2019 and 2024, the City also approved 1,695 residential dwelling units within the B-3 zone, reflecting strong and balanced growth in both hotel and residential development. This trend aligns with the goals outlined in Portland's Plan 2030, which reinforces downtown as the primary hub of activity for the region.

The remaining hotel projects are also located where hotel development is generally expected. Two projects are in the B-5 zone—one at Thompson's Point and the other at 54 York Street, just outside the B-3 zone near Commercial Street and the Old Port/Waterfront Central neighborhoods. One project, part of the master development plan for the Portland Foreside mixed-use development, is located in the B-6 zone in the Eastern Waterfront. Another is in the Airport Business (A-B) zone, an area commonly associated with airport-related uses and business travel. Finally, one project was approved as part of a contract zone on Great Diamond Island.

Table 3: Approved Hotel Projects by Zone (2019-2024)[1]		
Zone	Total Hotel Projects	Total Rooms Approved
B-2b	1	48
B-3	8	699
B-5	2	162
B-6	1	128
A-B	1	119
Contract Zone	1	8
Total	**14**	**1,164**

1. Project data related to approved hotel developments, including room counts, status, and fee contributions, was compiled by Planning & Urban Development Department staff based on site plan application records maintained by the City of Portland. Information reflects the status of projects as of July 3, 2025

In terms of size, there is no clear evidence of a significant trend toward hotel projects with fewer than 10 rooms as a means of avoiding Hotel IZ requirements. The average size of hotels operating before the adoption of the IZ policy was 89 rooms, compared to an average of 83 rooms for hotels approved since its implementation. Only one project approved since 2019 has had fewer than 10 rooms. However, a notable emerging trend in hotel development is the rise of smaller-scale hotels with fewer than 30 rooms, offering an alternative to traditional accommodations. These boutique-style properties typically feature apartment-style suites with fully equipped kitchens, separate dining and living areas, and private bedrooms. They often operate with limited on-site staff, minimal amenities, rely on mobile check-ins and lack a centralized reception area. Four such projects—121 Middle Street, 178–184 Middle Street (Docent's Collection), 215 Commercial Street, and 54 York Street (The Weldon Hotel)—fit this model. While these developments were still required to comply with Hotel IZ regulations, they reflect a growing and distinct segment of the hospitality market that tends to operate more in the vein of short-term rentals.

C. Recode Zoning Changes

As part of the City's ReCode initiative, adopted by the City Council on November 4, 2024, new hotels are now prohibited in the B-1, B-2b, and TOD-1 zones. The purpose of these zones is to support neighborhood- and community-oriented retail, business, and service establishments within a more urban development pattern. They are intended to foster mixed-use development and moderate-to-high-density housing in urban neighborhoods that align with the City's investment in high-frequency transit infrastructure, encouraging walking, biking, and public transit use. By prohibiting hotels in these zones, the City prioritizes housing and mixed-use developments and directs hotels to designated areas better suited for such uses.

ReCode also included changes to the definition of "hotel" within the land use code. These changes were designed to more clearly define hotels as multi-room commercial facilities with centralized reception, management, and cleaning services, and to address the emerging trend toward non-traditional forms of hotel development more akin to short-term rentals.

III. OVERVIEW OF ALTERNATIVES

A. Updated Fee Amount Based Upon 2025 Updated Linkage Fee Study

Cities often use linkage fees to offset the impacts of new development. Before establishing a linkage fee, communities typically conduct a study that formally and systematically establishes the nexus, or the 'link,' between new development and the fee's purpose. In the case of the City's hotel IZ policy, a linkage fee study was completed in 2018 to document the nexus between hotel development and demand for affordable housing (Attachment E). The basic principle of the study, which was conducted by the Greater Portland Council of Governments (GPCOG), is that new hotel development creates new jobs, attracts new households to fill those jobs, and therefore generates demand for new affordable housing to accommodate those hotel employee households.

When the hotel policy was created, it was also the intent that the linkage fee would be periodically updated. Following the implementation of the hotel moratorium in late 2024, City staff requested an updated linkage fee analysis from GPCOG, which was provided to the City in March of 2025 (Attachment F). It is important to note that GPCOG's current work did not include an evaluation of the 2018 fee study methodology, but instead, simply replicated the original methodology using current-day income and housing cost assumptions. In almost all cases, the current study used the same data sources as the 2018 study. The one exception was for housing cost data, where the original data source was no longer available. Due to this change in the availability of data, GPCOG supplied three possible updated fee-in-lieu figures, reflecting three estimated affordability gaps based on three alternative rental cost data sources (the City of Portland Rent Board reports, American Community Survey, or HUD Fair Market Rent). These figures range from $9,520 to $10,620 to $13,731 per room, depending on the rent data source.

For purposes of comparison, staff conducted an initial analysis of the potential impact of these three possible fees on an average-sized hotel in the City of Portland with 85 rooms. Under the possible fees, the total inclusionary zoning contribution for a hotel of this size would range from $809,164 to $902,720 to $1,167,120. The total contribution for an 85-room hotel at the 2025 hotel IZ figure of $4,831 per room would be $410,635.

B. Review of Peer Community Linkage Fee Nexus Studies

At the April 15th HEDC meeting, a member of the Committee provided feedback to City staff, encouraging staff to explore an alternative methodology to the methodology utilized in the 2018 and updated 2025 hotel linkage fee studies, prepared by GPCOG. As detailed in the preceding section, the current hotel linkage fee is based upon the calculated affordability gap for the typical household of a hotel employee as compared with the median rental rate for a two-bedroom market-rate apartment. The rationale behind this fee is that the hotel developer should be responsible for covering the cost of this identified gap through the linkage fee. The fee is deposited into the City's Housing Trust Fund, and is utilized to help fund or subsidize new affordable housing development as specified in Sec. 17.2.4 in the City of Portland Land Use Code. The concern raised at the April 15th meeting was that the proposed contribution ratio would not align with the cost of constructing the proportionate number of affordable housing units necessary to meet the demand generated by new hotel development.

Following the April 15th meeting, staff evaluated linkage fees established by a range of other communities, including:

1. Boston, MA (Attachment G)
2. Somerville, MA (Attachment (H)
3. San Diego, CA (Attachment I)
4. Los Angeles, CA (Attachment J)
5. Santa Rosa, CA (Attachment K)
6. Culver City, CA (Attachment L)
7. Basalt, CO (Attachment M)

This evaluation aimed to understand how other communities calculate commercial or hotel linkage fees, particularly to address housing affordability related to new employment generation. As a note, Portland's approach is uncommon, as all other peer communities evaluated include a broader array of uses in their linkage fee programs than just hotels, such as retail, office, institutional uses, and industrial uses. Therefore, the nexus studies cited above are broader in scope than the study prepared by GPCOG, and may not specifically target their suggested linkage fees to hotels, but instead, may generally apply fees to commercial development.

In each of the examples reviewed, the linkage fee was similarly based upon a concept of bridging an identified affordability gap for a percentage of households employed by the target industry. Like Portland's linkage fee study, the nexus studies performed by these peer communities identified the number of new jobs generated by various industries and the corresponding number of new households by income tier, the demand for affordable housing, and the affordability gap. This information was then utilized to generate a rational and defensible linkage fee, typically on a cost per square foot basis.

Below is a summary of the methodology utilized in each nexus study by all peer communities that were evaluated.

1. Boston, MA

The study, which was conducted in 2016, estimated that approximately 31,794 new jobs would be created from 14.9 million square feet of new commercial development, projected to occur in Boston over a ten-year period. The study analyzed wages by occupation and household sizes, and conducted a survey to inform estimated relocation rates to determine how many workers would require housing assistance. The linkage fee was informed by calculating the gap between what workers could afford and the cost of creating affordable housing. It was then adjusted to reflect other subsidy sources, which reduced the final fee from a theoretical $80.20/SF to $21.88/SF.

2. Somerville, MA

The analysis projected that 2.2 million square feet of new development would result in approximately 8,899 new jobs. The study then utilized this estimated job growth to determine the

number of households this employment would likely generate, which the study estimated to be 591 new dwelling units across three AMI tiers. The cost to develop these units was compared against what workers at each income level could afford. The fee was scaled back from a maximum of $86.43 per square foot to $8–$10 per square foot to balance policy goals with feasibility.

3. San Diego, CA

The study estimated the number of new jobs likely to be created by different commercial uses, including hotels. It then used wage data to determine how many of these workers would fall into lower income brackets, and then estimated the number of affordable units required to serve those workers. The cost of providing those units was used to set a maximum per-square-foot fee for each use type.

4. Culver City, CA

This study estimated employment per square foot for various commercial uses, then utilized wage data to assign workers in different sectors and occupations to one of several income tiers. It then calculated the gap between what those workers could afford and the actual cost of housing. This affordability gap was then used to estimate a justifiable linkage fee per square foot.

5. Santa Rosa, CA

The study estimated the number of workers created by hotel and other commercial development using employment density assumptions. It used wage data to place workers into income tiers and calculated the cost of producing affordable housing at those income levels. This analysis informed a maximum fee of $75/SF, which was reduced based on economic feasibility.

6. Basalt, CO

The study focused on the impact of short-term rentals and new development on local housing affordability. It used local wage and housing cost data to estimate how much housing would be needed to support the local workforce. Linkage fees were based on the cost to produce these units, applied as a mitigation ratio or fee-in-lieu.

7. Los Angeles, CA

The study projected employment generated by commercial development using land use-based employment ratios. It assigned jobs to income tiers using wage data, then estimated housing needs and affordability gaps per income level. A fee was calculated to reflect the cost of subsidizing housing for the portion of the workforce that would be unable to afford market-rate units.

C. Comparison with Portland's Hotel Linkage Fee Study

Most linkage fee nexus studies, including Portland's, follow a broadly similar methodological framework, grounded in the same core objective: to establish a rational and quantifiable relationship between new commercial development and its corresponding demand for affordable housing. Each study includes an estimation of the number of new jobs generated by development (often using standardized employment density assumptions), and assignment of those jobs to

wage tiers based on occupational or industry-level income data. These studies then evaluate whether those workers can reasonably afford market-rate housing within the jurisdiction. This information is utilized to determine the affordability gap by sector or industry, which is the difference between what a worker can afford and the cost of either producing or acquiring a dwelling unit. This affordability gap typically serves as the basis for determining a maximum justifiable linkage fee. Oftentimes, this fee is substantially reduced in order to ensure that the fee's implementation is feasible, that the developer can absorb the fee, and that the fee does not undermine the community's competitiveness in attracting new development.

Portland's hotel linkage fee study closely mirrors this structure. The study begins by estimating the number of jobs created per hotel room, then converts those jobs into projected households using the City's jobs-to-household ratio. From there, it analyzes the income distribution of hotel employees and compares it against rental benchmarks to determine the housing subsidy necessary to close the affordability gap. This gap, when multiplied by the number of worker households created, yields a per-room linkage fee. Although individual studies vary in their unit of analysis (e.g., per square foot vs. per room), local wage assumptions, or feasibility adjustments, the core methodological foundation is consistent across each of the jurisdictions that were evaluated. Based on this review, Portland's approach is technically sound and consistent with national best practices in nexus-based fee development.

Table 4: Overview of Peer Community Linkage Fees

Jurisdiction	Year of Study	Maximum Defensible Hotel Fee[1]	Current Fee
Boston, MA	2022	$80.20 per SF	$23.09 per SF
Somerville, MA	2017	$86.43 per SF	$3.10 per SF
San Diego, CA	2013	$5-$6 per SF	$1.28 per SF, Adjusted Annually by Consumer Price Index (CPI)
Culver City, CA	2022	$28 per SF	$5 per SF
Santa Rosa, CA	2019	$75 per SF	$3 per SF
Basalt, CO	2023	Variable based on Mitigation Ratio	$538 per SF of Community Housing Required[2]
Los Angeles, CA	2016	$18.60 per SF	$3.86 - $6.44 per SF
Portland, ME	**2025**	**$13,731 per Room**	**$4,831 per Room**

1. As noted above, each of the nexus studies evaluated included a broader set of uses than just hotels. The fee listed would be the fee applicable to hotels, and in certain studies, hotels have a separate fee calculated specifically for hotels, whereas in other studies, the fee may apply to hotels along with other commercial uses.
2. The $538 per square foot figure cited in the Basalt, Colorado nexus study reflects the estimated cost to construct one square foot of community (affordable) housing, including land, hard and soft costs. This is not a linkage fee levied on new commercial development. Rather, it serves as an input in the calculation of the total housing cost attributable to new development. The actual fee charged to development would be significantly lower and based on the proportion of housing need generated per square foot of new commercial space.

D. Converting Portland's Calculation to Per Square Foot

Portland's hotel linkage fee is unique in that it is calculated based upon the number of hotel rooms within the hotel, and not on the basis of the total floor area as is done in other municipalities with a commercial or hotel linkage fee. This makes the comparison of Portland's policy with that of other jurisdictions more challenging. In order to simplify this comparison, staff have converted both the current and potential new rates from a per room to a per square foot ratio, using industry average data (Penner, R. H., Adams, L., & Rutes, W. A. (2013). Hotel design, planning, and development (2nd ed.). Routledge.), which estimates that a typical hotel room results in between 600-750 square feet of floor area (inclusive of common spaces and amenity areas). If an average room size of 675 square feet (averaging the typical range) is assumed, Portland's linkage fee rate would be as follows:

Table 5: Conversion of Portland's Fees to a Per SF Basis

Alternative	Per Room	675 SF Assumption
Current	$4,831.00	$7.16 per SF
Option #1	$9,520.00	$14.10 per SF
Option #2	$10,620.00	$15.73 per SF
Option #3	$13,731.00	$20.34 per SF

E. Alternative Model Based Upon the Cost to Construct Housing

Portland's linkage fee is based upon the affordability gap between the annualized market-rate rental cost for a two-bedroom apartment and the annual income of a typical hotel employee household. This approach allows for a direct comparison between annual housing costs and what the household can reasonably afford to pay, based upon standard affordability thresholds. While housing affordability is often measured by the standard that a household should spend no more than 30% of its gross income on housing costs, Portland's nexus study applies a more conservative 28% affordability threshold to define what constitutes an affordable rent. This methodology focuses specifically on addressing the rental affordability gap within Portland, rather than estimating the full cost of constructing a new affordable housing unit.

In contrast, other studies, such as those conducted in Boston and Somerville, calculate the housing need based on the full development cost of constructing new affordable housing units. These estimates include the cost of land, soft costs (such as design and permitting), and hard construction costs. Boston's study assumes a total cost of $500,000 per unit, while Somerville's assumes $360,000 per unit. Both studies also assume that a portion of these costs would be covered by external subsidies, such as the Low-Income Housing Tax Credit (LIHTC). In the Boston example, the study reduces the public subsidy need from $500,000 to $200,000 per unit, assuming $300,000 in outside funding. The maximum defensible linkage fee of $80.20 per square foot is then calculated based upon this subsidy-adjusted figure and not the full development cost. Additionally, for both Boston and Somerville, the final linkage fee amount implemented in those communities was substantially reduced on the basis of feasibility as detailed in Table 4 above.

In reviewing Portland's linkage fee study against other example studies, this particular difference in methodology stands out as a rational alternative to the current model used in Portland. In theory, this alternative identifies the monetary gap required to fund new affordable housing development to support the City's growing hotel industry.

For discussion purposes, staff have prepared a basic outline of a revised methodology, based on the Boston and Somerville examples, using the data assumptions in the 2025 Hotel Linkage Fee Study Update (Attachment F). The City assumes a typical affordable unit development cost of $300,000, which is informed by the January 2025 report 'Maine's Housing Report' produced by the Maine State Housing Authority (Attachment M). A breakdown of the revised methodology is listed below.

1. Estimate Jobs Created Per Hotel Room
    a. The GPCOG Study estimates that each new hotel room would generate 0.65 jobs per room.
2. Convert Jobs to Households
    a. The GPCOG Study assumes 1.22 jobs per household, meaning some households will have more than one income-earning member.
    b. The GPCOG Study generates households per room by dividing the number of jobs per room by the typical number of jobs per household, which equates to 0.532 households per room.
3. Assume Cost to Construct One Affordable Housing Unit
    a. Instead of calculating a rental affordability gap, this scenario assumes $300,000 as the full cost to build one new affordable housing unit.
4. Calculate the Public Cost per Hotel Room
    a. Multiply the number of worker households generated per room by the cost per unit:
    b. 0.532 households x $300,000 = **$159,836 per hotel room.**
    c. This equates to **$236.79 per square foot**
5. Consider Adjusting the Rate Based Upon a Residency Adjustment Factor
    a. The City of Boston conducted a survey to estimate that just 22.2% of new hotel employee households would choose to locate within the City of Portland.
    b. While the City does not have comparable data for Portland, for illustrative purposes, we've modeled several potential ratios to depict how the maximum defensible fee could be impacted if the City similarly adjusted the ratio by residency.

Table 6: Potential Cost of Construction Alternative Fees		
Residency Factor	Fee Per Room	Fee Per SF (Assuming 675 SF)
None	$159,836.07	$236.79
20%	$31,967.21	$47.36
30%	$47,950.82	$71.04
40%	$63,934.43	$94.72

F. Discussion of Potential Alternatives

1. Option 1: Rental Affordability Gap Model (2025 GPCOG Linkage Fee Study)
   The review of alternative methodologies and nexus studies from peer communities indicates that Portland's current hotel linkage fee structure is grounded in a methodologically sound and broadly consistent framework that Portland's local hotel industry has accepted since its implementation in 2019. Like other jurisdictions, Portland's study quantifies the relationship between job creation and housing need, translating that into a defensible fee based on measurable affordability gaps. While some peer cities, such as Boston, Somerville, and Los Angeles, base their fees on the full cost of constructing affordable housing units, Portland's model focuses instead on the rental affordability gap experienced by the typical household of a hotel worker.

2. Option 2: Cost of Construction Model
   As this memo illustrates, recalibrating Portland's methodology to reflect a construction-cost basis, potentially moderated by a residency adjustment factor, would also be rational and defensible. However, pursuing this approach would require either a new or revised nexus study to validate assumptions and substantiate any revised fee structure. Staff believe that the updated 2025 GPCOG fee scenarios remain defensible and would align the City's fees with current costs. Furthermore, as illustrated above, the alternatives listed in GPCOG's updated 2025 linkage fee study are largely comparable to those assessed by other peer communities, and in some cases, are higher. Other communities, which have utilized a housing construction model, have been required to decrease the fee amount well beneath the maximum defensible fee in order to make the policy feasible to implement. As shown in Table 6, the fees under this alternative model would significant exceed those of other peer communities, even if adjusted on the basis of a residency factor.

3. Example Hotel Project Evaluation
   As noted above, when staff presented to HEDC in April, staff modeled the potential fee alternatives on an average-sized hotel in the City of Portland with 85 rooms. Below is an updated table identifying what the assessed fee would be for each of the alternatives discussed within this memo.

Table 7: Overview of Hotel IZ Fees on Example 85-Room Hotel				
Model	Alternative	Fee Per Room	Fee Per SF (675 SF)	Total Fee
Current	Current Fee	$4,831.00	$7.16	**$410,635.00**
Option 1	COP Rent Board	$9,520.00	$14.10	**$809,200.00**
	ACS Median Rent	$10,620.00	$15.73	**$902,700.00**
	Fair Market Rent	$13,731.00	$20.34	**$1,167,135.00**
Option 2	Unadjusted	$159,836.07	$236.79	**$13,586,065.95**
	20% Residency	$31,967.21	$47.36	**$2,717,212.85**
	30% Residency	$47,950.82	$71.04	**$4,075,819.70**
	40% Residency	$63,934.43	$94.72	**$5,434,426.55**

IV. NEXT STEPS

Staff is seeking feedback and direction from the Planning Board regarding the proposed approach and alternative options outlined in this memo. This input will inform the development of a draft version of the updated hotel inclusionary zoning ordinance, which will be brought back to the Board for further review and consideration. Concurrently, staff will engage a qualified third-party real estate consulting group to conduct a targeted analysis of the various linkage fee alternatives. This review will help evaluate the feasibility, market impact, and legal defensibility of each option, ensuring that any proposed updates to the ordinance are equitable and attuned to Portland's local market conditions.

V. ATTACHMENTS

Report Attachments

A. Council Order 77-24/25
B. Council Order 177-24-25
C. Council Order 134-18/19
D. PUD Memo to HEDC – 4.15.25
E. GPCOG Portland Hotel Linkage Fee Study (2018)
F. Updated GPCOG Portland Hotel Linkage Fee Study (2025)
G. City of Boston Nexus Study
H. City of Somerville Nexus Study
I. City of San Diego Nexus Study
J. City of Los Angeles Nexus Study
K. City of Santa Rosa Nexus Study
L. City of Culver City Nexus Study
M. City of Basalt Nexus Study
N. 2025 Maine State Housing Report

Order 77-24/25 Passage as amended: 6-2 on 11/04/2024 (Mayor Dion & Councilor Rodriguez-No, Councilor Fournier Absent)
Motion to waive second reading: Passed 7-1 (Dion-No, Fournier absent)
Motion to amend effective until date to 5/3/2024 if passed as an emergency and to send any changes made to the Planning Board. - Passed 7-1 (Dion-No, Fournier absent)
Motion to refer to HEDC Committee-Failed 3-5 (Sykes, Ali, Phillips, Trevorrow, Pelletier-No, Fournier absent)
Motion to pass as an emergency: Failed 6-2 (Dion & Rodriguez No, Fournier absent)

Effective 12/04/2024

MARK DION (MAYOR)
PIOUS ALI (A/L)
APRIL D. FOURNIER(A/L)
ROBERTO RODRÍGUEZ (A/L)

CITY OF PORTLAND
IN THE CITY COUNCIL

ANNA TREVORROW (1)
VICTORIA L. PELLETIER (2)
REGINA L. PHILLIPS (3)
ANNA BULLETT (4)
KATE SYKES (5)

ORDER ESTABLISHING A 180-DAY MORATORIUM ON NEW HOTEL PROJECTS IN THE CITY OF PORTLAND

WHEREAS, the City of Portland faces a critical shortage of affordable housing;

WHEREAS, in January 2019, by Order 134-18/19, the City Council adopted an inclusionary zoning ordinance for hotel projects as set forth in Section 18.2.5 of the City's Land Use Code (the "Hotel Inclusionary Zoning Ordinance"); and

WHEREAS, hotel projects create many jobs that do not pay employees at a rate sufficient to allow those employees to afford market rate housing in Portland, and the purpose of the Hotel Inclusionary Zoning Ordinance was to address that demand; and

WHEREAS, the Hotel Inclusionary Zoning Ordinance currently requires developers of hotel projects to provide one unit of low-income long-term rental housing for every 28 rooms in the hotel project or to pay a fee-in-lieu of such units to the Jill C. Duson Housing Trust Fund in the amount of $4,692 for each guest room in the hotel project; and

WHEREAS, since 2019, nine hotel projects have been approved, are under review, are under construction, or have been constructed, including 801 guest rooms; and

WHEREAS, the developers of those hotel projects have provided no low-income long-term rental units and will generate only about $3,556,000 in fees to the Jill C. Duson Housing Trust Fund; and

WHEREAS, the hotel projects that have been constructed since 2019 are projected to create approximately 489 jobs, many of which are expected to pay below 60% of the area median income; and

WHEREAS, hotel development continues to be robust and competes with housing development in Portland;

WHEREAS, the Hotel Inclusionary Zoning Ordinance has not been substantially changed since its initial passage in 2019 and is inadequate to prevent serious public harm caused by hotel development, including the lack of sufficient affordable housing for hotel employees employed at new hotels;

WHEREAS, a temporary 180-day prohibition on approval for new hotel projects is appropriate in order to allow the City time to review and amend the Hotel Inclusionary Zoning Ordinance as necessary to ensure that there is sufficient affordable housing for hotel employees and otherwise prevent a worsening of the housing crisis; and

WHEREAS, in the judgment of the City Council for the City of Portland, these facts create an emergency within the meaning of 30-A M.R.S. § 4356(1) (A) and the City Charter, requiring immediate action to prevent serious public harm; and

NOW, THEREFORE, pursuant to its authority in 30-A M.R.S. §§ 3001 and 4356, the Portland City Council hereby ordains that a Moratorium is imposed, effective immediately, on any and all applications and approvals for hotel projects, except that this Moratorium does not apply to any hotel projects that have any applications with the City or the Planning Board that are currently under review by the City or the Planning Board or that have already been approved by the City or Planning Board (the "Existing Hotel Projects"); and

BET IT ORDERED, that that no permit applications for any hotel project, other than the Existing Hotel Projects, shall be accepted, processed, or reviewed by the City or the Planning Board for the period of this Moratorium; and

BE IT FURTHER ORDERED, that those provisions of the City's Land Use Code that are inconsistent or conflicting with the provisions of this Moratorium, are hereby repealed to the extent that they are applicable for the duration of this Moratorium, but not otherwise; and

BE IT FURTHER ORDERED, that during the time that this Moratorium is in effect, the City's Housing and Economic Development Committee shall review the Hotel Inclusionary Zoning Ordinance and identify policy concerns for the Planning Board to consider in developing potential amendments to the ordinance for consideration by the City Council; and

BE IT FURTHER ORDERED, that this Moratorium shall remain in effect until the earlier of the effective date of necessary amendments to the Hotel Inclusionary Zoning Ordinance or June 2, 2025, unless extended, repealed, or modified by the Portland City Council; and

BE IT FURTHER ORDERED, that to the extent any provision of this Moratorium is deemed invalid by a court of competent jurisdiction, the balance of the Moratorium that shall remain shall be considered valid.

Att. B

Order 177-24/25
Passage: 9-0 on 5/5/2025

Effective 5/15/2025

MARK DION (MAYOR)
PIOUS ALI (A/L)
APRIL D. FOURNIER (A/L)
BENJAMIN GRANT (A/L)

CITY OF PORTLAND
IN THE CITY COUNCIL

SARAH MICHNIEWICZ (1)
WESLEY PELLETIER (2)
REGINA L. PHILLIPS (3)
ANNA BULLETT (4)
KATE SYKES (5)

ORDER EXTENDING FOR 180 DAYS THE MORATORIUM ON NEW HOTEL PROJECTS IN THE CITY OF PORTLAND ESTABLISHED BY ORDER 77-24/25

WHEREAS, the City of Portland continues to face a critical shortage of affordable housing; and

WHEREAS, in January 2019, by Order 134-18/19, the City Council adopted an inclusionary zoning ordinance for hotel projects as set forth in Section 18.2.5 of the City's Land Use Code (the "Hotel Inclusionary Zoning Ordinance"); and

WHEREAS, hotel projects create many jobs that do not pay employees at a rate sufficient to allow those employees to afford market rate housing in Portland, and the purpose of the Hotel Inclusionary Zoning Ordinance was to address that demand; and

WHEREAS, the Hotel Inclusionary Zoning Ordinance currently requires developers of hotel projects to provide one unit of low-income long-term rental housing for every 28 rooms in the hotel project or to pay a fee-in-lieu of such units to the Jill C. Duson Housing Trust Fund in the amount of $4,692 for each guest room in the hotel project; and

WHEREAS, since 2019, nine hotel projects have been approved, are under review, are under construction, or have been constructed, including 801 guest rooms; and

WHEREAS, the developers of those hotel projects have provided no low-income long-term rental units and will generate only about $3,556,000 in fees to the Jill C. Duson Housing Trust Fund; and

WHEREAS, the hotel projects that have been constructed since 2019 are projected to create approximately 489 jobs, many of which are expected to pay below 60% of the area median income; and

WHEREAS, hotel development continues to be robust and competes with housing development in Portland; and

WHEREAS, the Hotel Inclusionary Zoning Ordinance has not been substantially changed since its initial passage in 2019 and is inadequate to prevent serious public harm caused by hotel development, including the lack of sufficient affordable housing for hotel employees employed at new hotels; and

WHEREAS, a 180-day prohibition on approval for new hotel projects was approved by Order 77-24/25 on November 4, 2024 to allow the City time to review and amend the Hotel Inclusionary Zoning Ordinance as necessary to ensure that there is sufficient affordable housing for hotel employees and otherwise prevent a worsening of the housing crisis; and

WHEREAS, as required by Order 77-24/25, the City's Housing and Economic Development Committee met on April 15, 2025 and received a presentation from Planning staff outlining potential amendments to the Hotel Inclusionary Zoning Ordinance; and

WHEREAS, Planning staff anticipate presenting proposed amendments to the Planning Board in June 2025; and

WHEREAS, the existing Moratorium is scheduled to expire on June 2, 2025, prior to consideration of proposed amendments by the Planning Board and City Council; and

WHEREAS, the conditions that gave rise to the original moratorium persist, and the City is actively working to address them by pursuing amendments in accordance with the process initiated by Order 77-24/25.

NOW, THEREFORE, pursuant to its authority in 30-A M.R.S. §§ 3001 and 4356, the Portland City Council hereby extends the existing Moratorium for an additional one hundred and eighty (180) days through November 29, 2025, effective immediately, on any and all applications and approvals for hotel projects, except that this Moratorium does not apply to any hotel projects that have any applications with the City or the Planning Board that are currently under review by the City or the Planning Board or that have already been approved by the City or Planning Board (the "Existing Hotel Projects"); and

BE IT ORDERED, that no permit applications for any hotel project, other than the Existing Hotel Projects, shall be accepted, processed, or reviewed by the City or the Planning Board for the extended period of this Moratorium; and

BE IT FURTHER ORDERED, that those provisions of the City's Land Use Code that are inconsistent or conflicting with the provisions of this Moratorium, are hereby repealed to the extent that they are applicable for the duration of this Moratorium, but not otherwise; and

BE IT FURTHER ORDERED, that during the time that this extended Moratorium is in effect, the City's Housing and Economic Development Committee, with the assistance of

Housing and Economic Development and Planning staff, shall continue to review the Hotel Inclusionary Zoning Ordinance and identify policy concerns for the Planning Board to consider in developing potential amendments to the ordinance for consideration by the City Council; and

BE IT FURTHER ORDERED, that this Moratorium shall remain in effect until the earlier of the effective date of necessary amendments to the Hotel Inclusionary Zoning Ordinance or November 29, 2025, unless further extended, repealed, or modified by the Portland City Council; and

BE IT FURTHER ORDERED, that to the extent any provision of this Moratorium is deemed invalid by a court of competent jurisdiction, the balance of the Moratorium that shall remain shall be considered valid.

DRAFT MINUTES FROM

HOUSING AND ECONOMIC DEVELOPMENT COMMITTEE MEETING

HELD ON 4/15/2025 RE HOTEL INCLUSIONARY ZONING ORDINANCE

Item #2: Discussion: Hotel Inclusionary Zoning Ordinance and identify policy concerns for the Planning Board to consider in developing potential amendments to the Ordinance for consideration by the City Council

Kevin Kraft presented the history, background, and development trends related to the City's hotel inclusionary zoning ordinance. Nell Donaldson presented GPCOG's Nexus and Linkage Fee Study.

According to lodging license data from the Maine Department of Health and Human Services, there are currently 41 licensed lodging places in the City of Portland, with approximately 3,500 total rooms. 68% of these hotels have been developed since 2000, with 18 (44%) having been developed since 2010. In 2019, the City proposed and established a hotel inclusionary zoning ordinance. In the case of the City's IZ policy, a linkage fee study was completed in 2018 to document the nexus between hotel development and demand for affordable housing. The current linkage fee-in-lieu is $4,831 per guest room. When the hotel policy was created, it was also the intent that the linkage fee would be periodically updated. In early 2025, City staff requested an updated fee-in-lieu analysis from GPCOG. Based on available data sources, GPCOG supplies three possible update fee-in-lieu figures based on three alternative rental cost date sources. These figures range from $9,520 to $10,620 to $13,731 per room, depending on the rent date source used.

Staff is providing three options on moving forward. With committee guidance, staff is recommending the hotel moratorium be extended to allow time for staff to draft proposed Land

Use Code revisions for Planning Board review (in May/June) and eventually for consideration by the full City Council (in June/July).

The Committee held a discussion regarding the study methodology, and intended outcomes. Questions regarding the linkage fee, wage rates, number of hotel employees in Portland, creating housing affordable for hotel employees, and other methods to measure how to address the housing crisis were discussed. The Committee also noted that to create municipal led public housing, there would need to be a massive, revolving housing trust fund. Staff asked the Committee for their goal for the Hotel Inclusionary Zoning ordinance - is it to create the housing units required in the ordinance or is it to support investment into the Housing Trust Fund to leverage funding to create a greater amount of affordable housing?

Councilor Sykes noted the benefits of municipal led public housing is greater efficiency when compared to developers in the private market, and for that reason, leans towards trying to get a larger fee (that is more in line with what it costs to create housing) and try to capitalize a fund the City could use to produce publicly-owned housing.

Councilor Phillips indicated she would like to meet with the Planning Department.

Councilor Michniewicz asked staff to discuss their recommendation for option 2 ("raise IZ fee-in-lieu and reduce applicable threshold").

Staff noted the current fee-in-lieu has not discouraged hotel development, so there is the thought there is room to increase the fee. Also, the current fee was calculated based on data from at least 2018 or earlier, so there is needed updating. Recalibrating the fee includes considering the impact on local developers. The fee should not be set so high that the unintended consequence is limiting the pool of developers from local and large commercial developers to only large commercial developers. Reducing the threshold from applying to projects that include

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ten or more guest rooms would maintain consistency with changes made during ReCode.

Councilor Sykes indicated she leans towards option 2, but thinks the fee is far too low. The fee should be at a place that does not completely disincentivize hotel development. Larger corporations that are building hotels are probably in a place that is much easier for them to absorb the fee-in-lieu. Therefore, maybe tier the fee on the cost of the hotel room or ask the developer what the rate would be to rent a room for a week and then have that be the fee-in-lieu.

The Committee held a discussion on directing staff on how to proceed. Staff will implement the changes requested by the Committee, then bring the revised proposal to the Planning Board who would then make a recommendation to the City Council for consideration.

To allow the time necessary to conduct this work and hold the public hearings, the Committee directed staff to bring an extension request to the City Council to extend the moratorium from ending on June 2 to ending an additional six months from that date.

Councilor Ali opened the meeting to public comment. Seeing no one, the public comment period was closed.

On a motion by Council Sykes, seconded by Councilor Michniewicz, the Committee voted 4-0 to recommend to the City Council extension of the current 180-day moratorium on new hotel projects and expansions to allow time for a review of the Hotel Inclusionary Zoning ordinance.

DRAFT

City of Portland | Planning & Urban Development Department
Kevin D. Kraft, AICP *Director*

Staff Memo To:
Housing & Economic Development Committee
Councilor Pious Ali, Chair

MEETING DATE
April 15, 2025

AGENDA ITEM
Agenda Item 2 – Hotel Inclusionary Zoning Ordinance

PURPOSE
An initial discussion on the history, background, and development trends related to the City's hotel inclusionary zoning ordinance, with the committee providing direction on next steps.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT
On December 16, 2024, the City Council established its 2025 Common Goals, outlining policy priorities and guiding the development of Council committee work plans. The Housing & Economic Development Committee (HEDC) identified the review and potential revision of the hotel inclusionary zoning ordinance (Chapter 14, Section 17.2.4) as a policy matter aligned with Council Common Goal #2: "*The Council will work to implement solutions to the housing crisis, including building more working class housing, improved support for the unhoused community such as an overdose prevention center as well as continued support for warming shelters. Additionally conduct independent assessment of Efficiencies, Outcomes, and Expenditures.*"

At its January 21, 2025 meeting, the HEDC established its 2025 work plan, which includes reviewing and considering potential revisions to the City's existing hotel inclusionary zoning ordinance.

BACKGROUND/ANALYSIS
On November 4, 2024, the City Council passed Order 77-24/25 (6-2, Mayor Dion & Councilor Rodriguez - No, Councilor Fournier Absent) (Attachment A) establishing a 180-day moratorium on new hotel projects in the City of Portland. The moratorium went into effect on December 4, 2024 and is set to expire on June 2, 2025.

Portland's Hotel Inventory & Development Trends
According to lodging license data from the Maine Department of Health and Human Services, there are currently 41 licensed lodging places in the City of Portland, with approximately 3,500 total rooms. 68% of these hotels have been developed since 2000, and 18 (44%) have been developed since 2010.

History of Hotel IZ policy
In 2019, the City proposed and established a hotel inclusionary zoning (IZ) ordinance. The requirement applies to hotel projects with 10 or more rooms and any hotel expansions of 10 or more rooms within any five-year period. To meet the requirement, hotel projects can provide one unit of low-income housing for rent within the city for every 28 hotel rooms. Portland considers a low-income housing unit to mean one that is rented to households earning 80% AMI or less. The other alternative is for a hotel project to pay a linkage fee (fee-in-lieu) with a 2019 basis of $3,806 per room, which is deposited into the City's Housing Trust Fund at the time the Certificate of Occupancy is issued. The linkage fee is adjusted annually; the 2025 hotel inclusionary fee-in-lieu is $4,831 per guest room.

The impetus for the creation of a hotel inclusionary zoning ordinance was a steady rise in hotel/inn/motel development between 2012 and 2018. Local and national data indicated that job creation in the hospitality industry would involve a considerable amount of workforce households at average wage rates below what was required to afford housing in Portland at the time. As a result of the specifics of the industry's profile and anticipating an increase in hotel/inn/motel development in the coming years, the hotel inclusionary zoning ordinance was adopted on January 23, 2019, Order 134-18/19 (Attachment B) and became effective on February 22, 2019.

Hotel development post IZ policy
Since adoption of the ordinance in 2019, 14 projects have been approved. Of the 14 projects three hotel projects approved in that timeframe were not subject to hotel inclusionary zoning requirements (Table 1). One project was too small (<10 rooms) to trigger the requirement and the other two were products of approved master development plans (Thompsons Point and Portland Foreside), which gave them pending proceeding status under the pre-inclusionary zoning code.

Table 1: Approved Hotel Projects Exempt From Hotel IZ Regulations

Address	Common Name	Approval Year	Total Rooms	Status
148 Coveside Drive	Diamond Cove	2024	8	Approved
Thompson's Point	Forefront Hotel	2023	148	Under Construction
58 Fore Street	Portland Foreside	2023	128	Approved
Total	**3**		**284**	

Of the 11 remaining projects (Table 2), four have been constructed and completed, resulting in a combined total of 223 rooms. Each of these projects elected to contribute to the Housing Trust Fund, generating a total of $834,373 in contributions. Two additional projects are currently under construction: The Docent's Collection at 178–184 Middle Street, which will contain 19 rooms and contribute $86,602 into the Housing Trust Fund and 215 Commercial Street, which will contain 15 rooms and contribute $70,380 into the housing trust fund. Both are smaller-scale renovations of

former office spaces in the Old Port. The remaining five projects have received approval but have not yet begun construction. If built, the five remaining projects would add an additional 623 new rooms. If all 11 projects are constructed as approved, they would collectively generate approximately $3.8 million in contributions to the Housing Trust Fund and 880 hotel rooms.

Table 2: Approved Hotel Projects Subject To Hotel IZ Regulations

Address	Common Name	Approval Year	Total Rooms	Fee-in-lieu	Status
*121 Middle Street	Docent's Collection	2019	26	$72,314	Construction Complete
1 Center Street	Canopy by Hilton	2019	135	$513,810	Construction Complete
754 Congress Street	The Longfellow Hotel	2020	48	$182,688	Construction Complete
54 York Street	The Weldon Hotel	2024	14	$65,562	Construction Complete
178-184 Middle Street	Docent's Collection	2023	19	$86,602	Under Construction
215 Commercial Street	-	2024	15	$70,380	Under Construction
477 Congress Street	Time & Temperature	2023	181	$849,252	Approved
1060 Westbrook Street	Hyatt Jetport	2024	119	$558,348	Approved
465 Congress Street	Monument Hotel	2024	92	$431,664	Approved
385 Congress Street	Fathom	2023	179	$815,882	Approved
245 Commercial Street	Portland Harbor Hotel Expansion	2024	52	$243,984	Approved
TOTAL	**11**		**880**	**$3,890,486**	

121 Middle Street – Awaiting fee-in-lieu payment for 7 additional rooms, which are included in the total room count.

In terms of location, of the 14 projects approved since the implementation of the Hotel IZ policy, approximately 57%, a total of eight projects (699 rooms) are located in the City's B-3 Downtown Business zone. This zone spans from roughly Franklin Street to State Street and includes the Old Port, Arts District, and abuts the waterfront areas recognized as the region's core for arts, culture, commerce, and civic life, where hotel development is both anticipated and encouraged. For comparison, between 2019 and 2024, the City also approved 1,695 residential dwelling units within the B-3 zone, reflecting strong and balanced growth in both hotel and residential

development. This trend aligns with the goals outlined in *Portland's Plan 2030*, which reinforces downtown as the region's primary hub of activity for the region.

The remaining hotel projects are also located in areas where hotel development is generally expected. Two projects are in the B-5 zone—one at Thompson's Point and the other at 54 York Street, just outside the B-3 zone near Commercial Street and the Old Port/Waterfront Central neighborhoods. One project, part of the master development plan for the Portland Foreside mixed-use development, is located in the B-6 zone in the Eastern Waterfront. Another is situated in the Airport Business (A-B) zone, an area commonly associated with airport-related uses and business travel. Finally, one project was approved as part of a contract zone on Great Diamond Island.

Approved Hotel Projects by Zone (2019–2024)

Zone	Total Hotel Projects	Total Rooms Approved
B-2b	1	48
B-3	8	699
B-5	2	162
B-6	1	128
A-B	1	119
Contract Zone	1	8
TOTAL	**14**	**1,164**

In terms of size, there is no clear evidence of a significant trend toward smaller hotel projects (<10 rooms) as a means of avoiding Hotel IZ requirements. The average size of hotels operating prior to the adoption of the IZ policy was 89 rooms, compared to an average of 83 rooms for hotels approved since its implementation. Only one project approved since 2019 has been under 10 rooms. However, a notable emerging trend in hotel development is the rise of smaller-scale hotels with fewer than 30 rooms, offering an alternative to traditional accommodations. These boutique-style properties typically feature apartment-style suites with fully equipped kitchens, separate dining and living areas, and private bedrooms. They often operate with limited on-site staff, minimal amenities, and rely on mobile check-ins and lacking a centralized reception area. Four such projects—121 Middle Street, 178–184 Middle Street (Docent's Collection), 215 Commercial Street, and 54 York Street (The Weldon Hotel)—fit this model. While these developments were still required to comply with Hotel IZ regulations, they reflect a growing and distinct segment of the hospitality market that tend to operate more in the vein of short term rentals.

ReCode Zoning Changes

As part of the City's ReCode initiative, adopted by the City Council on November 4, 2024, new hotels are now prohibited in the B-1, B-2b, and TOD-1 zones. The purpose of these zones is to support neighborhood- and community-oriented retail, business, and service establishments within a more urban development pattern. They are intended to foster mixed-use development and moderate- to high-density housing in urban neighborhoods that align with the City's investment in high-frequency transit infrastructure, encouraging walking, biking, and public transit use. By prohibiting hotels in these zones, the City prioritizes housing and mixed-use developments and directs hotels to designated areas better suited for such uses.

ReCode also included changes to the definition of "hotel" within the land use code. These changes were designed to more clearly define hotels as multi-room commercial facilities with centralized reception, management, and cleaning services, and to address the emerging trend toward non-traditional forms of hotel development more akin to short-term rentals.

Inclusionary Zoning Fee-in-Lieu Assumptions

Linkage fees are often used by cities as a way to offset the impacts of new development. Before establishing a linkage fee, communities typically conduct a study that formally and systematically establishes the nexus, or the 'link,' between new development and the fee's purpose. In the case of the city's hotel IZ policy, a linkage fee study was completed in 2018 to document the nexus between hotel development and demand for affordable housing (Attachment C). The basic principle of the study, which was conducted by the Greater Portland Council of Governments (GPCOG), is that new hotel development creates new jobs and attracts new households to fill those jobs, and that new affordable housing is necessary to accommodate them.

When the hotel policy was created, it was also the intent that the linkage fee would be periodically updated. Although no specific timeframe was established for these updates and in anticipation of upcoming discussions regarding the current Hotel IZ fee amounts, City staff requested an updated fee-in-lieu analysis from GPCOG in early 2025 (Attachment D). It is important to note that GPCOG's current work did not include an evaluation of the 2018 fee study methodology, but instead simply replicated the original methodology using current day income and housing cost assumptions. In almost all cases, the current study used the same data sources as the 2018 study; the one exception was for housing cost data, where the original data source was no longer available. Because of this change in the availability of data, GPCOG supplied three possible updated fee-in-lieu figures, reflecting three estimated affordability gaps based on three alternative rental cost data sources (the City of Portland Rent Board reports, American Community Survey, or HUD Fair Market Rent). These figures range from $9,520 to $10,620 to $13,731 per room, depending on the rent data source used.

For purposes of comparison, staff conducted an initial analysis of the potential impact of these three possible fees, based on an average sized hotel in the City of Portland of 85 rooms. Under the possible fees, the total inclusionary zoning contribution for a hotel of this size would range from $809,164 to $902,720 to $1,167,120. The total contribution for an 85 room hotel at the 2025 hotel IZ figure of $4,831 per room would be $410,635.

NEXT STEPS:

If the summary and recommendations for changes to the existing Hotel IZ ordinance align with the committee's and City Council's priorities, the City can proceed in several possible directions:

1. **Option 1 - Raise IZ fee-in-lieu:** This option would increase the hotel IZ fee-in-lieu based on the estimated affordability gap identified in the 2025 GPCOG study. Staff seeks committee direction on the preferred fee amount based on the rent data source used. Based on the Council's direction, the housing unit per room requirement within hotel inclusionary zoning policy would also be adjusted.

2. **Option 2 - Raise IZ fee-in-lieu & reduce applicability threshold:** In addition to raising the hotel IZ fee-in-lieu based on the estimated affordability gap from the GPCOG study, this option would amend the definition of a "Hotel project" to apply to any size hotel, rather than the current requirement of only applying to projects that include 10 or more guest rooms. Based on the Council's direction, the housing unit per room requirement within hotel inclusionary zoning policy would also be adjusted.

3. **Option 3 - Maintain existing fee-in-lieu & reduce applicability threshold:** This option would retain the existing hotel IZ fee-in-lieu while reducing the applicability threshold. The definition of a "Hotel project" would be amended to include any hotel, rather than only those with 10 or more guest rooms. As in Option 2, the threshold of >10 rooms would be removed, making the IZ requirements applicable to all hotel projects. Based on the Council's direction, the housing unit per room requirement within hotel inclusionary zoning policy would also be adjusted.

FISCAL IMPACT

The hotel IZ policy has resulted in $834,374 in contributions to the housing trust fund, with just over $3 million in anticipated revenues from approved projects pending construction. The fee-in-lieu amount is adjusted annually. If the fee is updated to more accurately reflect current incomes and housing costs, assuming that hotel development trends hold steady, contributions to the housing trust fund could be expected to increase significantly.

CONCLUSION(S)

This item is for discussion and direction. If the committee supports the presented options and provides additional guidance on revisions, staff recommends that the hotel moratorium be extended to allow time for staff to draft proposed Land Use Code revisions. These revisions would then be reviewed by the Planning Board, which will provide a recommendation on a text amendment to update the Hotel Inclusionary Zoning ordinance for consideration by the full City Council. Following the Planning Board's recommendation, the amendment will move forward to the full City Council for consideration and final decision.

PRIOR COMMITTEE REVIEW

N/A

PREPARED BY

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ATTACHMENTS

Attachment A – Hotel Moratorium Order 77-24/25
Attachment B – Hotel IZ Ordinance Order 134-18/19
Attachment C - GPCOG Linkage Study 2018
Attachment D - GPCOG Linkage Study 2025
Attachment E - Hotel IZ Ordinance - Chapter 14

Order 77-24/25 Passage as amended: 6-2 on 11/04/2024 (Mayor Dion & Councilor Rodriguez-No, Councilor Fournier Absent)
Motion to waive second reading: Passed 7-1 (Dion-No, Fournier absent)
Motion to amend effective until date to 5/3/2024 if passed as an emergency and to send any changes made to the Planning Board. - Passed 7-1 (Dion-No, Fournier absent)
Motion to refer to HEDC Committee-Failed 3-5 (Sykes, Ali, Phillips, Trevorrow, Pelletier-No, Fournier absent)
Motion to pass as an emergency: Failed 6-2 (Dion & Rodriguez No, Fournier absent)

Effective 12/04/2024

MARK DION (MAYOR)
PIOUS ALI (A/L)
APRIL D. FOURNIER(A/L)
ROBERTO RODRÍGUEZ (A/L)

CITY OF PORTLAND
IN THE CITY COUNCIL

ANNA TREVORROW (1)
VICTORIA L. PELLETIER (2)
REGINA L. PHILLIPS (3)
ANNA BULLETT (4)
KATE SYKES (5)

ORDER ESTABLISHING A 180-DAY MORATORIUM ON NEW HOTEL PROJECTS IN THE CITY OF PORTLAND

WHEREAS, the City of Portland faces a critical shortage of affordable housing;

WHEREAS, in January 2019, by Order 134-18/19, the City Council adopted an inclusionary zoning ordinance for hotel projects as set forth in Section 18.2.5 of the City's Land Use Code (the "Hotel Inclusionary Zoning Ordinance"); and

WHEREAS, hotel projects create many jobs that do not pay employees at a rate sufficient to allow those employees to afford market rate housing in Portland, and the purpose of the Hotel Inclusionary Zoning Ordinance was to address that demand; and

WHEREAS, the Hotel Inclusionary Zoning Ordinance currently requires developers of hotel projects to provide one unit of low-income long-term rental housing for every 28 rooms in the hotel project or to pay a fee-in-lieu of such units to the Jill C. Duson Housing Trust Fund in the amount of $4,692 for each guest room in the hotel project; and

WHEREAS, since 2019, nine hotel projects have been approved, are under review, are under construction, or have been constructed, including 801 guest rooms; and

WHEREAS, the developers of those hotel projects have provided no low-income long-term rental units and will generate only about $3,556,000 in fees to the Jill C. Duson Housing Trust Fund; and

WHEREAS, the hotel projects that have been constructed since 2019 are projected to create approximately 489 jobs, many of which are expected to pay below 60% of the area median income; and

WHEREAS, hotel development continues to be robust and competes with housing development in Portland;

WHEREAS, the Hotel Inclusionary Zoning Ordinance has not been substantially changed since its initial passage in 2019 and is inadequate to prevent serious public harm caused by hotel development, including the lack of sufficient affordable housing for hotel employees employed at new hotels;

WHEREAS, a temporary 180-day prohibition on approval for new hotel projects is appropriate in order to allow the City time to review and amend the Hotel Inclusionary Zoning Ordinance as necessary to ensure that there is sufficient affordable housing for hotel employees and otherwise prevent a worsening of the housing crisis; and

WHEREAS, in the judgment of the City Council for the City of Portland, these facts create an emergency within the meaning of 30-A M.R.S. § 4356(1) (A) and the City Charter, requiring immediate action to prevent serious public harm; and

NOW, THEREFORE, pursuant to its authority in 30-A M.R.S. §§ 3001 and 4356, the Portland City Council hereby ordains that a Moratorium is imposed, effective immediately, on any and all applications and approvals for hotel projects, except that this Moratorium does not apply to any hotel projects that have any applications with the City or the Planning Board that are currently under review by the City or the Planning Board or that have already been approved by the City or Planning Board (the "Existing Hotel Projects"); and

BET IT ORDERED, that that no permit applications for any hotel project, other than the Existing Hotel Projects, shall be accepted, processed, or reviewed by the City or the Planning Board for the period of this Moratorium; and

BE IT FURTHER ORDERED, that those provisions of the City's Land Use Code that are inconsistent or conflicting with the provisions of this Moratorium, are hereby repealed to the extent that they are applicable for the duration of this Moratorium, but not otherwise; and

BE IT FURTHER ORDERED, that during the time that this Moratorium is in effect, the City's Housing and Economic Development Committee shall review the Hotel Inclusionary Zoning Ordinance and identify policy concerns for the Planning Board to consider in developing potential amendments to the ordinance for consideration by the City Council; and

BE IT FURTHER ORDERED, that this Moratorium shall remain in effect until the earlier of the effective date of necessary amendments to the Hotel Inclusionary Zoning Ordinance or June 2, 2025, unless extended, repealed, or modified by the Portland City Council; and

BE IT FURTHER ORDERED, that to the extent any provision of this Moratorium is deemed invalid by a court of competent jurisdiction, the balance of the Moratorium that shall remain shall be considered valid.

Order 134-18/19
Passage: 9-0 on 1/23/2019 Effective 2/22/2019

ETHAN K. STRIMLING (MAYOR)
BELINDA S. RAY (1)
SPENCER R. THIBODEAU (2)
BRIAN E. BATSON (3)
JUSTIN COSTA (4)

CITY OF PORTLAND
IN THE CITY COUNCIL

KIMBERLY COOK (5)
JILL C. DUSON (A/L)
PIOUS ALI (A/L)
NICHOLAS M. MAVODONES, JR (A/L)

AMENDMENT TO PORTLAND CITY CODE CHAPTER 14
RE: HOTEL PROJECT INCLUSIONARY ZONING

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PORTLAND, MAINE IN CITY COUNCIL ASSEMBLED AS FOLLOWS:

That Chapter 14, Sections 14-484, 14-485 and 14-488.1 is hereby amended to read as follows:

Sec.14-484. Purpose.

It is in the public interest to promote an adequate supply of affordable housing for the city's residents. The purpose of this division therefore is to offer incentives to developers to include units of affordable housing within development projects, thereby mitigating the impact of market rate housing construction, or the demonstrated increase in affordable housing needs resulting from the creation of new lower-income jobs, on the limited supply of available land for suitable housing and helping to meet the housing needs of all economic groups within the city. The city believes that this division will assist in meeting the city's comprehensive goals for affordable housing, in the prevention of overcrowding and deterioration of the limited supply of affordable housing, and by doing so promote the health, safety and welfare of its citizens.

...

Sec. 14-485. Definitions.

...

Eligible project means a development project:

...

(d) Projects shall not be considered "eligible projects" solely because they are subject to Section 14-487 ("Ensuring Workforce Housing").

Hotel Project is any hotel, inn or motel, as defined in Section 14-47 of Chapter 14 of the Portland City Code, consisting of 10 or more guest rooms for rent. Any such development that exists prior to the effective date of this Section but expands by 10 or more rooms within any 5 year period will also be considered a hotel project.

...

14-488.1 Inclusionary Zoning for Hotel Projects

(a) **Purpose:** This section is based on City analysis, most specifically the analysis documented in the Greater Portland Council of Government study "Proposed Hotel Linkage Fee: Supportable Range" dated August 29, 2018, that finds that new hospitality developments create a need for new affordable housing. This need is the result of the fact that hospitality developments necessarily create a number of jobs that do not pay employees at a rate sufficient to allow those employees to afford market-rate housing in the City of Portland.

(b) **Hotel Projects Conditional Uses:** Notwithstanding anything to the contrary in Chapter 14, all hotel projects are conditional uses subject to Planning Board review on the condition that they comply with the requirements of this Section 14-489.

(c) **Low Income Housing Minimum.** All hotel projects shall provide one unit of Low Income Housing for rent in the City of Portland for every 28 rooms in the hotel project which shall meet the standards outlined in Section 14-487 and in the implementing regulations governing Low Income Units. This amount shall be rounded up to the nearest increment of 28 rooms. These units shall be deed restricted for the longest period permitted by law; shall not be used for Short Term Rentals of less than 30 days; and must be provided with distinct entrances from the street to delineate them from the hotel itself.

(d) **Fee-in-Lieu Alternative:** As an alternative to providing Low Income Housing units under subsection (c) above, a Hotel Project may pay a fee-in-lieu of $3,806 per hotel guest room. This amount shall be paid into the City's Housing Trust

and used for the purposes set forth in the ordinance and regulations applicable to that trust.

(e) **Annual Adjustments:** The amounts in (d) above shall be adjusted annually in the same way as the fee under Division 29 for Housing Replacement.

(f) **Regulations:** The Planning Board may promulgate implementing regulations based on this ordinance.

(g) **Applicability:** Notwithstanding the provisions of 1 M.R.S. § 302, Sec. 14-489 shall apply retroactively and include any and all actions and proceedings pending on September 26, 2018 or thereafter.

To: Jeff Levine, Planning & Urban Development Director
From: Stephanie Carver, GPCOG Planning Director
Date: 8/29/18
RE: Proposed Hotel Linkage Fee: Supportable Range

This memo has been expanded and updated based on additional data provided by the Maine Innkeepers Association.

Introduction

The City of Portland's Department of Planning & Urban Development is examining the feasibility of a proposal for assessing hotel linkage fees that would recover the cost of producing housing that is affordable for hotel employees. The purpose of this memo is to provide information to the City regarding the use of linkage fees for this purpose and outline a potential methodology for the calculation of a fee.

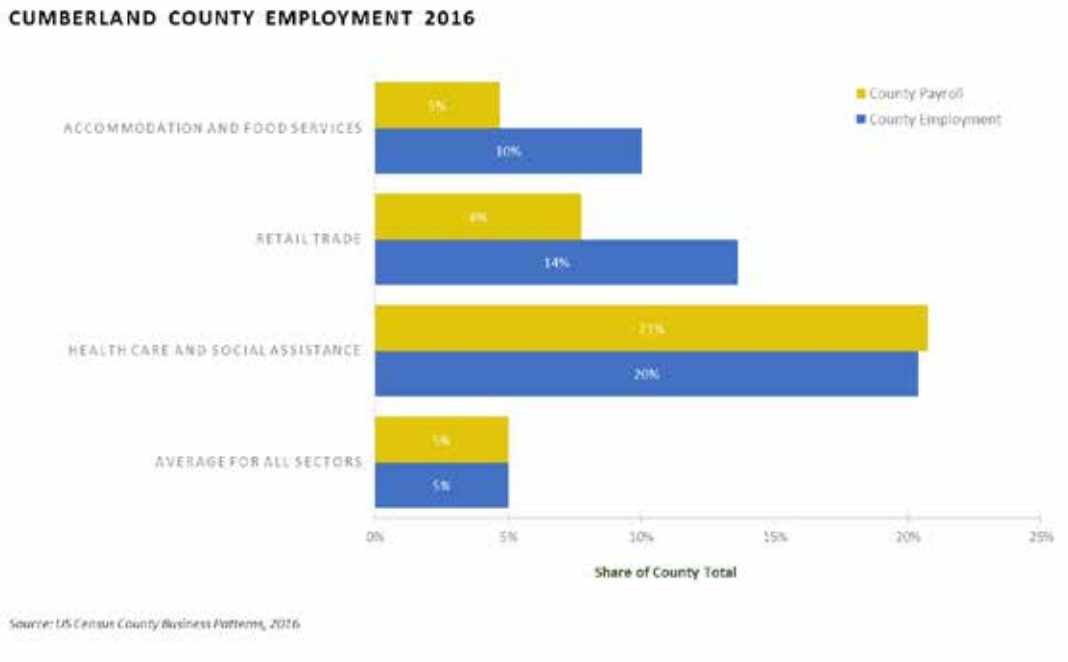
We have used the best available data to demonstrate how this methodology could be used to estimate a potential hotel linkage fee, but this does not constitute a recommendation from GPCOG as to the amount the City of Portland should charge for the hotel linkage fee nor is it a recommendation for the City of Portland to enact a hotel linkage fee ordinance.

Background

Linkage fees are fees that cities may choose to implement to help mitigate the impact of new commercial development on the demand and availability of affordable housing. Prior to implementing a fee policy, communities often conduct a study to identify the connection, or "nexus" between new commercial development and the need for additional affordable housing. It is assumed that new commercial development contributes additional workers to a city's workforce and adds new worker households. In many industries, a percentage of these households do not make enough to live and work in the same city. Looking outside the city to find affordable housing often results in longer commute times and higher transportation costs. If implemented, a linkage fee is typically charged to a developer as a condition of approval and it is assessed based on total square footage or number of units in the development.

The City's Comprehensive Plan identifies the increasing demand for affordable housing as an emerging issue and sets a goal of pursuing "policies to enable people who work in Portland to have the option to live in Portland." To be considered affordable, housing should consume no more than 30% of a household's income including rent, mortgage, utilities and other household related costs. Of the 1,130 housing units that were permitted and/or built in Portland between 2010 to 2014,

including apartments, condominiums and single-family homes, just 29% were offered at a rent or sales price affordable to a household earning the median income[i].



The Maine Office of Tourism estimates over 6 million tourists visited Portland in 2017. Hotel development is steadily increasing, with 1,811,050 square feet of hotel development - representing 2,647 units - currently in operation throughout the City. According to the US Census, the accommodation and food service sector is the third largest share of employment in Cumberland County, representing 10% of the County's workforce but only 5% of the County's payroll.

According to the Maine State Housing Authority the average rent (including utilities) for a two-bedroom apartment in Portland is $1,053 per month, and the household income needed to afford the average rent in Portland is $42,111 per year. However, this is the average rent paid by existing renters in Portland and new households moving to Portland will pay the current market rate, which is generally higher than the average rent. As of June 15, 2018, there are roughly 60 two-bedroom apartments listed for rent in Portland on Zillow, with monthly rents ranging between $1,300-$3,500. One third of those apartments are listed with rents between $1,500 and $2,000, and another third of those apartments are listed for more than $2,000 per month. Therefore, a new household moving to Portland will expect to pay between 120%-330% of the average rent to live in the City.

There are a range of estimates available regarding the average wages of a full-time employee in this sector, and all are well below the household income needed to afford housing in Portland. According to the US Census, the average Cumberland County employee in this sector earns $312 a week or $16,227 per year. The Maine Department of Labor (DOL) estimates the median income for a full-time

Cumberland County employee in this sector to be significantly higher, $24,908 per year. Additionally, as of 2017 the minimum wage in Portland is $10.68/hour, so a full-time employee making this salary would earn an annual income of $22,214. This affordability gap may force accommodation workers employed in Portland to seek housing outside of Portland.

Data

The minimum justified fee per square footage of hotel development outlined in this memo is based on data from both the US Census American Community Survey (ACS), and wage data from the Maine Department of Labor (DOL).

The US Census American Community Survey (ACS) data in this memo was used because it is the most comprehensive and consistent data source for demographic and economic characteristics of the population in GPCOG's service area. However, there are some limitations to the ACS data. First, it is 5-year sample data because this is the only data consistently available at the municipal, county, and state level. The drawback to using data pooled over five years is it averages out any short-term changes in income due to economic cycles or Portland's more recent minimum wage increase. Second, the median earnings reported by the ACS are based on what individuals report for their earnings regardless of whether they work full-time or part-time. As a result, these earnings may be skewed lower by individuals who work part-time, which may be more common for employment in the retail, food service, or accommodation sectors.

To balance these limitations, the median weekly wage data from the Maine DOL was also included in the analysis. The Maine DOL wage data is from the Quarterly Census of Employment and Wages (QCEW), which is based on employment and wage data reported to the Unemployment Insurance (UI) of the United States. The Maine DOL data also has some limitations. First, the data are only available at the industry level, so it is not possible to calculate the affordability gap for different occupations in the hotel sector. Second, the average weekly wage reported by the QCEW also does not differentiate between full-time and part-time employment. As a result, the weekly wage data reported by the Maine DOL may be skewed both by higher wage occupations and by part-time employment. The average weekly wage reported by Maine DOL was used to calculate yearly income based on full-time employment. This also assumes individuals employed in the accommodation sector can work full-time if they are willing and able to[ii].

Methodology

Methodologies used to calculate linkage fees vary, but in most cases the analysis begins with an estimation of the number of new employees associated with a typical development, in this case a hotel. In this methodology, a formula is used to calculate the affordability gap between what workers can afford to pay for housing and the average cost of market rate housing.

In Portland's case, a link is established between the creation of new jobs in the hotel sector and the increased demand for affordable housing through the following steps:

- **New Jobs.** Industry data was used to estimate the number of direct jobs that will be created by a new hotel with 180 units. According to the Urban Land Institute the typical hotel employs between 0.5-0.8 employees per hotel room. Using an average value of 0.65 employees per hotel room, it is estimated that a hotel with 180 rooms will employ 117 people. The current ratio of jobs per household was used to estimate how many households will be created by this new employment.

- **Households.** Currently there are 37,737 employed civilians aged 16 and over within the 30,211 total households in Portland. This means that on average there are 1.2 jobs per every household in Portland. Based on this ratio it is estimated that the 117 additional jobs created by a new hotel will create 94 new households in Portland. However, it is assumed employment in these households will be split up between different occupations, such as management, sales, service, and maintenance. The wages for each specific occupation may be higher or lower than the median wage for the hotel industry. Therefore, industry occupation employment and wage data examined from the ACS was used to estimate how many new households will be low income.

EMPLOYED POPULATION PER HOUSEHOLD 2016

	Portland	Cumberland County	Maine
Employed Civilian Population 16+	37,737	155,014	652,638
Total Households	30,211	117,871	551,109
Jobs/Household	1.2491	1.3151	1.1842

Source: American Community Survey 2016 5-year estimate

- **Jobs by Occupation.** Based on industry and occupation employment data from the ACS 64% of jobs in the hotel industry are service occupations, 19% of hotel jobs are management occupations, 13% of hotel jobs are sales and office occupations, and the remainder are maintenance and transportation occupations. The total number of jobs and households that will be created in each occupation was calculated by multiplying the share of hotel employment by occupation by the total number of new hotel jobs created.

NEW JOBS AND HOUSEHOLDS BY OCCUPATION CREATED BY NEW HOTEL EMPLOYMENT

	Share of Hotel Employment	Number of New Jobs	Number of New Households
Service	**64%**	**74**	**60**
Sales and Office	13%	15	12
Transportation	4%	4	3
Maintenance	1%	1	1
Management	19%	22	18
Total - All Occupations	100%	117	94

Source: American Community Survey 2016 5-year estimate; GPCOG Analysis

- **Household Income**. Median wage by occupation data for Cumberland County from the ACS was used to calculate the household income for each household in each occupation category. This calculation assumes 1 person in each new household works full-time in the hotel industry and any additional workers in the household earn the area median income:

NEW HOUSEHOLDS AND HOUSEHOLD INCOME BY OCCUPATION (ACS DATA)

	Number of New Households	Median Wage for Hotel Income Earner	Median Wage for Second Income Earner	Total Household Income
Service	**60**	**$18,109**	**$9,015**	**$27,124**
Sales and Office	**12**	**$30,444**	**$9,015**	**$39,459**
Transportation	**3**	**$31,695**	**$9,015**	**$40,710**
Maintenance	1	$33,421	$9,015	$42,436
Management	18	$52,910	$9,015	$61,925

Source: GPCOG Analysis and American Community Survey 2016 5-year estimates

Median wage by industry data from the Maine DOL was also used to calculate the average household income for the 94 new households created by hotel employment:

NEW HOUSEHOLDS AND HOUSEHOLD INCOME (MAINE DOL DATA)

	Number of New Households	Median Wage for Hotel Income Earner	Median Wage for Second Income Earner	Total Household Income
Accommodation	**94**	**$24,908**	**$12,164**	**$37,072**

Source: GPCOG Analysis and Maine DOL QCEW 2016

- **Affordability Gap.** These estimates for household income by occupation were compared to housing affordability data from the Maine State Housing Authority to show the difference between what the new households created by hotel employment earn and the minimum income needed to afford a two-bedroom apartment in Portland. These results show that households with Service, Sales and Office, and Transportation occupations have a household income that is lower than the minimum income needed to afford rental housing in Portland. This household affordability gap is largest ($14,987) for households with Service occupations, which also represent nearly 2/3 of households created by the new hotel employment.

AFFORDABILITY GAP ANALYSIS (ACS DATA)

	Number of New Households	Total Household Income	Income Needed to Afford Rent in Portland	Household Affordability Gap	Total Affordability Gap
Service	**60**	**$27,124**	**$42,111**	**$14,987**	**$892,820**
Sales and Office	**12**	**$39,459**	**$42,111**	**$2,652**	**$32,048**
Transportation	**3**	**$40,710**	**$42,111**	**$1,401**	**$4,856**
Maintenance	1	$42,436	$42,111	NA	$0
Management	18	$61,925	$42,111	NA	$0
Total					**$929,724**

Source: Maine State Housing Authority, 2017; American Community Survey 2016 5-year estimates

The household affordability gap using the median wage by industry data from the Maine DOL was also calculated:

AFFORDABILITY GAP ANALYSIS (MAINE DOL DATA)

	Number of New Households	Total Household Income	Income Needed to Afford Rent in Portland	Household Affordability Gap	Total Affordability Gap
Accommodation	**94**	**$37,072**	**$42,111**	**$5,039**	**$472,007**

Source: Maine State Housing Authority, 2017; Maine DOL QCEW 2016

- **Aggregate Affordability Gap.** The household affordability gap for each occupation was multiplied by the number of households with employment in each occupation to arrive at a total affordability gap that ranges between $472,007 and $929,724 per year. This number represents the difference between these households' ability to pay for their housing and the market cost of their housing based on the median monthly rent, for one year. In reality these

households may face higher rental housing costs since current Portland rents for new units are significantly higher than the median rent.

- **Final Calculation.** Dividing the affordability gap by the number of new hotel rooms results in an average affordability gap that ranges between $2,622 and $5,165 per room, or between $3.91 and $7.70 per square foot. Therefore, a fee between ***$3.90-$7.70 per square foot*** would cover a minimum justified housing affordability gap for the 94 new households created by a new 180-unit hotel employment for one year. This methodology assumes the median wage for a hotel income earner in the service industry, including full-time and part-time employees, is $18,109 based on US Census ACS data. If it is instead assumed that hotel service industry employees are working full-time at the City's minimum wage of $10.68/hour and making $22,241 annually, then the minimum justified fee would be between $2,622 and $3,806 per room or ***$3.90-$5.67 per square foot*** of hotel development for one year. However, this assumes individuals working in the service sector are able to procure full-time employment, which is not always the case[ii].

This example estimate represents the full cost of the affordability gap for employment in one hotel for one year as calculated by the proposed methodology. Multiple factors could potentially impact the demand for affordable housing and the City may determine a higher or lower percentage of this fee based on these variables. Furthermore, this fee could be re-evaluated periodically as circumstances such as inflation, rents, and rental housing supply change.

[i] Portland 2030 Housing Demand, GPCOG 2015

[ii] According to a 2016 study (https://www.epi.org/publication/still-falling-short-on-hours-and-pay-part-time-work-becoming-new-normal/#epi-toc-21) from the Economic Policy Institute the retail trade and leisure and hospitality sectors contributed to 63% of the growth in part-time employment and 54% of the growth in involuntary part-time employment from 2007-2015. Involuntary part-time employment is defined as individuals who are working part time because full time work could not be found or hours were reduced due to economic conditions (slack work).

MEMO

To: Kevin Kraft, Director of Planning & Urban Development
From: Kristina Egan, GPCOG Executive Director
Date: 3/18/25
Re: Hotel Linkage Fee Update

Introduction

In 2018, the City of Portland asked the Greater Portland Council of Governments (GPCOG) to assess the feasibility of a hotel linkage fee that could be used to help offset the cost of producing affordable housing for hotel employees. The resulting memo outlined the use of linkage fees for this purpose, proposed a methodology for calculating the fee, and provided a range of justifiable figures for implementation. Using this analysis, the City established inclusionary zoning requirements for hotels and an in-lieu fee of $3,806 per guest room. This figure has been adjusted annually in the time since its adoption. The fee-in-lieu for 2025 is $4,831 per guest room.

Recognizing significant market changes since 2018, the City of Portland requested an updated analysis in early 2025. The following memo replicates the original linkage fee methodology to the best extent possible using updated data.

Background

Linkage fees are tools cities can use to offset the impact of new commercial development on affordable housing availability and demand. Before implementing such a policy, communities typically conduct a study to identify the “nexus” between new development and the need for additional affordable housing. The assumption is that commercial growth brings new workers, some of whom may not earn enough to live in the city. This often forces households to seek housing outside the city, resulting in longer commutes and higher transportation costs. If adopted, a linkage fee is typically charged to developers as a condition of project approval, based on the development’s total square footage or number of units.

Data

Where possible, the hotel linkage fee range in this memo is based on the same data sources used in the original 2018 study. To maintain consistency, 2023 data was used across multiple sources, even when newer data was available in some cases.

Employment + Wage Data

This analysis relies on employment and wage data from the U.S. Census American Community Survey (ACS), which provides the most consistent workforce and wage estimates. The previous memo also incorporated wage data from the Maine Department of Labor as a point of comparison; however, the adopted hotel linkage fee was ultimately based on wage data from the ACS.

Housing Cost Data

The 2018 linkage fee study used rental data from the Maine State Housing Authority to establish a baseline housing cost, using a two-bedroom unit as a reference point (due to its ability to accommodate the assumed household size). However, in the time since, Maine Housing has stopped publishing rental data. As a result, this memo relies on several other readily available sources of rental data to estimate housing costs, including the Department of Housing and Urban Development's Fair Market Rent (FMR) Documentation System, the American Community Survey, and the City of Portland's Rent Board Report.

- **Fair Market Rent:** FMR represents the average cost of renting a moderately priced home, including utilities, in a specific area. It is used to set rent limits for housing assistance programs to ensure they align with current market conditions. The Portland, ME HUD Metro FMR Area includes municipalities in Cumberland County and parts of York County. Updated annually, FMR estimates are based on rental market surveys, American Community Survey data, and inflation adjustments.[1]
- **U.S. Census ACS Data:** The ACS provides median gross rent estimates by unit size, accounting for both rent and utilities when not already included. Data is based on five-year samples, which help ensure statistical reliability but smooth out short-term rent fluctuations. Estimates reflect both market-rate and subsidized rentals.[2]
- **City of Portland Rent Board Report:** These annual reports provide data on rental availability, city-wide rent prices, rental market trends, and board actions on rent increases, among other topics.[3]

Methodology

Linkage fee calculations typically estimate the number of new employees and households generated by a development, such as a hotel. Wage and rent data are then used to estimate the gap between what these workers can afford for housing and the average market rent. This memo presents that analysis for Portland, using the most recent and locally relevant data, through the following steps:

Number of New Jobs

To estimate job creation, industry data was applied to a 180-room hotel – chosen as a representative example based on an actual development. While staffing levels vary based on factors such as hotel size, service level, and operational needs, the original linkage fee study assumed a ratio of .65 employees per hotel room, based on numbers from the Urban Land Institute. Using this ratio, a 180-room hotel is expected to generate 117 jobs.

Number of New Households

The current ratio of jobs per household was then used to estimate the number of households represented by this new employment. Portland currently has 39,590 employed civilians aged 16 and over across 32,393 households[4], or an average of 1.22 jobs per household. Using this ratio, the 117 new jobs created by the example 180-room hotel would generate an estimated 96 new households.

Employment and Households by Occupation

The jobs held by hotel employees would span various occupations – management, sales, service, maintenance, etc.— with wages varying by role. To estimate how many of the households employed by a new hotel would be low-income, industry-specific employment and wage data from the American Community Survey was used. The American Community Survey groups Arts, Entertainment, Recreation, Accommodation, and Food Services together, reflecting industries tied to the service sector. While this broad category includes more than just hotel jobs, it offers the best available estimate for occupational distribution. Within this sector, approximately 56% of jobs are in service occupations, 31% in management, 7% in sales and office, 6% in transportation, and 1% in maintenance.[5]

The table below estimates the number of new employees and households created by occupation.

ESTIMATED NEW HOTEL JOBS AND HOUSEHOLDS BY OCCUPATION

	% of Service Sector Employment	# of New Hotel Employees[i]	# of New Households[ii]
Service	55.5%	65	53
Management	30.6%	36	29
Sales and Office	6.8%	8	7
Transportation	5.8%	7	6
Maintenance	1.2%	1	1
Total	100%	117	96

[i] *Calculated by multiplying the percentage of service sector employment by the total estimated 117 hotel employees.*
[ii] *Calculated by multiplying the percentage of service sector employment by the total estimated 96 households.*

Household Incomes

Household income estimates were calculated using Cumberland County's ACS median earnings data by occupation for 2023.[6] This approach reflects the broader region where hotel workers in Portland may reside. The one exception is for service workers, where the City of Portland's 2023 minimum wage of $14/hour was substituted for the ACS median wage. The household income calculations assume one person in each household works full time in the hotel industry and also assumes a second household member makes the area median earnings.[7] The table below presents these estimated household incomes by occupation.

ESTIMATED NEW HOUSEHOLDS AND HOUSEHOLD INCOME BY OCCUPATION (2023 ACS DATA)

	# of New Households	Median Wage for Hotel Employee	Median Wage for 2nd Income Earner[ii]	Total Household Income
Service[i]	53	$29,120	$10,899	$40,019
Management	29	$71,711	$10,899	$82,610
Sales and Office	7	$42,467	$10,899	$53,366
Transportation	6	$40,829	$10,899	$51,728
Maintenance	1	$50,572	$10,899	$61,471

[i] *The Service wage reflects Portland's 2023 minimum wage of $14/hour, as the Census estimate was below the legal minimum.*
[ii] *The second income earner's wage of $10,899 is based on 0.22 of the 2023 Census median earnings for all occupations in Cumberland County ($49,540), reflecting the estimated 1.22 employees per household.*

Affordability Gap

To create a range, the estimated household incomes for each occupation category were then compared to three different rent data sources to assess whether new hotel employees can afford a two-bedroom unit in Portland and to calculate the cumulative 'affordability gap.'

ESTIMATED AFFORDABILITY GAP: 2023 FAIR MARKET RENT FOR PORTLAND METRO AREA
[$1,859 for a two-bedroom unit]

	New Households	Household Income	Income Needed[i]	Affordability Gap (HH)	Total Gap
Service	53	$40,019	$79,671	$39,652	$2,101,556
Management	29	$82,610	$79,671	- $2,939	N/A
Sales and Office	7	$53,366	$79,671	$26,305	$184,135
Transportation	6	$51,728	$79,671	$27,943	$167,658
Maintenance	1	$61,471	$79,671	$18,200	$18,200
Total	96	--	--	--	$2,471,549
				Per Room	***$13,731***

[i]*Annualizing Fair Market Rent ($1,859 * 12 months = $22,308) and dividing by 0.28 yields $79,671, ensuring rent remains just below the 30% housing cost burden threshold.*

ESTIMATED AFFORDABILITY GAP: 2023 ACS MEDIAN GROSS RENT FOR PORTLAND
[$1,664 for a two-bedroom unit]

	New Households	Household Income	Income Needed[i]	Affordability Gap (HH)	Total Gap
Service	53	$40,019	$71,314	$31,295	$1,658,635
Management	29	$82,610	$71,314	- $11,296	N/A
Sales and Office	7	$53,366	$71,314	$17,948	$125,636
Transportation	6	$51,728	$71,314	$19,586	$117,516
Maintenance	1	$61,471	$71,314	$9,843	$9,843
Total	96	--	--	--	$1,911,630
				Per Room	***$10,620***

[i]*Annualizing ACS median rent ($1,664 * 12 months = $19,968) and dividing by 0.28 yields $71,314, ensuring rent remains just below the 30% housing cost burden threshold.*

ESTIMATED AFFORDABILITY GAP: 2023 CITY OF PORTLAND RENT BOARD
[$1,595 for a two-bedroom unit]

	New Households	Household Income	Income Needed[i]	Affordability Gap (HH)	Total Gap
Service	53	$40,019	$68,357	$28,338	$1,501,914
Management	29	$82,610	$68,357	- $14,253	N/A
Sales and Office	7	$53,366	$68,357	$14,991	$104,937
Transportation	6	$51,728	$68,357	$16,629	$99,774
Maintenance	1	$61,471	$68,357	$6,886	$6,886
Total	96	--	--	--	$1,713,511
				Per Room	***$9,520***

[i]*Annualizing ACS median rent ($1,595 * 12 months = $19,140) and dividing by 0.28 yields $68,357, ensuring rent remains just below the 30% housing cost burden threshold.*

Final Calculation

As shown on the previous page, dividing the total affordability gap by the 180 new hotel rooms results in an **estimated per-room affordability gap ranging from $9,520 to $10,620 to $13,731** depending on the rent data source used (City of Portland Rent Board, American Community Survey, or HUD Fair Market Rent). This estimate reflects the full annual affordability gap associated with the jobs generated by a single hotel room based on the methodology from the original 2018 study.

[1] Department of Housing and Urban Development FY 2023 Fair Market Rent Documentation System for the Portland, ME HUD Metro FMR Area

[2] U.S. Census American Community Survey 2019-2023 5-year estimate (Table B25031)

[3] 2023 Portland Rent Board Annual Report (pg. 12)

[4] U.S. Census American Community Survey 2019-2023 5-year estimate (Table DP03)

[5] U.S. Census American Community Survey 2019-2023 5-year estimate (Table S2405)

[6] U.S. Census American Community Survey 2019-2023 5-year estimate (Table B24011)

[7] U.S. Census American Community Survey 2019-2023 5-year estimate (Table S2001)

17 HOUSING

17.1 HOUSING PRESERVATION AND REPLACEMENT

17.1.1 Purpose

The purpose of the housing preservation and replacement ordinance is:

A. To promote and facilitate an adequate supply of housing, particularly affordable housing for all economic groups.

B. To limit the net loss of housing units in the city.

C. To preserve housing in zones where housing is permitted in the city for all residents in order to promote the health, safety, and welfare of its citizens.

17.1.2 Applicability

A. Except as otherwise provided in this section, the housing preservation and replacement ordinance shall apply to the loss of three or more dwelling units in a five-year period, provided that such dwelling units were a legally registered residential use as of July 1, 2002. For the purposes of this section, dwelling units shall be as defined in Article 3, but also include rooming units that people rent in or sleep in within lodging houses, dormitories, shelters, and sheltered care group homes.

B. Except as otherwise provided in this section, the housing preservation and replacement ordinance shall also apply to proposals that result in the loss of fewer than three dwelling units which were legally registered residential use as of July 1, 2002 for the purposes of creating surface parking.

C. For the purposes of this section, loss of dwelling units shall mean the elimination or conversion to nonresidential use of a dwelling unit and dwelling units that remain vacant for three years or more or are lost due to demolition unless the vacancy or demolition results from accidents outside of the owner's control, fire, natural disasters, or acts of war.

D. Determination of number of the dwelling units within a structure or structures and the number of units lost will be based on the records of the Building Authority indicating the legal, registered use of the property since July 1, 2002 through the time of application. The actual use of the property for purposes of applicability of this section may be rebutted by the owner by proof of documentary evidence including but not limited to photographs, letters, and sworn affidavits. The Planning Authority may conduct its own investigation of the actual use and shall determine the applicability of this section based on the totality of the evidence.

17.1.3 Exemptions

This section does not apply to:

A. Consolidation, elimination, or reconfiguration of one or more dwelling units within an existing structure, as long as all the resulting units remain as dwelling units after such consolidation, elimination, or reconfiguration, except as provided by (D) below. Conversion of a dwelling unit to a hotel or motel room shall not qualify for the exemption provided by this paragraph.

B. Legally nonconforming dwelling units existing in zones which no longer permit residential uses.

C. Property which has been ordered demolished by the City, pursuant to 17 M.R.S. § 2851, et seq., as amended, except where it is determined by

the Building Authority that the deterioration was caused by neglect or lack of maintenance.

D. Paragraph (A) above notwithstanding, the conversion to a nonresidential use of any dwelling units located on the ground floor of a building within a mixed-use zone.

17.1.4 Planning Authority approval required

Notwithstanding any other provision of this section, a proposal to demolish or to convert three or more dwelling units to a nonresidential use in a zone where such use is otherwise permitted must first obtain approval from the Planning Authority. In addition to any other requirements of the Land Use Code, the applicant must submit a statement certifying the number of dwelling units to be demolished or converted to nonresidential use, as well as a description of the characteristics of each of those units.

17.1.5 Tenant notification requirements

Prior to elimination as a result of demolition or conversion to nonresidential use, the owner shall:

A. Provide the Planning Authority a list containing the name of each tenant currently residing in the dwelling units to be demolished or converted to nonresidential use, as well as verification of compliance with tenant notice requirements of this subsection.

B. Deliver to each tenant who occupies such a dwelling unit a written notice to vacate the unit. The notice shall either be sent by certified mail, return receipt requested, or served in-hand. The notice will grant the tenant not less than 90 days from the date of receipt of the notice to vacate the unit.

C. File proof of service of the notice with the Planning Authority.

17.1.6 Housing replacement requirements

A. The Planning Authority shall require, as a condition of approval, that an owner shall replace any dwelling units that are demolished or converted to nonresidential use.

B. This requirement may be satisfied in any one of the following ways, which may be used in combination:

1. *Construction of units.* The construction of housing units within a new structure or a new addition either on site or off-site.

2. *Residential conversion.* The conversion of a nonresidential building to residential use.

17.1.7 Replacement unit requirement

In addition to the foregoing, all replacement units built pursuant to Subsection 17.1.6.B above shall:

A. Be located within the same United States census block group as the parcel from which the dwelling units are being removed or within 1,500 feet of the dwelling units being removed.

B. Not previously have been on the market as of the date of application.

C. Be situated within a development which has not been a candidate for site plan approval as of the date of the application.

D. Be comparable in size to the units replaced. For the purpose of this section, "comparable in size" means that the aggregate size of the replacement units will be no less than 80% of the size of the aggregate of the original units to be replaced and a similar bedroom mix.

17.1.8 Contribution to the Housing Trust Fund

A. The applicant may meet the requirements of this housing replacement ordinance by depositing $50,000 for each dwelling unit into the City's Housing Trust Fund.

B. Beginning on January 1, 2004 and annually thereafter, the amount of the contribution shall be adjusted by multiplying this amount originally deposited for each unit by a fraction, the denominator of which shall be the "Consumer Price Index for Urban Wage Earners and Clerical Workers ("CPI-W")," U.S. City Average, "All Items Index," as published by the United States Bureau of Labor Statistics ("the index") for January 1, 2003 year, and the numerator of which shall be the index for the same month in each subsequent year. In the event that the index is not then in existence, the parties shall use such equivalent price index as is published by any successor governmental agency then in existence, or, if none, then by such nongovernmental agency as may then be publishing an equivalent price index, in lieu of and adjusted to the index. If the index shall cease to use 1982-84 equals 100 as the basis of calculation, or if a substantial change is made in the terms or number of items contained in the index, the base index shall be adjusted to conform to such change, using such computation thereof, if available, as shall be employed by the United States Department of Labor in computing same. Notwithstanding anything herein to the contrary, contributions made after January 1, 2004 shall not be less than the amount originally required to be deposited for each rooming or dwelling unit.

17.1.9 Performance guarantee

Owners or affiliates must post a performance guarantee in the form of a letter of credit, or other security acceptable to the City attorney, in the amount equivalent to the amount the applicant would have been required to contribute to the City's Housing Trust Fund if the applicant had chosen that option pursuant to Subsection 17.1.8. Such a performance guarantee shall be valid for no more than three years, after which the full amount due shall be provided to the City's Housing Trust Fund if replacement units satisfying the conditions of this housing replacement ordinance do not have certificates of occupancy.

17.1.10 Partial waiver of replacement requirements

A. Any owner who has applied for site plan review for elimination or conversion to nonresidential use of dwelling units may apply to the Zoning Board of Appeals for a partial waiver from the housing replacement requirements of this section. Such waiver may be a downward adjustment of up to 50% of the owner's housing replacement obligation if the owner establishes to the board's satisfaction that:

1. The proposed development is consistent with the Comprehensive Plan.
2. The proposed development provides significant value and benefit to the immediate and surrounding neighborhood, including, but not limited to, community enhancement, social benefits or job creation.
3. The applicant demonstrates with objective evidence that the imposition of the requirements of this section would impose such an economic burden upon the project relative to its scope that it renders the project impossible to develop.
4. The requested relief does not constitute a grant of a special privilege inconsistent with the limitations upon similar properties.

B. The Zoning Board of Appeals must make positive findings on each of the four criteria above in order for any such adjustment to be valid. An applicant aggrieved of a decision of the Zoning Board of Appeals may appeal a decision under this subsection pursuant to the provisions of Article 2.

17.1.11 Effect of other City ordinances

A. Nothing in this section shall permit the demolition or conversion to nonresidential use of dwelling units in residential property protected by Article 16, except as permitted by that ordinance.

B. A conditional zone may not be used to circumvent the application of this section. The terms of this section shall apply to any conditional zone which involves dwelling units affected by this section. Notwithstanding the foregoing, nothing herein shall be deemed to prevent the City and the applicant from agreeing to terms which exceed those imposed by this section by means of a conditional zone.

17.1.12 Appeals

Any applicant aggrieved by a decision of the Planning Authority under this section may appeal to the Zoning Board of Appeals within 30 days of that decision.

17.2 AFFORDABLE HOUSING

17.2.1 Purpose

It is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. Therefore, the purpose of this section is to offer incentives to developers to include units of affordable housing within development projects and to require the inclusion of affordable housing units in development projects in certain contexts. In so doing, this section will assist the city in meeting its comprehensive goals for affordable housing, in preventing the overcrowding and deterioration of the limited supply of affordable housing, and promote the health, safety, and welfare of its citizens.

17.2.2 Affordable housing incentives

A. Eligible projects. Under this subsection, eligible projects shall include any development project:

1. That is permissible under the provisions of this Land Use Code in the zone in which it is proposed.

2. That creates new dwelling units, among which is at least one low-income or workforce housing unit for rent or sale, through new construction, substantial alteration of existing structures, adaptive reuse or conversion of a nonresidential use to residential use, or any combination of these elements. Affordable housing units for sale or rent may not differ in exterior design from other units within an eligible project.

B. Reduction of fees. Notwithstanding any other provision of this Land Use Code or Chapter 6 to the contrary, development fees, including site plan review and inspection fees, subdivision review and inspection fees, impact fees, administrative fees, and construction and permit fees as described in Chapter 6 of the City of Portland Code of Ordinances, shall be reduced by the City for an eligible project in the manner described in Table 17-A. Development

TABLE 17-A: AFFORDABLE HOUSING FEE REDUCTIONS

% of New Units That are Low-Income or Workforce	Development Fee Discount	Cost of Work (Building Permit) Fees
10% up to but not including 15%	10% reduction	$9.90 per $1,000
15% up to but not including 20%	15% reduction	$9.35 per $1,000
20% up to but not including 25%	20% reduction	$8.80 per $1,000
25% or more	25% reduction	$8.25 per $1,000

TABLE 17-B: BONUSES FOR ELIGIBLE PROJECTS

% Low-income or Workforce Units	Density Permitted[1]
10-19%	1.1 x base
20-29%	1.25 x base
30-49%	1.3 x base
50-74%	2.5 x base
>75%	2.5 x base

[1] "Base" is the number of units allowed under the zoning without this bonus but with any other bonuses applied.

fees do not include any fees charged for review conducted by any party other than the City.

C. **Expedited review.** The Planning Authority shall perform its review of an eligible project in as expedited a manner as is practical, without impairing the scope or thoroughness of the review. The Planning Authority may adopt administrative procedures to prioritize review of eligible projects and facilitate this expedited review. The Planning Board shall make its best efforts to give priority in scheduling workshops and public hearings related to any plans or applications required for an eligible project that are within the Planning Board's jurisdiction, without impairing the scope or thoroughness of its review. At the conclusion of these public meetings, the Planning Board shall promptly issue a decision on all such plans and applications before it for consideration.

D. **Density and height bonuses.** Notwithstanding any other provision of this Land Use Code to the contrary, in order to encourage low-income and workforce units in areas prioritized for growth, eligible projects as defined under Subsection 17.2.2 may avail themselves of the following options:

1. *Density bonuses.* The maximum number of units that would otherwise be allowed under this Land Use Code shall be increased for an eligible project in the manner described in Table 17-B, applicable where residential is allowed as a permitted or conditional use in mainland zones.
2. *Height bonuses.* In mixed-use zones, the TOD zones, and the RN-6, for eligible projects over ten units in size in which over 75% of units are low-income or workforce units, maximum heights as permitted under Article 7 shall be increased by 10 feet.
3. *Unit size.* In order to be eligible for this subsection, the low-income and workforce housing units must meet Subsections 17.2.3(C)(2), (3), and (4).
4. *Term of affordability.* Affordable units under this subsection shall be deed-restricted to remain affordable for 30 years or the longest term permitted under federal, state, and local laws, whichever is longer. Such deed restrictions shall be recorded in the Cumberland County Registry of Deeds.

17.2.3 Ensuring workforce housing

A. Purpose. Based on the City's Comprehensive Plan and the City's 2015 housing study, it is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this subsection is to ensure that housing developments over a certain size provide a portion of workforce housing units and, by doing so, promote the health, safety, and welfare of Portland citizens.

B. Applicability. This subsection shall apply to site plan applications that create ten or more new dwelling units for rent or for sale through new construction, substantial alteration of existing structures, adaptive reuse or conversion of a nonresidential use to residential use, or any combination of these elements. This subsection shall not apply to projects that otherwise meet or exceed the standards of 17.2.3(C).

C. Standards. Development projects subject to this subsection shall meet to the following requirements:

1. At least 25% of the units in the project shall meet the definition of workforce housing unit for sale or for rent as defined in Article 3. The project shall have the option of paying a partial fee-in-lieu as per (5) below or providing an additional unit on-site for any fractional value.
2. Projects shall not be segmented to avoid compliance with these provisions.
3. Workforce units must be integrated with the rest of the development, must use a common entrance in the case of mixed market rate and workforce buildings, must provide no indication from the exterior or from areas inside the respective buildings that these units are workforce housing units, and must demonstrate general parity in unit design, finishes, and amenities between market and workforce units in the development. Applications shall include a narrative that addresses parity of workforce and market rate units, a description of workforce and market rate unit attributes and amenities, phasing if applicable, and integration into the respective building and site design.
4. Workforce units need not be the same size as other units in the development but the cumulative number of bedrooms in such units shall be no less than 25% of the total number of bedrooms in the development.
5. As an alternative to providing workforce housing units, projects may pay a fee-in-lieu of some or all of the units. In-lieu fees shall be paid into the Housing Trust Fund. The fee for affordable units not provided shall be $150,000 per unit, adjusted annually in the same way as the fee under Subsection 17.1.8.
6. Workforce housing units for sale, if converted to workforce housing units for

TABLE 17-C: MINIMUM TERM OF AFFORDABILITY FOR REQUIRED WORKFORCE UNITS

% of Workforce Units Provided	Minimum Term of Affordability
25%	30 years
50%	20 years
100%	10 years

rent, shall become subject to the income limits and other requirements of such units.

7. The term of affordability for the required 25% workforce units provided shall be defined as shown in Table 17-C.
8. Projects shall be subject to an affordable housing agreement with the City of Portland, unless a project is otherwise subject to such an agreement requiring an equal or greater percentage of affordable units at an equal or lower income target level than required by this section.

D. Density and height bonuses. Projects that are subject to this subsection shall be eligible for density and height bonuses under Subsection 17.2.2(D).

E. Implementation guidance. The Housing & Economic Development Department shall provide guidance on income verification methods, affordable housing agreements, and subsequent monitoring requirements.

F. Reporting to City Council. In conjunction with the annual report on the Housing Trust Fund, the Planning Authority shall annually report on developments subject to this subsection, the number of units produced, the amount of fee-in-lieu collected, and the overall effectiveness of this subsection in achieving its stated purpose.

17.2.4 Inclusionary zoning for hotel projects

A. Purpose. This subsection is based on City analysis, most specifically the analysis documented in the Greater Portland Council of Government study *Proposed Hotel Linkage Fee: Supportable Range* dated August 29, 2018, that finds that new hospitality developments create a need for new affordable housing. This need is the result of the fact that hospitality developments necessarily create a number of jobs that do not pay employees at a rate sufficient to allow those employees to afford market-rate housing in the City of Portland.

B. Hotel projects. For the purposes of this subsection, hotel projects shall include any hotel as defined in Article 3 consisting of 10 or more guest rooms for rent to transient guests or to extended stay guests of up to six months. Any expansion of an existing hotel by 10 or more rooms within any five-year period will also be considered a hotel project.

C. Low-income housing minimum. All hotel projects shall provide one unit of low-income housing for rent in the City of Portland for every 28 rooms in the hotel project, which shall meet the standards outlined in Subsections 17.2.3(C)(2), (3), and (4) and in the implementing regulations governing low-income units. Such units shall contain two bedrooms and be a minimum of 900 SF in floor area. This amount shall be rounded up to the nearest increment of 28 rooms. These units shall be deed restricted for the longest period permitted by law, shall not be used for short-term rentals of less than 30 days, and must be provided with distinct entrances from the street to delineate them from the hotel itself.

D. Fee-in-lieu alternative. As an alternative to providing low-income housing units under Subsection 17.2.4(C) above, a hotel project may pay a fee-in-lieu of $3,806 per hotel guest room. This amount shall be paid into the City's Housing Trust Fund and used for the purposes set forth in the ordinance and regulations applicable to that trust.

E. **Annual adjustments.** The amounts in Subsection 17.2.4(D) above shall be adjusted annually in the same way as the fee under Section 17.1.8.

F. **Implementation guidance.** The Housing & Economic Development Department shall provide guidance on income verification methods, affordable housing agreements, and subsequent monitoring requirements.

17.3 JILL C. DUSON HOUSING TRUST FUND

17.3.1 Purpose

The purpose of enacting this section is:

A. To establish a City of Portland Housing Trust Fund for the promotion, retention, and creation of an adequate supply of housing, particularly affordable housing, for all economic groups and to limit the net loss of housing units in the city.

B. To serve as a vehicle for addressing very low, low, and moderate income housing needs through a combination of funds as set out in this article.

17.3.2 Establishment of the Jill C. Duson Housing Trust Fund

The City Council shall establish a special revenue account under the name "City of Portland Jill C. Duson Housing Trust Fund" (Housing Trust Fund). Deposits into the fund shall include:

A. Contributions from the City's housing replacement ordinance under Subsection 17.1.8.

B. In-lieu fees under Subsections 17.2.3 and 17.2.5.

C. Funds appropriated to be deposited into the fund by vote of the City Council.

D. Voluntary contributions of money or other liquid assets to the fund.

E. Any federal, state, or private grant or loan funds provided to the fund.

F. Interest from fund deposits and investments.

G. Repayments of loans made from the fund.

17.3.3 Management of the trust fund

The City Manager, or their designee, shall serve as the manager of the Housing Trust Fund. The responsibilities of the manager, subject to the orders of the City Council, shall include:

A. Maintaining the financial and other records of the Housing Trust Fund.

B. Disbursing and collecting Housing Trust Fund monies in accordance with the Housing Trust Fund annual plan.

C. Monitoring the use of monies distributed to successful applicants for Housing Trust Fund support to assure on-going compliance with the purposes of the fund and the conditions under which these monies were granted or loaned.

17.3.4 Housing Trust Fund annual plan

A. Each fiscal year, the City Council shall adopt a Housing Trust Fund annual plan. The City Manager shall submit to the City Council a recommended Housing Trust Fund annual plan, utilizing the revenues of the Housing Trust Fund as well as any other funds the manager may propose as appropriate. The housing committee of the City Council or such other committee as the council shall designate shall conduct public hearings on the recommended plan and refer the matter to the council for action.

B. The Housing Trust Fund annual plan shall include:

1. A description of all programs to be funded in part or in full by the Housing Trust Fund.
2. A description of how funds from the Housing Trust Fund will be distributed among very low-income, low-income and moderate-income households.
3. The amount of funds budgeted for programs funded in part or in full from the Housing Trust Fund.

C. Priority for the expenditure of funds collected pursuant to Section 17.1 shall be given to the creation of new housing stock, through either new construction or conversion of nonresidential buildings to residential use.

17.3.5 Distribution and use of the Housing Trust Fund's assets

A. All distribution of principal, interest, or other assets of the Housing Trust Fund shall be made in furtherance of the public purposes set out in Section 17.1.

B. During each year, the Housing Trust Fund shall disburse as grants or loans so much of the Housing Trust Fund's assets as the City Council in its discretion has approved in the Housing Trust Fund annual plan.

C. Funds shall not be used for City administrative expenses.

D. Funds shall not be used for property operating expenses or supporting services.

E. No grants or loans shall be awarded by the Housing Trust Fund to corporations, partnerships, or individuals who are delinquent at the time of application in the payment of property taxes or other fees to the City of Portland, who have been convicted of arson, who have been convicted of discrimination in the sale or lease of housing under the fair housing laws of the State of Maine, or who have pending violations of current City electrical, plumbing, building, or housing codes or zoning ordinances.

17.3.6 Term of affordability

A. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of an affordable rental or cooperative unit, the City of Portland shall impose enforceable requirements on the owner of the housing unit that the unit remain affordable for the remaining life of the housing unit, assuming good faith efforts by the owner to maintain the housing unit and rehabilitate it as necessary. The remaining life of the housing unit shall be presumed to be a minimum of 30 years.

B. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of ownership housing, the City of Portland shall impose enforceable resale restrictions on the owner to keep the housing unit affordable for the longest feasible time, while maintaining and equitable balance between the interests of the owner and the interests of the City of Portland.

C. The affordability restriction requirements described in this subsection shall run with the land and the City of Portland shall develop appropriate procedures and documentation to enforce these requirements and shall record such documentation in the Cumberland County Registry of Deeds.

17.4 CONDOMINIUM CONVERSION

17.4.1 Purpose

The purpose of this section is to regulate the conversion of rental housing to condominiums, to minimize the potential adverse impacts of such conversion on tenants, to ensure that such converted housing is safe and decent, and to maintain a reasonable balance of housing alternatives within the city for persons of all incomes.

17.4.2 Applicability

This section shall apply to the conversion of any rental unit to a condominium unit. For the purposes of this section, developer shall mean any person or other legal entity, but not including an established lending institution unless it is an active participant in a common promotional scheme, who, whether acting as principal or agent, records a declaration of condominium that includes real estate, any portion of which was previously a rental unit.

17.4.3 Protection of tenants

A. Notice of intent to convert. A developer shall give to each tenant, meaning any occupant in lawful possession of a rental unit, whether by lease, sublease, or otherwise, written notice of intent to convert at least one 120 days before the tenant is required by the developer to vacate. If a tenant has been in possession of any unit within the same building for more than four consecutive years, the notice period shall be increased by 30 additional days for each additional year, or fraction thereof, to a maximum of 240 additional days. The notice shall set forth specifically the rights of tenants under (A), (B), and (C) of this subsection and Subsection 17.4.4, and shall contain the following statement:

If you do not buy your apartment, the developer of this project is required by law to assist you in finding another place to live and in determining your eligibility for relocation payments. If you have questions about your rights under the law, or complaints about the way you have been treated by the developer, you may contact the Department of Permitting & Inspections, City of Portland, 389 Congress Street, Portland, Maine 04101.

B. If the notice specifies a date by which the tenant is required to vacate, the notice may also serve as a notice of termination under the applicable law of forcible entry and detainer, if it meets the requirements thereof. The notice shall be hand delivered to the tenant or mailed, by certified mail, return receipt requested, postage prepaid, to the tenant at the address of the unit or such other address as the tenant may provide. The notice shall be effective when actually received. No tenant may be required by a developer to vacate without having been given notice as required herein, except for the reasons specified in the applicable law of forcible entry and detainer, and in accordance with the procedures thereof. The terms of a tenancy, including rent, may not be altered during the notice period, except as expressly provided in a preexisting written lease. If, within 120 days after a tenant is required by a developer to vacate, the developer records a declaration of condominium without having given notice as required herein, the developer

shall be presumed to have converted in violation of this article.

C. **Option to purchase.** For a 60-day period following the giving of notice as required in Subsection 17.4.3(A), the developer shall grant to the tenant an exclusive and irrevocable option to purchase the unit of which the tenant is then possessed, which option may not be assigned. If the tenant does not purchase or contract to purchase the unit during the 60-day period, the developer may not convey or offer to convey the unit to any other person during the following 180 days at a price or on terms more favorable than the price or terms previously offered to the tenant, unless the more favorable price or terms are first offered exclusively and irrevocably to the tenant for an additional 60-day period. This subsection shall not apply to any rental unit that, when converted, will be restricted exclusively to nonresidential use. If, within two years after a developer records a declaration of condominium, the use of any such unit is changed such that but for the preceding sentence, this subsection would have applied, the developer shall be presumed to have converted in violation of this article.

17.4.4 Relocation payments

If the tenant does not purchase the unit, the developer shall, before the tenant is required by the developer to vacate, make a cash payment to the tenant in an amount equal to the amount of rent paid by the tenant for the immediately preceding two months, provided that this requirement shall not apply to any tenant whose gross income exceeds 80% of the median income of the Portland SMSA, adjusted for family size, as determined by the U.S. Department of Housing and Urban Development at the time notice is given as required in Subsection 17.4.3. Additionally, the developer shall, upon demand, provide assistance to the tenant in the form of referrals to other reasonable accommodations and in determining the tenant's eligibility for relocation payments as provided herein.

17.4.5 Conversion permit

Before conveying or offering to convey a converted unit, the developer shall obtain a conversion permit from the Building Authority. The permit shall issue only upon receipt of a completed application therefore in a form to be devised for that purpose, payment of a fee of $25,000 per converted unit, to be adjusted annually in the same way as the fee under Chapter 14, Section 17.1.8 of this code, at least $1,000 of which shall be appropriated to the Housing Safety Office for the administration and enforcement of the Rent Stabilization Ordinance, Chapter 6, Articles XII and XIII of this code, and the remainder of which shall be paid into the Jill C. Duson Housing Trust Fund, and a finding, upon inspection, that each unit, together with any common areas and facilities appurtenant thereto, is in full compliance with all applicable provisions of Chapter 6, Articles II, III, and V and Chapter 10, Article II of the City of Portland Code of Ordinances, and the Life Safety Code as adopted by the state. The developer shall post a copy of the permit in a conspicuous place in each unit and shall make copies available to prospective purchasers upon request.

17.4.6 Variation by agreement

No provision of or right conferred by this Section 17.4 may be waived by a tenant, by agreement or

otherwise, and any such waiver shall be void. Any attempt to require, encourage, or induce a tenant to waive any provision hereof, or right conferred hereby, shall be a violation of this article. Nothing herein shall be construed to void any term of a lease which offers greater rights than those conferred hereby.

17.5 RELOCATION OF DISPLACED TENANTS

17.5.1 Purpose

The purpose of this section is to encourage the retention of a diverse housing supply throughout the downtown and in areas readily accessible to the downtown, to ensure that persons displaced as the result of redevelopment of residential units to nonresidential uses within the B-3 Downtown Business zone are treated fairly and consistently, and to ensure that persons so displaced will be relocated at the reasonable expense of the developer to comparable housing at a location providing comparable access to services and amenities.

17.5.2 Notice and eligibility for relocation assistance

When a proposed development will result in the displacement of residents of an existing structure, the developer of the property shall give all tenants written notice as set forth below and shall provide relocation assistance as set forth below for any tenant whose gross income is 80% or less of the median income of the Portland SMSA, adjusted for family size, as determined by the U.S. Department of Housing and Urban Development at the time the developer gives the tenant written notice of intent to cause removal of the residential unit. Such written notice shall be given to the tenant at least 120 days before the tenant shall be required to vacate the premises and shall contain the following statement:

> *The developer of this project is required by law to assist you in finding another place to live and in determining your eligibility for relocation payments. If you have questions about your rights under the law, or complaints about the way you have been treated by the developer, you may contact the Department of Planning and Urban Development, City of Portland, 389 Congress Street, Portland, Maine 04101.*

17.5.3 Relocation assistance for all tenants

The developer shall provide, upon demand, assistance to all tenants who will be displaced by the development in the form of referrals to other reasonable accommodations and in determining the tenants' eligibility for relocation payments as provided herein. The developer shall make relocation payments to eligible tenants in accordance with the schedule adopted by the City Council in Subsection 17.5.4.

17.5.4 Schedule of relocation payments for eligible tenants

The developer shall, before the tenant is required by the developer to vacate, make a cash payment to the tenant in an amount equal to the amount of rent paid by the tenant for the immediately preceding two months.

Order 134-18/19
Passage: 9-0 on 1/23/2019 Effective 2/22/2019

ETHAN K. STRIMLING (MAYOR)
BELINDA S. RAY (1)
SPENCER R. THIBODEAU (2)
BRIAN E. BATSON (3)
JUSTIN COSTA (4)

CITY OF PORTLAND
IN THE CITY COUNCIL

KIMBERLY COOK (5)
JILL C. DUSON (A/L)
PIOUS ALI (A/L)
NICHOLAS M. MAVODONES, JR (A/L)

AMENDMENT TO PORTLAND CITY CODE CHAPTER 14
RE: HOTEL PROJECT INCLUSIONARY ZONING

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PORTLAND, MAINE IN CITY COUNCIL ASSEMBLED AS FOLLOWS:

That Chapter 14, Sections 14-484, 14-485 and 14-488.1 is hereby amended to read as follows:

Sec.14-484. Purpose.

It is in the public interest to promote an adequate supply of affordable housing for the city's residents. The purpose of this division therefore is to offer incentives to developers to include units of affordable housing within development projects, thereby mitigating the impact of market rate housing construction, or the demonstrated increase in affordable housing needs resulting from the creation of new lower-income jobs, on the limited supply of available land for suitable housing and helping to meet the housing needs of all economic groups within the city. The city believes that this division will assist in meeting the city's comprehensive goals for affordable housing, in the prevention of overcrowding and deterioration of the limited supply of affordable housing, and by doing so promote the health, safety and welfare of its citizens.

...

Sec. 14-485. Definitions.

...

Eligible project means a development project:

...

(d) Projects shall not be considered "eligible projects" solely because they are subject to Section 14-487 ("Ensuring Workforce Housing").

Hotel Project is any hotel, inn or motel, as defined in Section 14-47 of Chapter 14 of the Portland City Code, consisting of 10 or more guest rooms for rent. Any such development that exists prior to the effective date of this Section but expands by 10 or more rooms within any 5 year period will also be considered a hotel project.

...

14-488.1 Inclusionary Zoning for Hotel Projects

(a) **Purpose:** This section is based on City analysis, most specifically the analysis documented in the Greater Portland Council of Government study "Proposed Hotel Linkage Fee: Supportable Range" dated August 29, 2018, that finds that new hospitality developments create a need for new affordable housing. This need is the result of the fact that hospitality developments necessarily create a number of jobs that do not pay employees at a rate sufficient to allow those employees to afford market-rate housing in the City of Portland.

(b) **Hotel Projects Conditional Uses:** Notwithstanding anything to the contrary in Chapter 14, all hotel projects are conditional uses subject to Planning Board review on the condition that they comply with the requirements of this Section 14-489.

(c) **Low Income Housing Minimum.** All hotel projects shall provide one unit of Low Income Housing for rent in the City of Portland for every 28 rooms in the hotel project which shall meet the standards outlined in Section 14-487 and in the implementing regulations governing Low Income Units. This amount shall be rounded up to the nearest increment of 28 rooms. These units shall be deed restricted for the longest period permitted by law; shall not be used for Short Term Rentals of less than 30 days; and must be provided with distinct entrances from the street to delineate them from the hotel itself.

(d) **Fee-in-Lieu Alternative:** As an alternative to providing Low Income Housing units under subsection (c) above, a Hotel Project may pay a fee-in-lieu of $3,806 per hotel guest room. This amount shall be paid into the City's Housing Trust

and used for the purposes set forth in the ordinance and regulations applicable to that trust.

(e) **Annual Adjustments:** The amounts in (d) above shall be adjusted annually in the same way as the fee under Division 29 for Housing Replacement.

(f) **Regulations:** The Planning Board may promulgate implementing regulations based on this ordinance.

(g) **Applicability:** Notwithstanding the provisions of 1 M.R.S. § 302, Sec. 14-489 shall apply retroactively and include any and all actions and proceedings pending on September 26, 2018 or thereafter.

City of Portland | Planning & Urban Development Department
Kevin D. Kraft, AICP *Director*

Staff Memo To:
Housing & Economic Development Committee
Councilor Pious Ali, Chair

MEETING DATE
April 15, 2025

AGENDA ITEM
Agenda Item 2 – Hotel Inclusionary Zoning Ordinance

PURPOSE
An initial discussion on the history, background, and development trends related to the City's hotel inclusionary zoning ordinance, with the committee providing direction on next steps.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT
On December 16, 2024, the City Council established its 2025 Common Goals, outlining policy priorities and guiding the development of Council committee work plans. The Housing & Economic Development Committee (HEDC) identified the review and potential revision of the hotel inclusionary zoning ordinance (Chapter 14, Section 17.2.4) as a policy matter aligned with Council Common Goal #2: "*The Council will work to implement solutions to the housing crisis, including building more working class housing, improved support for the unhoused community such as an overdose prevention center as well as continued support for warming shelters. Additionally conduct independent assessment of Efficiencies, Outcomes, and Expenditures.*"

At its January 21, 2025 meeting, the HEDC established its 2025 work plan, which includes reviewing and considering potential revisions to the City's existing hotel inclusionary zoning ordinance.

BACKGROUND/ANALYSIS
On November 4, 2024, the City Council passed Order 77-24/25 (6-2, Mayor Dion & Councilor Rodriguez - No, Councilor Fournier Absent) (Attachment A) establishing a 180-day moratorium on new hotel projects in the City of Portland. The moratorium went into effect on December 4, 2024 and is set to expire on June 2, 2025.

Portland's Hotel Inventory & Development Trends
According to lodging license data from the Maine Department of Health and Human Services, there are currently 41 licensed lodging places in the City of Portland, with approximately 3,500 total rooms. 68% of these hotels have been developed since 2000, and 18 (44%) have been developed since 2010.

History of Hotel IZ policy
In 2019, the City proposed and established a hotel inclusionary zoning (IZ) ordinance. The requirement applies to hotel projects with 10 or more rooms and any hotel expansions of 10 or more rooms within any five-year period. To meet the requirement, hotel projects can provide one unit of low-income housing for rent within the city for every 28 hotel rooms. Portland considers a low-income housing unit to mean one that is rented to households earning 80% AMI or less. The other alternative is for a hotel project to pay a linkage fee (fee-in-lieu) with a 2019 basis of $3,806 per room, which is deposited into the City's Housing Trust Fund at the time the Certificate of Occupancy is issued. The linkage fee is adjusted annually; the 2025 hotel inclusionary fee-in-lieu is $4,831 per guest room.

The impetus for the creation of a hotel inclusionary zoning ordinance was a steady rise in hotel/inn/motel development between 2012 and 2018. Local and national data indicated that job creation in the hospitality industry would involve a considerable amount of workforce households at average wage rates below what was required to afford housing in Portland at the time. As a result of the specifics of the industry's profile and anticipating an increase in hotel/inn/motel development in the coming years, the hotel inclusionary zoning ordinance was adopted on January 23, 2019, Order 134-18/19 (Attachment B) and became effective on February 22, 2019.

Hotel development post IZ policy
Since adoption of the ordinance in 2019, 14 projects have been approved. Of the 14 projects three hotel projects approved in that timeframe were not subject to hotel inclusionary zoning requirements (Table 1). One project was too small (<10 rooms) to trigger the requirement and the other two were products of approved master development plans (Thompsons Point and Portland Foreside), which gave them pending proceeding status under the pre-inclusionary zoning code.

Table 1: Approved Hotel Projects Exempt From Hotel IZ Regulations

Address	Common Name	Approval Year	Total Rooms	Status
148 Coveside Drive	Diamond Cove	2024	8	Approved
Thompson's Point	Forefront Hotel	2023	148	Under Construction
58 Fore Street	Portland Foreside	2023	128	Approved
Total	**3**		**284**	

Of the 11 remaining projects (Table 2), four have been constructed and completed, resulting in a combined total of 223 rooms. Each of these projects elected to contribute to the Housing Trust Fund, generating a total of $834,373 in contributions. Two additional projects are currently under construction: The Docent's Collection at 178–184 Middle Street, which will contain 19 rooms and contribute $86,602 into the Housing Trust Fund and 215 Commercial Street, which will contain 15 rooms and contribute $70,380 into the housing trust fund. Both are smaller-scale renovations of

former office spaces in the Old Port. The remaining five projects have received approval but have not yet begun construction. If built, the five remaining projects would add an additional 623 new rooms. If all 11 projects are constructed as approved, they would collectively generate approximately $3.8 million in contributions to the Housing Trust Fund and 880 hotel rooms.

Table 2: Approved Hotel Projects Subject To Hotel IZ Regulations

Address	Common Name	Approval Year	Total Rooms	Fee-in-lieu	Status
*121 Middle Street	Docent's Collection	2019	26	$72,314	Construction Complete
1 Center Street	Canopy by Hilton	2019	135	$513,810	Construction Complete
754 Congress Street	The Longfellow Hotel	2020	48	$182,688	Construction Complete
54 York Street	The Weldon Hotel	2024	14	$65,562	Construction Complete
178-184 Middle Street	Docent's Collection	2023	19	$86,602	Under Construction
215 Commercial Street	-	2024	15	$70,380	Under Construction
477 Congress Street	Time & Temperature	2023	181	$849,252	Approved
1060 Westbrook Street	Hyatt Jetport	2024	119	$558,348	Approved
465 Congress Street	Monument Hotel	2024	92	$431,664	Approved
385 Congress Street	Fathom	2023	179	$815,882	Approved
245 Commercial Street	Portland Harbor Hotel Expansion	2024	52	$243,984	Approved
TOTAL	**11**		**880**	**$3,890,486**	

121 Middle Street – Awaiting fee-in-lieu payment for 7 additional rooms, which are included in the total room count.

In terms of location, of the 14 projects approved since the implementation of the Hotel IZ policy, approximately 57%, a total of eight projects (699 rooms) are located in the City's B-3 Downtown Business zone. This zone spans from roughly Franklin Street to State Street and includes the Old Port, Arts District, and abuts the waterfront areas recognized as the region's core for arts, culture, commerce, and civic life, where hotel development is both anticipated and encouraged. For comparison, between 2019 and 2024, the City also approved 1,695 residential dwelling units within the B-3 zone, reflecting strong and balanced growth in both hotel and residential

development. This trend aligns with the goals outlined in *Portland's Plan 2030*, which reinforces downtown as the region's primary hub of activity for the region.

The remaining hotel projects are also located in areas where hotel development is generally expected. Two projects are in the B-5 zone—one at Thompson's Point and the other at 54 York Street, just outside the B-3 zone near Commercial Street and the Old Port/Waterfront Central neighborhoods. One project, part of the master development plan for the Portland Foreside mixed-use development, is located in the B-6 zone in the Eastern Waterfront. Another is situated in the Airport Business (A-B) zone, an area commonly associated with airport-related uses and business travel. Finally, one project was approved as part of a contract zone on Great Diamond Island.

Approved Hotel Projects by Zone (2019–2024)

Zone	Total Hotel Projects	Total Rooms Approved
B-2b	1	48
B-3	8	699
B-5	2	162
B-6	1	128
A-B	1	119
Contract Zone	1	8
TOTAL	**14**	**1,164**

In terms of size, there is no clear evidence of a significant trend toward smaller hotel projects (<10 rooms) as a means of avoiding Hotel IZ requirements. The average size of hotels operating prior to the adoption of the IZ policy was 89 rooms, compared to an average of 83 rooms for hotels approved since its implementation. Only one project approved since 2019 has been under 10 rooms. However, a notable emerging trend in hotel development is the rise of smaller-scale hotels with fewer than 30 rooms, offering an alternative to traditional accommodations. These boutique-style properties typically feature apartment-style suites with fully equipped kitchens, separate dining and living areas, and private bedrooms. They often operate with limited on-site staff, minimal amenities, and rely on mobile check-ins and lacking a centralized reception area. Four such projects—121 Middle Street, 178–184 Middle Street (Docent's Collection), 215 Commercial Street, and 54 York Street (The Weldon Hotel)—fit this model. While these developments were still required to comply with Hotel IZ regulations, they reflect a growing and distinct segment of the hospitality market that tend to operate more in the vein of short term rentals.

ReCode Zoning Changes

As part of the City's ReCode initiative, adopted by the City Council on November 4, 2024, new hotels are now prohibited in the B-1, B-2b, and TOD-1 zones. The purpose of these zones is to support neighborhood- and community-oriented retail, business, and service establishments within a more urban development pattern. They are intended to foster mixed-use development and moderate- to high-density housing in urban neighborhoods that align with the City's investment in high-frequency transit infrastructure, encouraging walking, biking, and public transit use. By prohibiting hotels in these zones, the City prioritizes housing and mixed-use developments and directs hotels to designated areas better suited for such uses.

ReCode also included changes to the definition of "hotel" within the land use code. These changes were designed to more clearly define hotels as multi-room commercial facilities with centralized reception, management, and cleaning services, and to address the emerging trend toward non-traditional forms of hotel development more akin to short-term rentals.

Inclusionary Zoning Fee-in-Lieu Assumptions

Linkage fees are often used by cities as a way to offset the impacts of new development. Before establishing a linkage fee, communities typically conduct a study that formally and systematically establishes the nexus, or the 'link,' between new development and the fee's purpose. In the case of the city's hotel IZ policy, a linkage fee study was completed in 2018 to document the nexus between hotel development and demand for affordable housing (Attachment C). The basic principle of the study, which was conducted by the Greater Portland Council of Governments (GPCOG), is that new hotel development creates new jobs and attracts new households to fill those jobs, and that new affordable housing is necessary to accommodate them.

When the hotel policy was created, it was also the intent that the linkage fee would be periodically updated. Although no specific timeframe was established for these updates and in anticipation of upcoming discussions regarding the current Hotel IZ fee amounts, City staff requested an updated fee-in-lieu analysis from GPCOG in early 2025 (Attachment D). It is important to note that GPCOG's current work did not include an evaluation of the 2018 fee study methodology, but instead simply replicated the original methodology using current day income and housing cost assumptions. In almost all cases, the current study used the same data sources as the 2018 study; the one exception was for housing cost data, where the original data source was no longer available. Because of this change in the availability of data, GPCOG supplied three possible updated fee-in-lieu figures, reflecting three estimated affordability gaps based on three alternative rental cost data sources (the City of Portland Rent Board reports, American Community Survey, or HUD Fair Market Rent). These figures range from $9,520 to $10,620 to $13,731 per room, depending on the rent data source used.

For purposes of comparison, staff conducted an initial analysis of the potential impact of these three possible fees, based on an average sized hotel in the City of Portland of 85 rooms. Under the possible fees, the total inclusionary zoning contribution for a hotel of this size would range from $809,164 to $902,720 to $1,167,120. The total contribution for an 85 room hotel at the 2025 hotel IZ figure of $4,831 per room would be $410,635.

NEXT STEPS:

If the summary and recommendations for changes to the existing Hotel IZ ordinance align with the committee's and City Council's priorities, the City can proceed in several possible directions:

1. **Option 1 - Raise IZ fee-in-lieu:** This option would increase the hotel IZ fee-in-lieu based on the estimated affordability gap identified in the 2025 GPCOG study. Staff seeks committee direction on the preferred fee amount based on the rent data source used. Based on the Council's direction, the housing unit per room requirement within hotel inclusionary zoning policy would also be adjusted.

2. **Option 2 - Raise IZ fee-in-lieu & reduce applicability threshold:** In addition to raising the hotel IZ fee-in-lieu based on the estimated affordability gap from the GPCOG study, this option would amend the definition of a "Hotel project" to apply to any size hotel, rather than the current requirement of only applying to projects that include 10 or more guest rooms. Based on the Council's direction, the housing unit per room requirement within hotel inclusionary zoning policy would also be adjusted.

3. **Option 3 - Maintain existing fee-in-lieu & reduce applicability threshold:** This option would retain the existing hotel IZ fee-in-lieu while reducing the applicability threshold. The definition of a "Hotel project" would be amended to include any hotel, rather than only those with 10 or more guest rooms. As in Option 2, the threshold of >10 rooms would be removed, making the IZ requirements applicable to all hotel projects. Based on the Council's direction, the housing unit per room requirement within hotel inclusionary zoning policy would also be adjusted.

FISCAL IMPACT

The hotel IZ policy has resulted in $834,374 in contributions to the housing trust fund, with just over $3 million in anticipated revenues from approved projects pending construction. The fee-in-lieu amount is adjusted annually. If the fee is updated to more accurately reflect current incomes and housing costs, assuming that hotel development trends hold steady, contributions to the housing trust fund could be expected to increase significantly.

CONCLUSION(S)

This item is for discussion and direction. If the committee supports the presented options and provides additional guidance on revisions, staff recommends that the hotel moratorium be extended to allow time for staff to draft proposed Land Use Code revisions. These revisions would then be reviewed by the Planning Board, which will provide a recommendation on a text amendment to update the Hotel Inclusionary Zoning ordinance for consideration by the full City Council. Following the Planning Board's recommendation, the amendment will move forward to the full City Council for consideration and final decision.

PRIOR COMMITTEE REVIEW

N/A

PREPARED BY

Kevin Kraft, AICP
Director
Planning & Urban Development

Nell Donaldson
Director of Special Projects
Planning & Urban Development

ATTACHMENTS

Attachment A – Hotel Moratorium Order 77-24/25
Attachment B – Hotel IZ Ordinance Order 134-18/19
Attachment C - GPCOG Linkage Study 2018
Attachment D - GPCOG Linkage Study 2025
Attachment E - Hotel IZ Ordinance - Chapter 14

To: **Jeff Levine, Planning & Urban Development Director**
From: **Stephanie Carver, GPCOG Planning Director**
Date: **8/29/18**
RE: **Proposed Hotel Linkage Fee: Supportable Range**

This memo has been expanded and updated based on additional data provided by the Maine Innkeepers Association.

Introduction

The City of Portland's Department of Planning & Urban Development is examining the feasibility of a proposal for assessing hotel linkage fees that would recover the cost of producing housing that is affordable for hotel employees. The purpose of this memo is to provide information to the City regarding the use of linkage fees for this purpose and outline a potential methodology for the calculation of a fee.

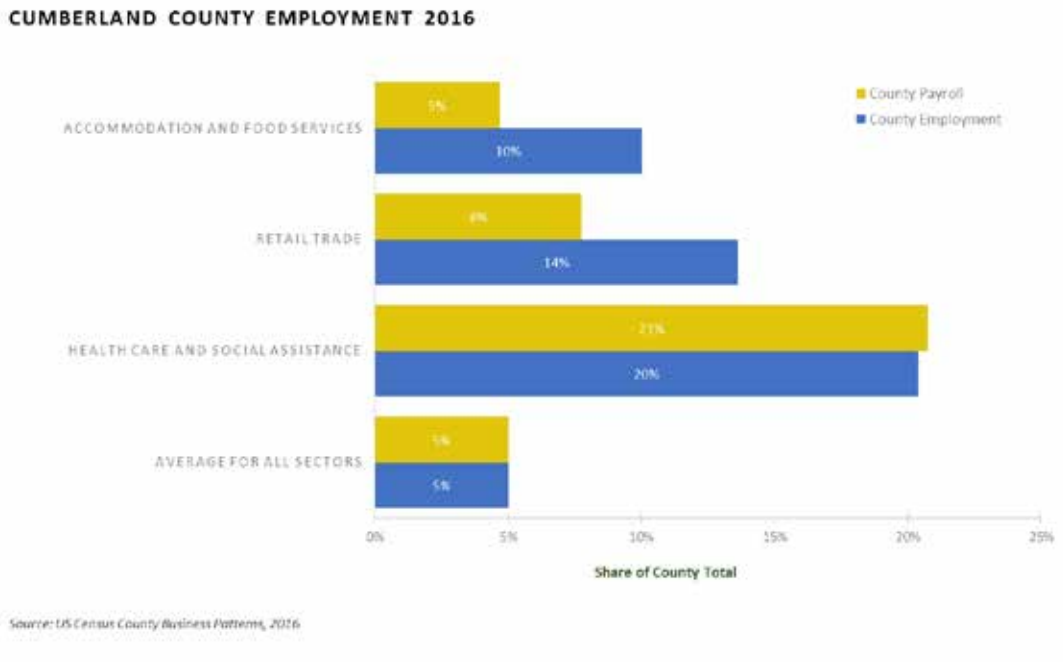
We have used the best available data to demonstrate how this methodology could be used to estimate a potential hotel linkage fee, but this does not constitute a recommendation from GPCOG as to the amount the City of Portland should charge for the hotel linkage fee nor is it a recommendation for the City of Portland to enact a hotel linkage fee ordinance.

Background

Linkage fees are fees that cities may choose to implement to help mitigate the impact of new commercial development on the demand and availability of affordable housing. Prior to implementing a fee policy, communities often conduct a study to identify the connection, or "nexus" between new commercial development and the need for additional affordable housing. It is assumed that new commercial development contributes additional workers to a city's workforce and adds new worker households. In many industries, a percentage of these households do not make enough to live and work in the same city. Looking outside the city to find affordable housing often results in longer commute times and higher transportation costs. If implemented, a linkage fee is typically charged to a developer as a condition of approval and it is assessed based on total square footage or number of units in the development.

The City's Comprehensive Plan identifies the increasing demand for affordable housing as an emerging issue and sets a goal of pursuing "policies to enable people who work in Portland to have the option to live in Portland." To be considered affordable, housing should consume no more than 30% of a household's income including rent, mortgage, utilities and other household related costs. Of the 1,130 housing units that were permitted and/or built in Portland between 2010 to 2014,

including apartments, condominiums and single-family homes, just 29% were offered at a rent or sales price affordable to a household earning the median income[i].



The Maine Office of Tourism estimates over 6 million tourists visited Portland in 2017. Hotel development is steadily increasing, with 1,811,050 square feet of hotel development - representing 2,647 units - currently in operation throughout the City. According to the US Census, the accommodation and food service sector is the third largest share of employment in Cumberland County, representing 10% of the County's workforce but only 5% of the County's payroll.

According to the Maine State Housing Authority the average rent (including utilities) for a two-bedroom apartment in Portland is $1,053 per month, and the household income needed to afford the average rent in Portland is $42,111 per year. However, this is the average rent paid by existing renters in Portland and new households moving to Portland will pay the current market rate, which is generally higher than the average rent. As of June 15, 2018, there are roughly 60 two-bedroom apartments listed for rent in Portland on Zillow, with monthly rents ranging between $1,300-$3,500. One third of those apartments are listed with rents between $1,500 and $2,000, and another third of those apartments are listed for more than $2,000 per month. Therefore, a new household moving to Portland will expect to pay between 120%-330% of the average rent to live in the City.

There are a range of estimates available regarding the average wages of a full-time employee in this sector, and all are well below the household income needed to afford housing in Portland. According to the US Census, the average Cumberland County employee in this sector earns $312 a week or $16,227 per year. The Maine Department of Labor (DOL) estimates the median income for a full-time

Cumberland County employee in this sector to be significantly higher, $24,908 per year. Additionally, as of 2017 the minimum wage in Portland is $10.68/hour, so a full-time employee making this salary would earn an annual income of $22,214. This affordability gap may force accommodation workers employed in Portland to seek housing outside of Portland.

Data

The minimum justified fee per square footage of hotel development outlined in this memo is based on data from both the US Census American Community Survey (ACS), and wage data from the Maine Department of Labor (DOL).

The US Census American Community Survey (ACS) data in this memo was used because it is the most comprehensive and consistent data source for demographic and economic characteristics of the population in GPCOG's service area. However, there are some limitations to the ACS data. First, it is 5-year sample data because this is the only data consistently available at the municipal, county, and state level. The drawback to using data pooled over five years is it averages out any short-term changes in income due to economic cycles or Portland's more recent minimum wage increase. Second, the median earnings reported by the ACS are based on what individuals report for their earnings regardless of whether they work full-time or part-time. As a result, these earnings may be skewed lower by individuals who work part-time, which may be more common for employment in the retail, food service, or accommodation sectors.

To balance these limitations, the median weekly wage data from the Maine DOL was also included in the analysis. The Maine DOL wage data is from the Quarterly Census of Employment and Wages (QCEW), which is based on employment and wage data reported to the Unemployment Insurance (UI) of the United States. The Maine DOL data also has some limitations. First, the data are only available at the industry level, so it is not possible to calculate the affordability gap for different occupations in the hotel sector. Second, the average weekly wage reported by the QCEW also does not differentiate between full-time and part-time employment. As a result, the weekly wage data reported by the Maine DOL may be skewed both by higher wage occupations and by part-time employment. The average weekly wage reported by Maine DOL was used to calculate yearly income based on full-time employment. This also assumes individuals employed in the accommodation sector can work full-time if they are willing and able to[ii].

Methodology

Methodologies used to calculate linkage fees vary, but in most cases the analysis begins with an estimation of the number of new employees associated with a typical development, in this case a hotel. In this methodology, a formula is used to calculate the affordability gap between what workers can afford to pay for housing and the average cost of market rate housing.

In Portland's case, a link is established between the creation of new jobs in the hotel sector and the increased demand for affordable housing through the following steps:

- **New Jobs.** Industry data was used to estimate the number of direct jobs that will be created by a new hotel with 180 units. According to the Urban Land Institute the typical hotel employs between 0.5-0.8 employees per hotel room. Using an average value of 0.65 employees per hotel room, it is estimated that a hotel with 180 rooms will employ 117 people. The current ratio of jobs per household was used to estimate how many households will be created by this new employment.
- **Households.** Currently there are 37,737 employed civilians aged 16 and over within the 30,211 total households in Portland. This means that on average there are 1.2 jobs per every household in Portland. Based on this ratio it is estimated that the 117 additional jobs created by a new hotel will create 94 new households in Portland. However, it is assumed employment in these households will be split up between different occupations, such as management, sales, service, and maintenance. The wages for each specific occupation may be higher or lower than the median wage for the hotel industry. Therefore, industry occupation employment and wage data examined from the ACS was used to estimate how many new households will be low income.

EMPLOYED POPULATION PER HOUSEHOLD 2016

	Portland	Cumberland County	Maine
Employed Civilian Population 16+	37,737	155,014	652,638
Total Households	30,211	117,871	551,109
Jobs/Household	1.2491	1.3151	1.1842

Source: American Community Survey 2016 5-year estimate

- **Jobs by Occupation.** Based on industry and occupation employment data from the ACS 64% of jobs in the hotel industry are service occupations, 19% of hotel jobs are management occupations, 13% of hotel jobs are sales and office occupations, and the remainder are maintenance and transportation occupations. The total number of jobs and households that will be created in each occupation was calculated by multiplying the share of hotel employment by occupation by the total number of new hotel jobs created.

NEW JOBS AND HOUSEHOLDS BY OCCUPATION CREATED BY NEW HOTEL EMPLOYMENT

	Share of Hotel Employment	Number of New Jobs	Number of New Households
Service	**64%**	**74**	**60**
Sales and Office	13%	15	12
Transportation	4%	4	3
Maintenance	1%	1	1
Management	19%	22	18
Total - All Occupations	100%	117	94

Source: American Community Survey 2016 5-year estimate; GPCOG Analysis

- **Household Income**. Median wage by occupation data for Cumberland County from the ACS was used to calculate the household income for each household in each occupation category. This calculation assumes 1 person in each new household works full-time in the hotel industry and any additional workers in the household earn the area median income:

NEW HOUSEHOLDS AND HOUSEHOLD INCOME BY OCCUPATION (ACS DATA)

	Number of New Households	Median Wage for Hotel Income Earner	Median Wage for Second Income Earner	Total Household Income
Service	**60**	**$18,109**	**$9,015**	**$27,124**
Sales and Office	**12**	**$30,444**	**$9,015**	**$39,459**
Transportation	**3**	**$31,695**	**$9,015**	**$40,710**
Maintenance	1	$33,421	$9,015	$42,436
Management	18	$52,910	$9,015	$61,925

Source: GPCOG Analysis and American Community Survey 2016 5-year estimates

Median wage by industry data from the Maine DOL was also used to calculate the average household income for the 94 new households created by hotel employment:

NEW HOUSEHOLDS AND HOUSEHOLD INCOME (MAINE DOL DATA)

	Number of New Households	Median Wage for Hotel Income Earner	Median Wage for Second Income Earner	Total Household Income
Accommodation	**94**	**$24,908**	**$12,164**	**$37,072**

Source: GPCOG Analysis and Maine DOL QCEW 2016

- **Affordability Gap.** These estimates for household income by occupation were compared to housing affordability data from the Maine State Housing Authority to show the difference between what the new households created by hotel employment earn and the minimum income needed to afford a two-bedroom apartment in Portland. These results show that households with Service, Sales and Office, and Transportation occupations have a household income that is lower than the minimum income needed to afford rental housing in Portland. This household affordability gap is largest ($14,987) for households with Service occupations, which also represent nearly 2/3 of households created by the new hotel employment.

AFFORDABILITY GAP ANALYSIS (ACS DATA)

	Number of New Households	Total Household Income	Income Needed to Afford Rent in Portland	Household Affordability Gap	Total Affordability Gap
Service	**60**	**$27,124**	**$42,111**	**$14,987**	**$892,820**
Sales and Office	**12**	**$39,459**	**$42,111**	**$2,652**	**$32,048**
Transportation	**3**	**$40,710**	**$42,111**	**$1,401**	**$4,856**
Maintenance	1	$42,436	$42,111	NA	$0
Management	18	$61,925	$42,111	NA	$0
Total					**$929,724**

Source: Maine State Housing Authority, 2017; American Community Survey 2016 5-year estimates

The household affordability gap using the median wage by industry data from the Maine DOL was also calculated:

AFFORDABILITY GAP ANALYSIS (MAINE DOL DATA)

	Number of New Households	Total Household Income	Income Needed to Afford Rent in Portland	Household Affordability Gap	Total Affordability Gap
Accommodation	**94**	**$37,072**	**$42,111**	**$5,039**	**$472,007**

Source: Maine State Housing Authority, 2017; Maine DOL QCEW 2016

- **Aggregate Affordability Gap.** The household affordability gap for each occupation was multiplied by the number of households with employment in each occupation to arrive at a total affordability gap that ranges between $472,007 and $929,724 per year. This number represents the difference between these households' ability to pay for their housing and the market cost of their housing based on the median monthly rent, for one year. In reality these

households may face higher rental housing costs since current Portland rents for new units are significantly higher than the median rent.

- **Final Calculation.** Dividing the affordability gap by the number of new hotel rooms results in an average affordability gap that ranges between $2,622 and $5,165 per room, or between $3.91 and $7.70 per square foot. Therefore, a fee between ***$3.90-$7.70 per square foot*** would cover a minimum justified housing affordability gap for the 94 new households created by a new 180-unit hotel employment for one year. This methodology assumes the median wage for a hotel income earner in the service industry, including full-time and part-time employees, is $18,109 based on US Census ACS data. If it is instead assumed that hotel service industry employees are working full-time at the City's minimum wage of $10.68/hour and making $22,241 annually, then the minimum justified fee would be between $2,622 and $3,806 per room or ***$3.90-$5.67 per square foot*** of hotel development for one year. However, this assumes individuals working in the service sector are able to procure full-time employment, which is not always the case[ii].

This example estimate represents the full cost of the affordability gap for employment in one hotel for one year as calculated by the proposed methodology. Multiple factors could potentially impact the demand for affordable housing and the City may determine a higher or lower percentage of this fee based on these variables. Furthermore, this fee could be re-evaluated periodically as circumstances such as inflation, rents, and rental housing supply change.

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[i] Portland 2030 Housing Demand, GPCOG 2015

[ii] According to a 2016 study (https://www.epi.org/publication/still-falling-short-on-hours-and-pay-part-time-work-becoming-new-normal/#epi-toc-21) from the Economic Policy Institute the retail trade and leisure and hospitality sectors contributed to 63% of the growth in part-time employment and 54% of the growth in involuntary part-time employment from 2007-2015. Involuntary part-time employment is defined as individuals who are working part time because full time work could not be found or hours were reduced due to economic conditions (slack work).

GPCOG
GREATER PORTLAND
COUNCIL OF GOVERNMENTS

MEMO

To: Kevin Kraft, Director of Planning & Urban Development
From: Kristina Egan, GPCOG Executive Director
Date: 3/18/25
Re: Hotel Linkage Fee Update

Introduction

In 2018, the City of Portland asked the Greater Portland Council of Governments (GPCOG) to assess the feasibility of a hotel linkage fee that could be used to help offset the cost of producing affordable housing for hotel employees. The resulting memo outlined the use of linkage fees for this purpose, proposed a methodology for calculating the fee, and provided a range of justifiable figures for implementation. Using this analysis, the City established inclusionary zoning requirements for hotels and an in-lieu fee of $3,806 per guest room. This figure has been adjusted annually in the time since its adoption. The fee-in-lieu for 2025 is $4,831 per guest room.

Recognizing significant market changes since 2018, the City of Portland requested an updated analysis in early 2025. The following memo replicates the original linkage fee methodology to the best extent possible using updated data.

Background

Linkage fees are tools cities can use to offset the impact of new commercial development on affordable housing availability and demand. Before implementing such a policy, communities typically conduct a study to identify the "nexus" between new development and the need for additional affordable housing. The assumption is that commercial growth brings new workers, some of whom may not earn enough to live in the city. This often forces households to seek housing outside the city, resulting in longer commutes and higher transportation costs. If adopted, a linkage fee is typically charged to developers as a condition of project approval, based on the development's total square footage or number of units.

Data

Where possible, the hotel linkage fee range in this memo is based on the same data sources used in the original 2018 study. To maintain consistency, 2023 data was used across multiple sources, even when newer data was available in some cases.

Employment + Wage Data

This analysis relies on employment and wage data from the U.S. Census American Community Survey (ACS), which provides the most consistent workforce and wage estimates. The previous memo also incorporated wage data from the Maine Department of Labor as a point of comparison; however, the adopted hotel linkage fee was ultimately based on wage data from the ACS.

Housing Cost Data

The 2018 linkage fee study used rental data from the Maine State Housing Authority to establish a baseline housing cost, using a two-bedroom unit as a reference point (due to its ability to accommodate the assumed household size). However, in the time since, Maine Housing has stopped publishing rental data. As a result, this memo relies on several other readily available sources of rental data to estimate housing costs, including the Department of Housing and Urban Development's Fair Market Rent (FMR) Documentation System, the American Community Survey, and the City of Portland's Rent Board Report.

- **Fair Market Rent:** FMR represents the average cost of renting a moderately priced home, including utilities, in a specific area. It is used to set rent limits for housing assistance programs to ensure they align with current market conditions. The Portland, ME HUD Metro FMR Area includes municipalities in Cumberland County and parts of York County. Updated annually, FMR estimates are based on rental market surveys, American Community Survey data, and inflation adjustments.[1]
- **U.S. Census ACS Data:** The ACS provides median gross rent estimates by unit size, accounting for both rent and utilities when not already included. Data is based on five-year samples, which help ensure statistical reliability but smooth out short-term rent fluctuations. Estimates reflect both market-rate and subsidized rentals.[2]
- **City of Portland Rent Board Report:** These annual reports provide data on rental availability, city-wide rent prices, rental market trends, and board actions on rent increases, among other topics.[3]

Methodology

Linkage fee calculations typically estimate the number of new employees and households generated by a development, such as a hotel. Wage and rent data are then used to estimate the gap between what these workers can afford for housing and the average market rent. This memo presents that analysis for Portland, using the most recent and locally relevant data, through the following steps:

Number of New Jobs

To estimate job creation, industry data was applied to a 180-room hotel – chosen as a representative example based on an actual development. While staffing levels vary based on factors such as hotel size, service level, and operational needs, the original linkage fee study assumed a ratio of .65 employees per hotel room, based on numbers from the Urban Land Institute. Using this ratio, a 180-room hotel is expected to generate 117 jobs.

Number of New Households

The current ratio of jobs per household was then used to estimate the number of households represented by this new employment. Portland currently has 39,590 employed civilians aged 16 and over across 32,393 households[4], or an average of 1.22 jobs per household. Using this ratio, the 117 new jobs created by the example 180-room hotel would generate an estimated 96 new households.

Employment and Households by Occupation

The jobs held by hotel employees would span various occupations – management, sales, service, maintenance, etc.— with wages varying by role. To estimate how many of the households employed by a new hotel would be low-income, industry-specific employment and wage data from the American Community Survey was used. The American Community Survey groups Arts, Entertainment, Recreation, Accommodation, and Food Services together, reflecting industries tied to the service sector. While this broad category includes more than just hotel jobs, it offers the best available estimate for occupational distribution. Within this sector, approximately 56% of jobs are in service occupations, 31% in management, 7% in sales and office, 6% in transportation, and 1% in maintenance.[5]

The table below estimates the number of new employees and households created by occupation.

ESTIMATED NEW HOTEL JOBS AND HOUSEHOLDS BY OCCUPATION

	% of Service Sector Employment	# of New Hotel Employees[i]	# of New Households[ii]
Service	55.5%	65	53
Management	30.6%	36	29
Sales and Office	6.8%	8	7
Transportation	5.8%	7	6
Maintenance	1.2%	1	1
Total	100%	117	96

[i] *Calculated by multiplying the percentage of service sector employment by the total estimated 117 hotel employees.*

[ii] *Calculated by multiplying the percentage of service sector employment by the total estimated 96 households.*

Household Incomes

Household income estimates were calculated using Cumberland County's ACS median earnings data by occupation for 2023.[6] This approach reflects the broader region where hotel workers in Portland may reside. The one exception is for service workers, where the City of Portland's 2023 minimum wage of $14/hour was substituted for the ACS median wage. The household income calculations assume one person in each household works full time in the hotel industry and also assumes a second household member makes the area median earnings.[7] The table below presents these estimated household incomes by occupation.

ESTIMATED NEW HOUSEHOLDS AND HOUSEHOLD INCOME BY OCCUPATION (2023 ACS DATA)

	# of New Households	Median Wage for Hotel Employee	Median Wage for 2nd Income Earner[ii]	Total Household Income
Service[i]	53	$29,120	$10,899	$40,019
Management	29	$71,711	$10,899	$82,610
Sales and Office	7	$42,467	$10,899	$53,366
Transportation	6	$40,829	$10,899	$51,728
Maintenance	1	$50,572	$10,899	$61,471

[i] *The Service wage reflects Portland's 2023 minimum wage of $14/hour, as the Census estimate was below the legal minimum.*

[ii] *The second income earner's wage of $10,899 is based on 0.22 of the 2023 Census median earnings for all occupations in Cumberland County ($49,540), reflecting the estimated 1.22 employees per household.*

Affordability Gap

To create a range, the estimated household incomes for each occupation category were then compared to three different rent data sources to assess whether new hotel employees can afford a two-bedroom unit in Portland and to calculate the cumulative 'affordability gap.'

ESTIMATED AFFORDABILITY GAP: 2023 FAIR MARKET RENT FOR PORTLAND METRO AREA
[$1,859 for a two-bedroom unit]

	New Households	Household Income	Income Needed[i]	Affordability Gap (HH)	Total Gap
Service	53	$40,019	$79,671	$39,652	$2,101,556
Management	29	$82,610	$79,671	- $2,939	N/A
Sales and Office	7	$53,366	$79,671	$26,305	$184,135
Transportation	6	$51,728	$79,671	$27,943	$167,658
Maintenance	1	$61,471	$79,671	$18,200	$18,200
Total	96	--	--	--	$2,471,549
				Per Room	***$13,731***

[i]*Annualizing Fair Market Rent ($1,859 * 12 months = $22,308) and dividing by 0.28 yields $79,671, ensuring rent remains just below the 30% housing cost burden threshold.*

ESTIMATED AFFORDABILITY GAP: 2023 ACS MEDIAN GROSS RENT FOR PORTLAND
[$1,664 for a two-bedroom unit]

	New Households	Household Income	Income Needed[i]	Affordability Gap (HH)	Total Gap
Service	53	$40,019	$71,314	$31,295	$1,658,635
Management	29	$82,610	$71,314	- $11,296	N/A
Sales and Office	7	$53,366	$71,314	$17,948	$125,636
Transportation	6	$51,728	$71,314	$19,586	$117,516
Maintenance	1	$61,471	$71,314	$9,843	$9,843
Total	96	--	--	--	$1,911,630
				Per Room	***$10,620***

[i]*Annualizing ACS median rent ($1,664 * 12 months = $19,968) and dividing by 0.28 yields $71,314, ensuring rent remains just below the 30% housing cost burden threshold.*

ESTIMATED AFFORDABILITY GAP: 2023 CITY OF PORTLAND RENT BOARD
[$1,595 for a two-bedroom unit]

	New Households	Household Income	Income Needed[i]	Affordability Gap (HH)	Total Gap
Service	53	$40,019	$68,357	$28,338	$1,501,914
Management	29	$82,610	$68,357	- $14,253	N/A
Sales and Office	7	$53,366	$68,357	$14,991	$104,937
Transportation	6	$51,728	$68,357	$16,629	$99,774
Maintenance	1	$61,471	$68,357	$6,886	$6,886
Total	96	--	--	--	$1,713,511
				Per Room	***$9,520***

[i]*Annualizing ACS median rent ($1,595 * 12 months = $19,140) and dividing by 0.28 yields $68,357, ensuring rent remains just below the 30% housing cost burden threshold.*

Final Calculation

As shown on the previous page, dividing the total affordability gap by the 180 new hotel rooms results in an **estimated per-room affordability gap ranging from $9,520 to $10,620 to $13,731** depending on the rent data source used (City of Portland Rent Board, American Community Survey, or HUD Fair Market Rent). This estimate reflects the full annual affordability gap associated with the jobs generated by a single hotel room based on the methodology from the original 2018 study.

[1] Department of Housing and Urban Development FY 2023 Fair Market Rent Documentation System for the Portland, ME HUD Metro FMR Area

[2] U.S. Census American Community Survey 2019-2023 5-year estimate (Table B25031)

[3] 2023 Portland Rent Board Annual Report (pg. 12)

[4] U.S. Census American Community Survey 2019-2023 5-year estimate (Table DP03)

[5] U.S. Census American Community Survey 2019-2023 5-year estimate (Table S2405)

[6] U.S. Census American Community Survey 2019-2023 5-year estimate (Table B24011)

[7] U.S. Census American Community Survey 2019-2023 5-year estimate (Table S2001)

Boston Housing and Jobs Linkage Nexus Study

Final Report

to

Mayor's Office of Housing
City of Boston

Submitted by:

Karl F. Seidman Consulting Services
ConsultEcon, Inc.

November 2022

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Executive Summary

Boston established its Development Impact Project (DIP) Exaction policy in 1983 to collect exactions, also known as linkage fees, to mitigate the impact of large scale development projects on: (1) the need for and availability of affordable housing; and (2) job opportunities for low-income and moderate-income residents. Boston's current linkage fees are $13 per square foot (PSF) for affordable housing and $2.39 PSF for jobs, for a combined rate of $15.39 PSF. This report provides an updated nexus study to quantify the impact of future non-residential development on the demand for affordable housing and need for employment and training services in Boston and the linkage fee rates to mitigate these impacts. It also reviews the history of Boston's linkage policies, provides a macroeconomic profile of economic, demographic and housing conditions in the city, considers potential policy changes and recommends new linkage fee rates and policies.

Macroeconomic Profile. Boston had steady job growth from 2010 to 2019 followed by pandemic-induced decline for 2020 and 2021. Total payroll employment, increased by 121,501 jobs or 22%, from 2010 to 2019 before declining by 7.5% in 2020—a loss of 50.121 jobs. Health care and information technology were key drivers of growth over this period, accounting for eight of 15 high-growth industries and 65% of their new jobs from 2010 and the first half of 2021. Just under 30 million SF of new development of commercial or mixed-use buildings over 50,000 square feet occurred from 2011 to 2021. A large pipeline of potential future projects of 65.7 million SF indicates strong confidence in Boston's economy and future demand for non-residential real estate. Strong growth and real estate demand in the Life Science industry has resulted in a boom in the lab development pipeline, with many new lab projects being proposed and existing planned office projects being converted to lab space.

Boston's population grew by 9.4% from 2010 to 2020 to almost 675,000, a faster rate than the state (7.4%). The city's population is quite diverse with 28% foreign born and about 45% identifying their race/ethnicity as White Only, 22% as Black or African American Only, 20% Hispanic and 10% Asian Only. Significant racial disparities exist in household income and poverty rates: the median household income for White Households, at $108,291 is over twice that of Black, Latino and Asian households, at $47,800, $43,337 and $52,326, respectively. Poverty rates for Black, Latino and Asian households, at 21%, 27% and 28%, respectively, are well above the 10% rate for the White, Non-Latino households. With 42% of Boston households housing cost-burdened and 24% severely cost-burdened, there is a large need for affordable housing.

In 2020, Boston had a labor force of 413,366 residents and a labor force participation rate of 69.8%. The city's labor force is highly educated and concentrated in higher skilled occupations but with significant racial disparities. Almost half (49.9%) of Boston's labor force was employed in management, business, science, or art occupations in 2020. However, two-thirds of White workers and almost 59% of Asian workers held jobs in these higher paying occupations, compared to 31.4% for Black/African American workers, 30.4% for Hispanic or Latino workers. Similarly, over two-thirds (67.3%) of White residents 25 or older had a bachelor's degree or higher in 2020 compared to 19.8% and 25.7% for Black and Latino adults, respectively. Consequently, a gap exists between the type of jobs being created in many of Boston's high growth industries and the occupational profile of Boston's less educated labor force and particularly for Black, Latino and multi-racial workers.

Affordable Housing Demand. Based on projected new development of 14,861,000 square feet over the next ten years and the likely mix of tenant industries, 31,794 new jobs are estimated to be generated in Boston by this development. Information on the occupations and earnings of these new employees, in combination with data on the distribution of households by size and number of workers and survey results on the share of employees who moved to or sought housing in Boston when they obtained a job in the city was used to estimate the demand for 4,003 new affordable housing units from the projected new development and employment. This analysis projected the following need for new affordable units by household income level:

- 205 units for extremely low-income households at less than 30% of Area Median Income (AMI);
- 958 units for low-income households at 305 to 60% of AMI;
- 331 units for moderate-income households at 60% to 80% of AMI; and
- 2509 units for middle-income households at 80% to 120% of AMI.

Development Costs and Needed Subsidy. A separate analysis of the development costs and needed subsidy for rental and homeownership units was conducted based on 2,593 ownership units and 1,410 rental units[1]. Development costs were estimated based on the costs for recent comparable affordable housing projects built in Boston. For rental projects, the needed subsidy was calculated as the difference between total development costs and the amount of debt and equity that could be supported by the housing cash flow using affordable rents at 30% of household income and comparable operating costs. For ownership projects, the needed subsidy was calculated as the difference between total development costs and the affordable purchase price based on home mortgage payments, insurance and property taxes at 30% of household income and a 5% down payment. The results of this analysis are:

- Total development costs of $ 2.121 billion; and
- Total needed subsidy of $895.1 million with $127.3 million for the extremely low-income units, $412.5 million for the low-income units, $124.5 million for the moderate-income units and $230.9 million for the middle-income units.

The housing linkage fee needed to provide the full $895.1 million in subsidy is $80.20 per square foot on new non-residential development. However, low- and moderate-income housing development leverages public subsidies from federal and state sources in addition to those provided by local government Overall, the total City funds including NHT and other funds accounted for 14.7% of rental projects, and 58.9% of ownership projects. Applying this percentage to the required subsidy would result in a $21.88 housing linkage fee.

Training Needs and Financing Gap. New DIP development over the next ten years is expected to create almost 10,000 jobs in low- and middle-skill occupations that are the most accessible to low-income and moderate-income workers. Based on an analysis on occupational demand and training supply by the major industries in new development projects, the funding gap to train

[1] This mix is based on all of the extremely low-income and low-income units developed as rental units, 75% of moderate-income units built as rental and 25% as ownership, and 100% of the middle-income units built as ownership units.

Boston residents for 40% and 50% of these jobs was estimated, along with costs for related education and employment services, including English for Speakers of Other Languages (ESOL), Adult Basic Education (ABE), skill upgrading after employment to help workers advance into higher paying positions and stipends to offset lost income while attending training programs. High and low supply estimates for employment and training services was made to account for planned program expansions and the pandemic's impact on participation levels. The estimated total employment training funding gap with 40% resident employment ranged from $35.3 million to $45.4 million for the high and low-supply scenarios, with resulting warranted linkage fee rates of $3.16 to $4.07. At 50% resident employment, the estimated funding gap is $47.3 million to $60.4 million for the high-supply and low-supply scenarios, with resulting warranted linkage fee rates of $4.19 to $5.32.

Impact on Economic Competitiveness and Investment. An important consideration in adjusting Boston's linkage fees is the potential impact of a fee increase on attracting new tenants and the financial feasibility of new development. Boston's current combined linkage fee is below that of Cambridge ($33.34) and 10% above Somerville's rate of $13.98. The maximum combined rate of $85.52, on the other hand, is over two and one-half times Cambridge's fee and six time the rate in Somerville. Higher linkage fees will increase development costs, which can impact project economics in several ways, depending on several factors. Consequently, linkage fee increases were analyzed for their potential impact on tenant rents, developer returns and equity investor returns. If the maximum rate is fully passed on to tenants, it would increase rents by 6.5% to 8.8%, depending on property type and location, erasing Boston's rental advantage over East Cambridge by one-third and eliminating its advantage over Mid-Cambridge. Without any increase in rents, increased development costs would reduce developer returns by up to 32 basis points, potentially making some lab and office projects infeasible. The maximum fee has a larger impact on equity investor returns, reducing them by up to 2.64 percentage points, which would make it difficult for developers to secure the investment capital to undertake projects. Smaller fee increases in the range of $5 and $20 are unlikely to impact Boston's competitiveness in attracting tenants and generating new office and lab development, as they would have a small impact on rents, developer returns and equity investor returns.

Recommendations. Recommendations to simplify, update and improve Boston's linkage policies include: (1) changing the payment schedule to a single payment at certificate of occupancy; (2) eliminating the separate fee payment schedule for projects in the Downtown District; and (3) eliminating the 100,000 SF exemption.

Boston should set higher linkage fees for lab development projects, as their higher rents and returns allow them to make a larger contribution to mitigating impacts. The following proposed fees are based on doubling the total linkage fee rate to $30.78 for lab projects and a 50% increase to $23.09 for projects with other primary uses:

- **Increase the jobs linkage to $3.62** with elimination of the 100,000 SF exemption. If the exemption is not eliminated, the comparable fee level is $4.75
- **Increase the housing linkage fee to $26.78 for projects with a primary lab use** with elimination of the 100,000 SF exemption. If the exemption is not eliminated, the comparable fee level is $35.66.

- **Increase the housing linkage fee to $19.09 for projects with a primary** hotel, office, retail, institutional or other use subject to linkage payment with elimination of the 100,000 SF exemption. If the exemption is not eliminated, the comparable fee level is $25.41.

A final recommendation is that the City and its Office of Workforce Development continue its efforts to establish a consortium to strengthen the training system and improve access to job in the life science industry. This work is critical to creating a pipeline of low- and moderate-income Boston residents to gain jobs within this fast growing industry

Introduction

The City of Boston is experiencing a large increase in commercial development that is expanding the City's job base with the potential to increase local demand for housing including affordable housing for low-income, moderate-income and middle-income households. The City commissioned a study to assess the impact of this new development on affordable housing demand and the potential for a "linkage fee" to be paid by development projects to mitigate the cost to develop this housing. This report provides a nexus study to assist Watertown in deciding whether to establish a linkage fee and, if established, the appropriate fee level and policies. The report quantifies the impact of future non-residential development on the demand for affordable low, moderate, and middle-income housing in Watertown. It then analyzes the proportionate housing linkage fee rate to mitigate these impacts. Finally, it reviews linkage fees in other Massachusetts communities, several policy options and recommends linkage fee options and policies for implementation of a new housing linkage fee.

I. History and Overview of Boston's Linkage Program

Boston has a long standing policy, first approved in 1983, to collect Development Impact Exactions, also known as linkage fees, to address and mitigate the impact of large scale development projects on: (1) the need for and availability of affordable housing; and (2) job opportunities for low- and moderate income residents. To address these dual impacts, Boston levies two separate exactions: a Housing Exactions and a Jobs Exaction. The applicable types of development projects and uses are the same for both exactions but their fee level and payment options are different. This section summarizes Boston's current Development Impact Exaction policies, discusses how the policy and fee levels have changed over time and highlights key policy issues for the city to review and reconsider in conjunction with the Nexus Study.

Current Development Impact Exaction Policy

Boston's Development Impact Exaction Policy is defined under Article 80 of the city zoning code, which addresses development project review, in Section 80B-7. This policy requires housing and jobs exaction contributions for any real estate development that meets the definition of a "Development Impact Project" (DIP). Four characteristics establish a real estate project as a DIP subject to exactions:

1. The project cannot be built "as-of-right" and requires some forms of zoning relief;
2. The project involves either more than 100,000 square feet of new construction, addition to an existing building or renovation of an existing building;
3. Includes the proposed use of more than 100,000 square feet of gross floor area for uses defined as a Development Impact Use (explained below); and
4. Is not wholly owned by a government agency.

Since virtually all projects over 100,000 square feet require zoning relief, Development Impact Exactions apply to any new construction or renovated non-government owned real estate projects with over 100,000 square feet of "Development Impact Uses." The definition of Development Impact Use (DIU) is very broad and covers 40 distinct uses that fall within seven categories:

- Office;
- Retail Businesses;
- Public Services;
- Other Service Uses;
- Institutional;
- Educational; and
- Hotel/Motel.

The major building uses not subject to Development Exactions are wholesale businesses, storage, industrial uses, and parking.
A complete list of the 40 business/use types under Development Impact Use definition is included in Appendix A.

Housing Exactions are currently paid at a rate of $13.00 per gross square foot for the project square footage above 100,000 square feet. Thus, the first 100,000 square feet of any Development Impact Project is exempt from paying the Housing Exaction (and the Jobs Exaction as noted below). For Institutional Master Plans and Planned Development Areas, the exemptions applies to their overall amount of development in the plan rather than to each individual building projects. Exaction obligations can be met through either payment of a cash grant (Housing Contribution Grant) or by building low or moderate income housing units with cost at least equal to the required Housing Contribution Grant. In practice, virtually all Housing Exactions have been met through the grant option. Grants are paid in seven equal annual installments with the first payment due at the earlier of the Certificate of Occupancy date or 24 months after construction starts. All Housing Contribution Grant payments are allocated to the Neighborhood Housing Trust (NHT), a separate legal trust overseen by seven trustees that include the Boston Collector-Treasurer, five trustees appointed by the Mayor and the City Council President or her or his designee. The NHT awards the funds obtained from Housing Exaction grant receipts to help finance affordable housing developments, through a periodic RFP process.

Job Exactions are currently paid at a rate of $2.39 per project gross square foot above 100,000 square feet. Exaction obligations can be met through either payment of a cash grant (Job Contribution Grant) or creation of a job training program with a cost at least equal to the required Job Contribution Grant. In practice, almost all Job Exactions have been paid through the grant option. Grants are paid in two equal installments with the first payment due at building permit issuance and the second payment one year later. All Job Contribution Grant payments are allocated to the Neighborhood Jobs Trust (NJT), similar to the NHT as a separate legal trust overseen by three trustees-- the Boston Collector-Treasurer, the Director of the Office of Jobs and Community Services and a City Council member appointed by the Mayor. The NJT awards the funds obtained from Job Exaction Grants to finance job training, education and employment programs through a periodic RFP process.

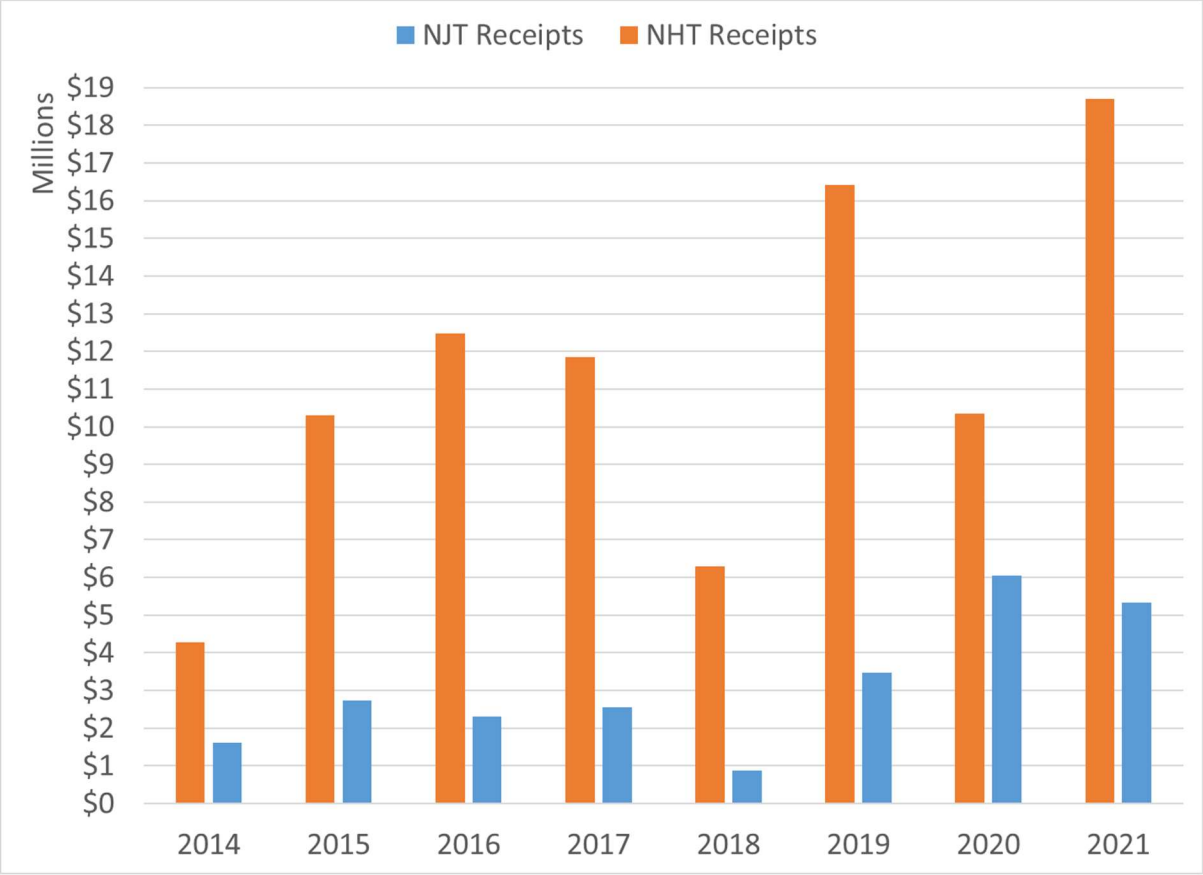
The recent home rule petition (Chapter 365 of the Acts of 2020) changed how the housing and job exaction rates can be adjusted. Previously, the housing and job exaction rates had been set by special state statutes and could be adjusted for inflation every three years by a vote of the BPDA Board of Directors. The new policy allows the Zoning Commission to set the exaction rates from time to time based on the recommendation of the BPDA. These changes to the exaction rates require a new nexus study that shall include an analysis of the following: (1) economic trends, such as real estate development activity, commercial rents per square foot, employment growth and inflation rates; (2) housing trends measured in terms of vacancy rates for affordable housing available to low- and moderate-income residents, and production statistics for new dwelling units; and (3) employment trends such as unemployment rates and statistics on the availability and use of job training programs. Additionally, exaction rates are adjusted automatically every July 1st based on an inflation index[2].

Combined exactions have generated combined over $14 million annually, on average, between FY 2014 and 2021. Detailed figures in **Figure 1-1** and **Table 1-1** on Neighborhood Jobs Trust receipts and Neighborhood Housing Trust receipts show how receipts have varied year-by-year and over

[2] This index is based on 50% of the change in consumer price *index* for all urban consumers or "CPI-U" and 50% of the change in the housing component of said CPI-U for the Boston metropolitan area.

time reflecting the cyclical nature of development projects and the growth of the exaction rate over time (See Figure 1-1). However, there is a clear trend toward higher payments over the period.

Figure 1-1. Annual Exaction Receipts, Neighborhood Jobs Trust and Neighborhood Housing Trust, FY 2014 to 2020



Source: City of Boston and ConsultEcon, Inc.

Table 1-1. Neighborhood Housing and Jobs Trusts Receipts by Fiscal Year 2014 through 2021

Fiscal Year	NJT Receipts	NHT Receipts
2021	$5,330,447	$18,708,913
2020	$6,041,567	$10,343,431
2019	$3,479,548	$16,409,443
2018	$883,465	$6,291,678
2017	$2,558,693	$11,839,721
2016	$2,296,442	$12,464,118
2015	$2,721,978	$10,294,821
2014	$1,621,030	$4,276,432
Total, 2014 to 2021	**$24,933,170**	**$90,628,558**
Average Annual	*$3,116,646*	*$11,328,570*

Source: City of Boston and ConsultEcon, Inc.

Evolution of Boston's Exaction Policy and Rates

Over the past thirty years, Boston's development impact exaction policies have changed through the addition of the jobs exaction, several increases in the exaction rate and other changes. **Table 1-2** provides a timeline of the major policy and rate changes for both the housing and jobs exactions. Boston established the initial housing exaction at $5 per square foot through city council action in 1983, following the recommendations of a mayoral Housing Linkage Advisory Group. In 1986, the jobs exaction was adopted by the City Council, following a report and recommendations by Jerome Kayden, Karl Case and Robert Pollard. The Neighborhood Housing Trust and Neighborhood Jobs Trust were established in 1986 and 1987, respectively, to oversee the allocation of exaction revenue to mitigate development impacts. Legal authority to levy the housing and jobs exactions was codified in state law during 1987 with passage of Chapter 371 of the Acts of 1987. This state law also provided a mechanism for increasing the exaction rates over time through application of the CPI formulas cited earlier. Two additional legal actions occurred in 1996, when the exaction policies were incorporated in Article 80 of Boston Zoning Code, and 2001 when the state legislature, through Chapter 170 of the Acts of 2001 authorized increases in the housing and jobs exaction levels to $7.18 and $1.44, respectively. This act also allowed the payment period for housing exactions by "neighborhood" projects outside the central business district from 12 years to seven years. These legislative changes implemented recommendations from an April 2001 report issued by the Linkage Commission appointed by Mayor Menino. After the 2001 authorized rate increase, the BPDA board made four further increases in the exaction rates by applying the CPI escalation formula, with the most recent change in 2020. These actions brought the housing and jobs exaction rates to the current levels of $13.00 and $2.39, respectively.

Table 1-2. Timeline for Boston's Linkage Program and Housing and Jobs Exactions

Year	Action
1983	Mayor White appoints Housing Linkage Advisory Group
1983	Advisory Group recommends $5 per square foot (psf) housing exaction
1983	Article 26 approved establishing housing exaction
1984	Housing exaction takes affect at $5 psf
1986	Kayden, Case and Pollard skills gap report
1986	Article 26A adds jobs exaction
1986	Jobs exaction takes affect at $1 psf
1986	Neighborhood Housing Trust established
1987	Neighborhood Jobs Trust established
1987	State law (Chapter 371 of the Acts of 1987) provides strong legal authority for exactions
1996	Exactions Incorporated into Article 80
2000	BRA increases fees to $5.49 and $1.09
2001	Menino Commission recommends increase in fees to $7.18 and $1.44
2001	Chapter 170 of the Acts of 2001 updates authority and level of linkage fees
2002	Exactions increased to $7.18 and $1.44
2006	Exactions increased to $7.87 and $1.57
2013	Exactions increased to $8.74 and $1.67
2020	Chapter 365 of the Acts of 2020 provides Boston's Zoning Commission the authority to periodically set new exaction rates
2021	Exactions increased to $13.00 and $2.39

Development Impact Exaction Policy Issues

As Boston looks to update its development impact exaction rates, it faces several common policy issues that cities have addressed in different ways. These core issues, beyond the critical question of the appropriate and warranted exaction rate are fourfold:

- **Applicable projects for exactions**. This policy defines the uses and scale of real estate development projects that are subject to exactions and what zoning status triggers exaction payments. Boston currently applies exactions to a very broad set of uses but has a fairly highly project size threshold at 100,000 square feet and only applies the requirement to projects seeking zoning relief. With the large growth in life science lab development, there may be a need to update applicable uses and their definition to ensure that lab space in its multiple forms are subject to exactions. The city may want to consider lowering the project threshold size and applying it "as-of-right" development. This study includes an analysis of new non-residential development over 50,000 square feet to explore that option.
- **Exaction variation by use**. Housing and job impacts vary by the type of use and business type since the density and wage levels vary considerably across uses and industries. Consequently, some cities and counties have exaction rates that vary by use. Offsetting the benefit of tailoring rates more closely to impacts are the added complexity of this

policy, disincentives it may create for certain uses and how to address a project's change in uses over time.

- **Exemptions.** Boston currently exempts the first 100,000 square feet of any project from exaction payments, which reduces the exactions paid by each project by $1.564 million under current rates. This exemption amount might be eliminated reducing the overall rate needed to provide the desired revenue needed to mitigate impact. On the other hand, reducing the exemption would increase the financial cost of exactions on smaller development projects.
- **Exaction payment schedule**. Boston allows housing exaction obligations to be paid over a seven year period, which slows the receipt of funds needed to build affordable housing. This extended payment schedule might be shortened to pay exactions more quickly and accelerate the supply of needed housing subsidy funds.
- **Present value payment.** Developers have the option to pay exactions in one lump sum, based on a calculation of the present value of the seven year stream of exaction payments. This option is not widely used and there may be value in providing incentives for its greater use, to accelerate the available funds for both trusts. Another policy and administrative issue is how to set the appropriate discount rate used for these calculations.
- **Exaction rate adjustment over time.** The recent home rule petition now allows Boston's Zoning Commission to make changes based on the completion of a nexus study. The City might want to establish a specific time interval for conduction regular nexus studies and updating the exaction rates based on a review of the factors specified in the new legislations.

In addition to these policy issues, there may be administrative changes that can improve or streamline how the exactions are calculated, monitored and collected.

II. Boston Macroeconomic Analysis: Economy, Demographics & Housing

Introduction

This report provides a high-level review and analysis of Boston's economy, population and housing market to provide context for the Affordable Housing and Jobs Linkage analysis. It is organized in seven sections. First, an overview of Boston's jobs base and growth trends is provided, focusing on "payroll" employment among firms with employees, as these are the occupants and drivers of Boston's large development projects addressed in the Development Impact exaction policy. Non-residential development activity, the current project pipeline and their relationship to economic trends are addressed in the second section. The third and fourth sections focus on Boston residents with a summary of demographic and household characteristics in Section Four and a labor force profile in Section Five. Key housing market conditions and trends are presented in Section Six. In the last two sections, national trends that may impact Boston's economy, development activity and its relationship to addressing affordable housing and inclusive employment are discussed followed by overall conclusions on how these macroeconomic conditions are likely to influence future non-residential development and its impact on affordable housing and employment opportunities.

1.0 Boston's Economy and Employment Base

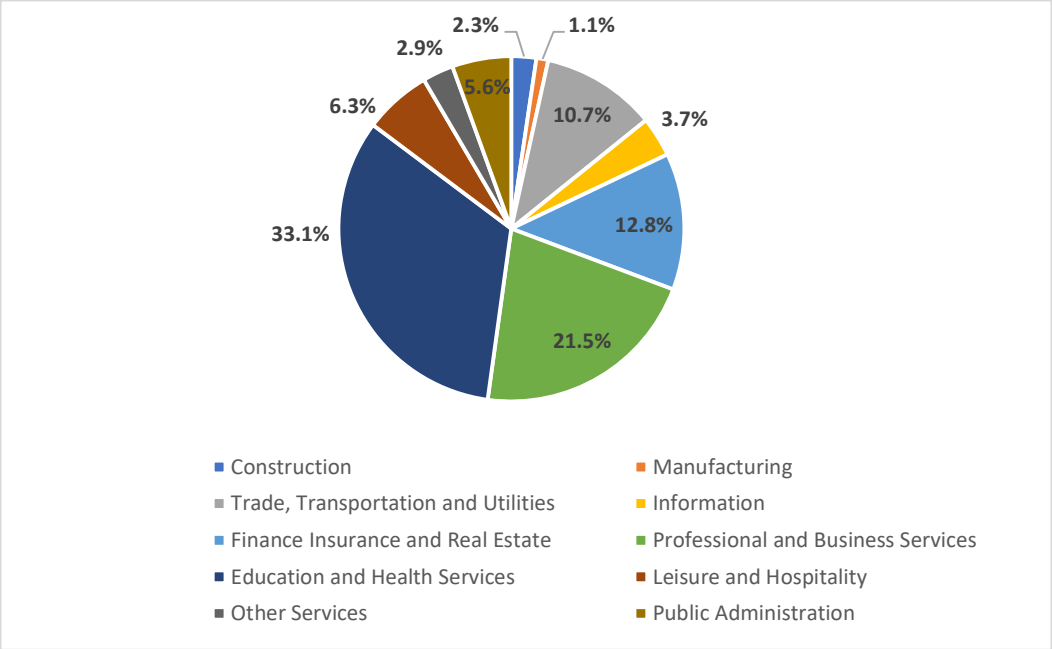
Boston's economy has a large and diverse base of jobs located within the city but has experienced significant losses since the Covid-19 pandemic. Based on estimates by the Boston Planning and Development Agency, combined payroll and non-payroll employment[3] totaled 851,468 in 2019 and declined by 6.9% to 792,420 in 2020. Payroll employment totaled 670,886 and 620,765, respectively, accounted for slightly more than 78% of total employment for 2019 and 2020 but declined at a slightly higher pace (7.5%) than total employment. During the first half of 2021, total payroll employment showed little change, averaging 620,593. However, based on more timely data, the BPDA shows 2.9% growth during 2021 to 639,188.

The balance of this section focuses on payroll employment since this is the basis for the occupancy and employment opportunities that occur in large development projects covered by Boston's Development Impact Exaction Policy (also known as "linkage"). This analysis is based on data provided from the Quarterly Census of Employment and Wages provided by the Massachusetts Department of Labor for the period 2010 to the first six months of 2021. As shown in **Figure 2-1,** Boston's payroll employment is concentrated in two sectors that accounted for almost 55% of total employment for the first half of 2021: Education and Health Care, and Professional and Business Services. The balance of employment is spread across seven other sectors with Finance, Insurance and Real Estate and Trade, Transportation and Utilities the next largest sectors with 12.8% and 10.7% of total payroll employment, respectively. However, annual wages paid (i.e., payroll) is even more concentrated than jobs with three sectors—Education and Health Care, Professional and Business Services and Finance, Insurance and Real Estate—together accounting for three-quarters of the city's entire wages paid in 2020. Professional and Business Services and Finance,

[3] Payroll employment represents jobs at employers that are covered by the unemployment insurance system. Non-payroll jobs represent self-employed workers, sole entrepreneurs without employees, contract and gig workers that occur outside of formal employment relationships.

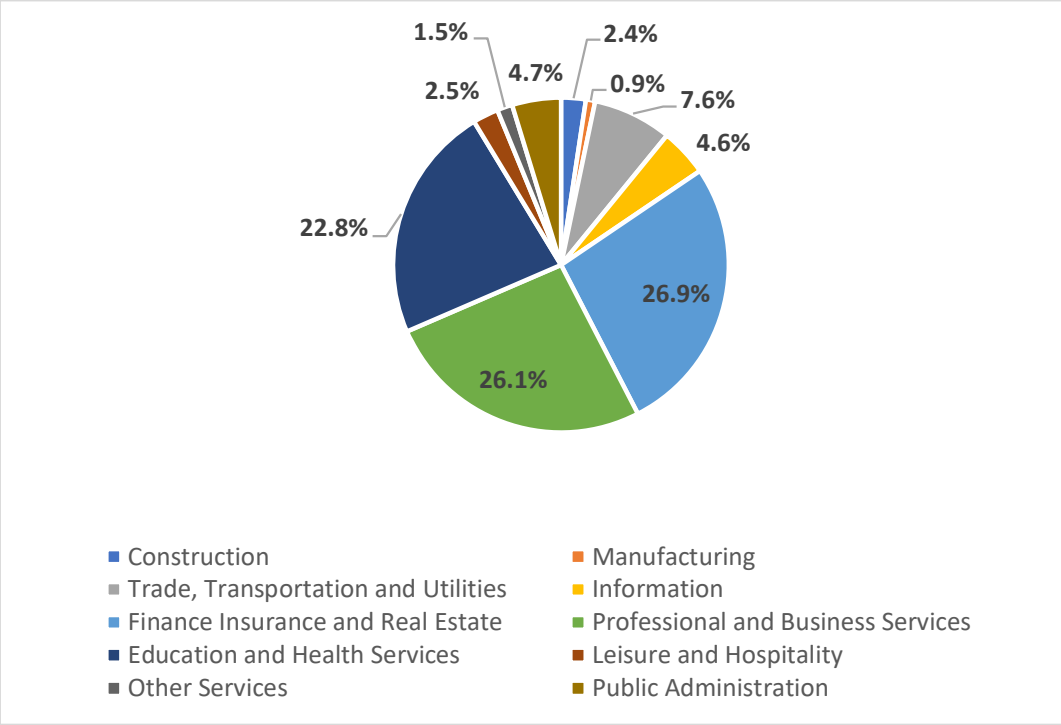
Insurance and Real Estate have a payroll share that is greater than their employment share- indicating that jobs in these sectors pay higher wages, on average, than other sectors in Boston.

Figure 2-1. Boston Payroll Employment by Sector, 2021 First Half



Source: Massachusetts Department of Labor and Workforce Development
Quarterly Census of Employment and Wages (QCEW)

Figure 2-2 Boston Annual Wages (Payroll) by Sector, 2020

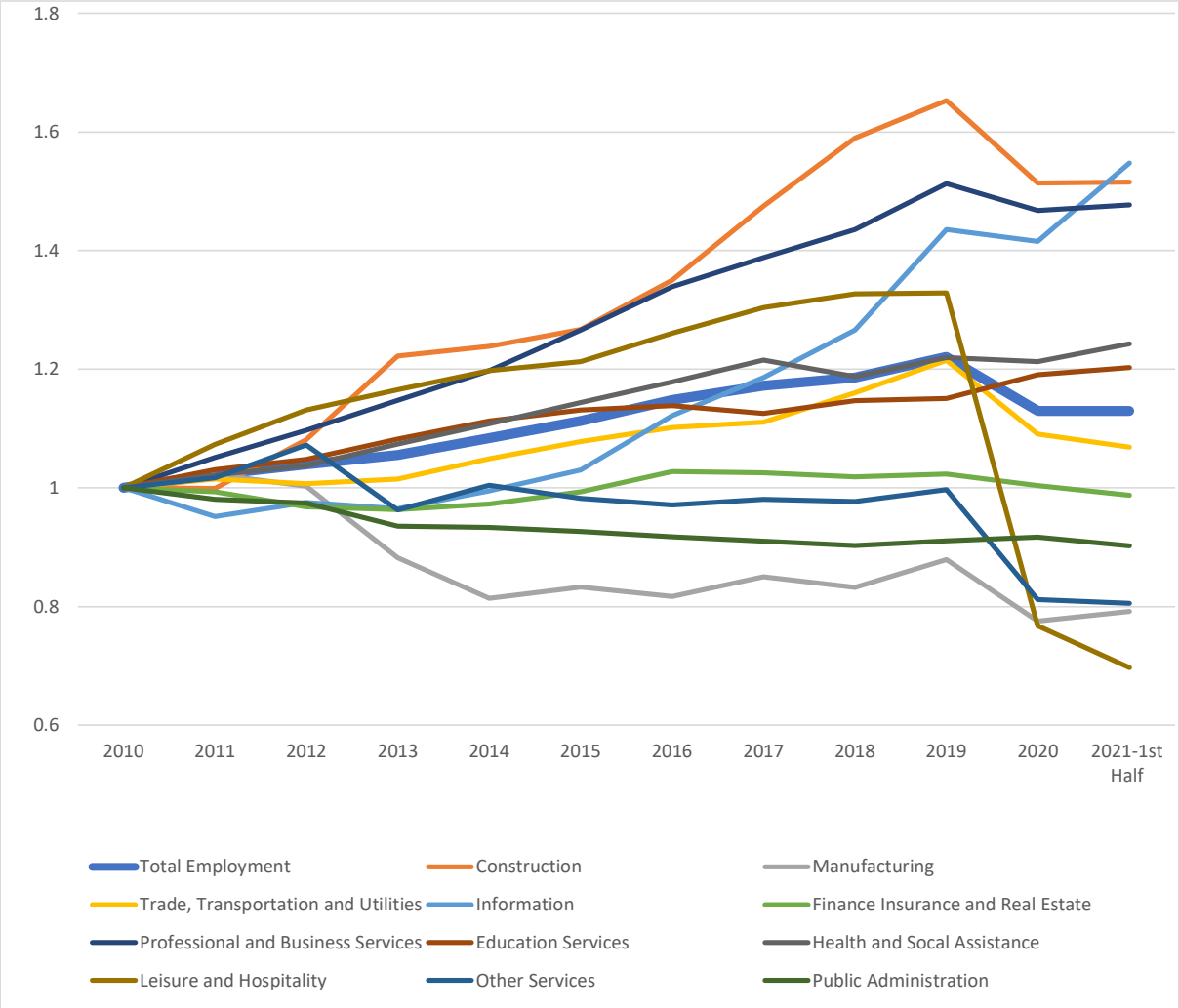


Source: Massachusetts Department of Labor and Workforce Development QCEW

Employment trends for Boston show steady overall job growth from 2010 to 2019 followed by pandemic-induced decline for 2020 and 2021. However, job growth varied considerably across sectors. To compare employment growth across sectors of varied size, an index was used that compares a sector's employment for a given year to its employment level in 2010. The index value for any year represents that sector's percentage growth in employment since 2010. **Figure 2-3** shows the index values for Boston's total payroll employment and its major sectors. Total payroll employment, represented by the large blue bar in the middle of the chart, increased by 121,501 jobs or 22%, from 2010 to 2019 before declining by 7.5% in 2020—a loss of 50.121 jobs. Five sectors had growth rates higher than overall employment through the first half of 2021:

- Construction – 52% adding 4,928 jobs
- Information – 55% adding 8,207 jobs
- Professional and Business Services- 48% , adding 43,048 jobs
- Education; 20%, adding 9,649 jobs
- Health Care and Social Assistance, adding 28,927 jobs.

Figure 2-3. Index of Boston Payroll Employment Growth by Sector, 2010 to 2021, First Half



Source: Massachusetts Department of Labor and Workforce Development Employment QCEW

Employment in the Finance, Insurance and Real Estate sector was stable over this period while Manufacturing and Other Services employment was steadily declining—dropping by 21% and 19%, respectively, from 2010 to the first half of 2021. Leisure and Hospitality, which grew steadily through 2019, was severely impacted by the pandemic and experienced steep job losses in 2020 and 2021.

Large and High Growth Industries. Boston has a diverse mix of industries within the sectors that comprise its employment base. In terms of impact on future development, it is important to understand the City's largest industries and those adding the most jobs, as these will likely drive demand for new real estate, tenants that occupy new development and the resulting composition of jobs. The industry- based mix of these new jobs informs employment opportunities for Boston's labor force and the earnings and need for affordable housing among residents employed in these developments.

Boston's largest industries[4], based on a threshold of 12,400 jobs or 2% of total employment, are listed in **Table 2-1**. Thirteen industries with 306,899 jobs meet this threshold and together represent 49.4% of Boston's total employment during the first half (six months) of 2021. Representing Boston's Education and Health Care Sector, the two largest industries, by far, are General Medical & Surgical Hospitals and Colleges and Universities—accounting for 117,496 jobs. Other major industries cut across Boston's diverse sectors, including Finance and Real Estate, Professional and Business Services, Health Care and Social Assistance, Education and Leisure and Hospitality. Two technology-based industries are included: Computer Systems Design; and Scientific Research & Development (largely life science firms).

Table 2-1. Boston's Largest Industries, 2021, 1st Half

Industry	2021 First Half Employment	Percent of Total 2021 First Half Employment	Employment Growth 2010 to 2021 First Half
General Medical & Surgical Hospitals	79,555	12.8%	9,693
Colleges and Universities	37,941	6.1%	6,193
Other Financial Investment Activities	23,580	3.8%	3,818
Restaurants & Other Eating Places	23,572	3.8%	-6,094
Computer Systems Design & Rel Services	22,164	3.6%	16,512
Management & Technical Consulting Svc	17,760	2.9%	6,458
Other Hospitals	17,610	2.8%	4,413
Individual and Family Services	16,020	2.6%	9,288
Legal Services	14,583	2.3%	-287
Insurance Carriers	14,530	2.3%	-403
Scientific Research and Development Svc	13,742	2.2%	6,103
Elementary Education	13,066	2.1%	NA
Employment Services	12,775	2.1%	3,320

Source: Massachusetts Department of Labor and Workforce Development Employment QCEW

Employment growth over the past decade varies across these major industries. While most added several thousand jobs since 2010, three industries reduced employment. Most notably, Restaurants and Oher Eating Places lost 6,094—reflecting the impact of the Covid-19 pandemic. Prior to the pandemic, restaurants were a fast-growing industry that added over 12,000 jobs between 2010 and 2019. Legal Services and Insurance Carriers are large industries with stable employment—each shed a few hundred jobs between 2010 and 2021 but maintained employment between 14,000 and 15,000 throughout the period. Since the employment services industries supplies employees to other businesses, this is not a single industry but represents jobs across a range of Boston industries. Its size and growth indicates the increasing use of temporary and contracted workers among employers.

Table 2-2 lists the 15 industries that added the highest number of jobs between 2010 and the first half of 2021, using a threshold of 2,000. As recent drivers of employment growth, these industries are key generators of demand and tenancy for new development projects. These 15 industries combined to add 94,365 jobs –exceeding Boston's overall net job growth of 71,208. Health care and information technology were key drivers of growth over this period, accounting for eight of

[4] Industries were defined as those at the four-digit NAICS code level.

the 15 high growth industries and 65% of their new jobs. The four IT industries (Computer Systems Design, Electronic Shopping, Software, and Data Processing) had very high growth rates over this period, combined to add 34,258 jobs and represented three of five industries with the highest absolute job growth. Three professional service industries (Management & Technical Consulting, Architecture & Engineering, and Accounting & Bookkeeping) were also important sources of growth, together adding 13,308 jobs. Scientific Research and Development Services—the largest component of Life Science industries—grew by 80% and added 6,103 jobs from 2010 to 2021. This figure understates the overall size and growth among Life Science industries. The BPDA Research Division identified five components with the city's Life Science industry cluster: 1) Pharmaceutical & Medical Manufacturing; 2) Colleges & Universities; 3) Hospitals; 4) Scientific Research & Development; and 5) Medical & Diagnostic Laboratories[5]. Total estimated Life Science Industry employment for all five of these components was 17,381 in the second quarter of 2021- an increase of 5,704 jobs, or 49% , since 2010 (See **Figure 2-3A**).

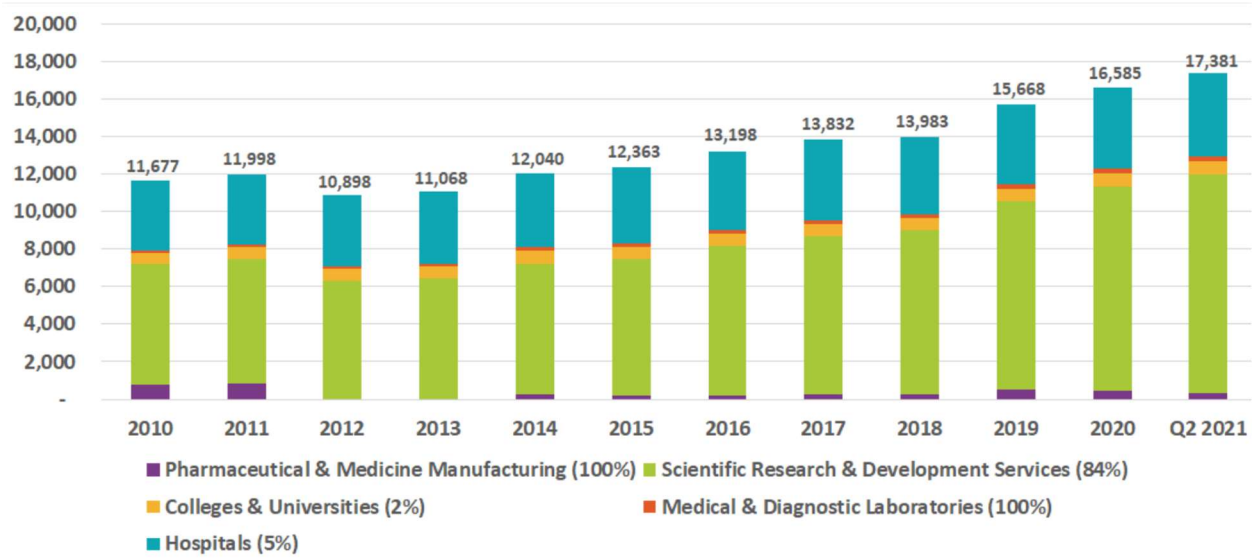
Table 2-2. Boston Industries with Largest Employment Growth 2010 to 2021, 1st Half*

Industry	Employment Growth 2010 to 2021 First Half	Percent Employment Growth 2010 to 2021 First Half
Computer Systems Design & Related Services	16,512	292.1%
General Medical & Surgical Hospitals	9,693	13.9%
Individual and Family Services	9,288	138.0%
Electronic Shopping & Mail-Order Houses	7,913	620.1%
Software Publishers	7,385	766.1%
Management & Technical Consulting Services	6,458	57.1%
Colleges & Universities	6,193	19.5%
Scientific Research & Development Services*	6,103	79.9%
Other Hospitals	4,413	33.4%
Architectural and Engineering Services	3,944	71-0%
Other Financial Investment Activities	3,818	19.3%
Offices of Physicians	3,471	44.0%
Accounting and Bookkeeping Services	3,406	50.7%
Employment Services	3,320	35.1%
Data Processing & Related Services	2,448	444.3%

*Includes life science/biotechnology firms.
Source: Massachusetts Department of Labor and Workforce Development Employment QCEW

[5] BPDA Research Division , *Boston's Economy 2022*, April 2022.

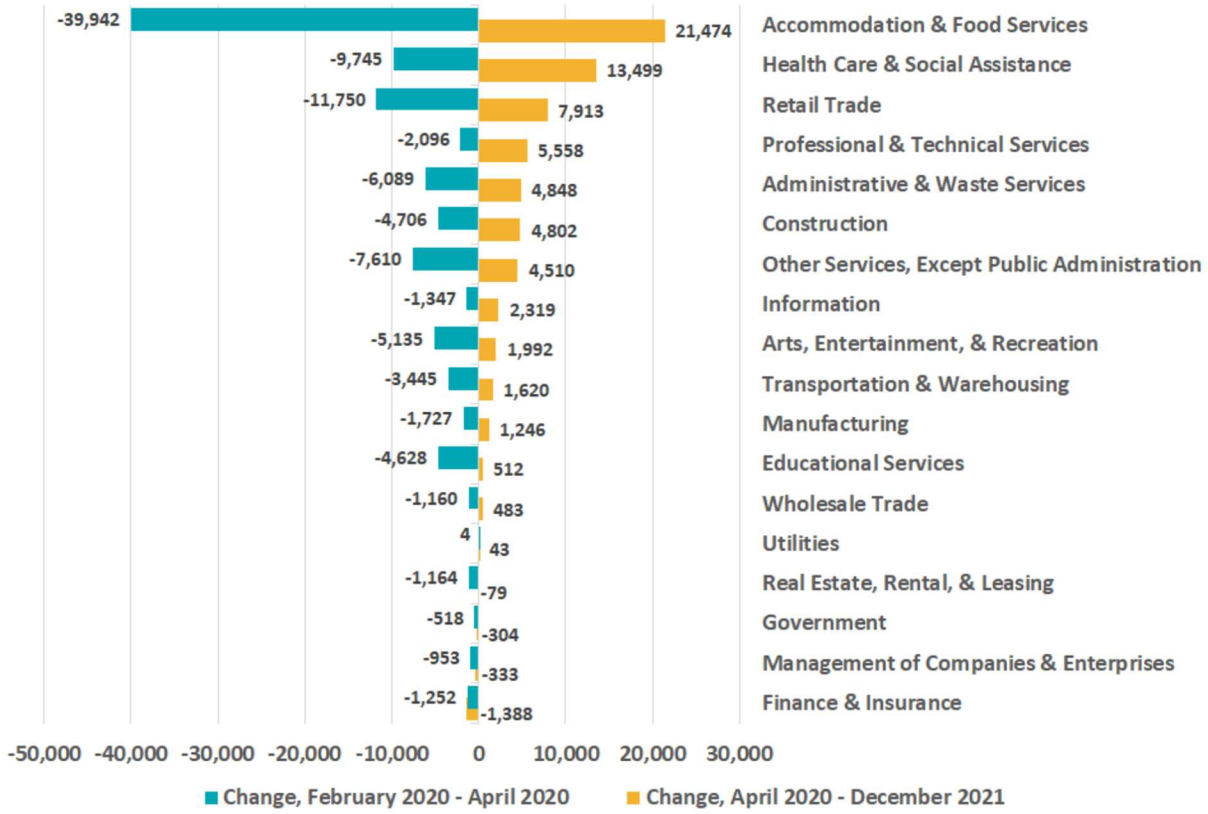
Figure 2-3A. Estimated Employment, Boston Life Science Industry Cluster, 2010 to 2021



Source: BPDA Research Division, *Boston's Economy 2022*, April 2022

Covid-19 Impacts. As noted earlier, the Covid-19 pandemic led to a large decline in Boston's payroll employment from 2019 to 2020. While the City's economy is rebounding, it has not regained all of the lost employment and recovery has varied considerably across sectors (see Figure 2-4). Recovery job growth in a few sectors, such as Health Care and Professional & Business Services, has exceeded the initial job loss, but for most sectors, the original job loss has not been regained. Accommodations & Food Services, Arts, Entertainment & Recreation. Transportation & Warehousing, and Education Services all have regained only a fraction of the jobs lost from the pandemic.

Figure 2-4. Change in Boston Payroll Employment, Crisis and Recovery



Source*:* BPDA Research Division, Boston's Economy 2022, April 2022

2.0 Non-Residential Real Estate Development

Boston's sustained pre-pandemic economic growth generated a strong real estate development market with substantial new non-residential construction from 2011 through early 2022. A large pipeline of projects also exists that includes those in construction, approved projects awaiting the construction stage and projects under review. **Table 2-3** summarizes the total square feet (SF) of development projects with 50,000 SF or more completed from 2011 to 2021 along with those under construction and in pre-construction stages.

Table 2-3. Boston Commercial and Mixed-Use Development Projects 50,000 SF or More by Project Status, April 2022

Project Status	Housing Units	Total SF	New/ Redeveloped Non-Res SF	Percent Non-Res to Total SF
Complete, 2011 through 2021	2,271	29,860,775	25,821,485	86%
Average Annual, 2011 through 2021	*206*	*2,714,616*	*2,347,408*	
Future Development				
In Construction	1,126	9,795,689	8,251,744	84%
Approved	7,585	30,618,748	22,456,587	73%
Under Review	3,338	25,272,575	21,388,844	85%
Total Future Development Potential	**12,049**	**65,687,012**	**52,097,175**	**79%**

Source: City of Boston and ConsultEcon, Inc.

Just under 30 million SF of new development of larger commercial or mixed-use buildings occurred during this period, with 86%, or 25.8 million as non-residential development. The pipeline of potential future projects is even larger at 65.7 million SF with 52.1 million SF (79%) in non-residential square footage—indicating strong confidence in Boston's economy and future demand for non-residential real estate. Moreover, over 8 million SF of non-residential development was under construction as of April 2022—3.5 times the annual average size of completed projects over the prior eleven years.

Based on BPDA's current pipeline, future commercial and mixed-use development will have a different mix of uses than the projects completed from 2011 to 2021 (see **Table 2-4**). While office projects account for the largest share of future development, their share drops to 32%, compared with 45% for completed projects. Far larger amounts of residential mixed-use development and Lab/R&D projects are in the pipeline than were completed during the last decade, at over 15.5 million SF and 10.7 million SF, respectively. The large growth in planned lab development reflects the region's fast-growing Life Sciences industry cluster and is occurring throughout the greater Boston areas.

Table 2-4. Completed and Potential Future Non-Residential Boston Development Projects by Use

Summary Land Use	Completed Projects, 2011 to 2021	Percent of Total		Future Projects 1/	Percent to Total
Commercial	2,534,504	10%		1,819,499	4%
Office	11,017,054	45%		16,134,346	32%
Hotel	3,475,042	14%		1,928,563	4%
Educational	2,646,439	11%		1,944,604	4%
Medical	2,105,180	9%		2,533,250	5%
Res Mixed Use	1,421,657	6%		15,484,525	31%
Parking Mixed use	705,456	3%		101,300	0%
Lab / R&D	720,353	3%		10,720,292	21%
Total Qualifying for Land Use	**24,625,685**	**100%**		**50,666,379**	**100%**

1/ In construction, approved, and under review as of April 2022. Includes Residential Mixed-Use, but not Residential Use Only. Source: City of Boston and ConsultEcon, Inc.

Boston's office real estate market slowed during the pandemic with increases in vacancy and available space. Based on Costar data cited in the BPDA's Research Division's report, Boston's Economy 2022, Boston had close to 115 million SF of office space in 2021 with 48 million SF in Downtown, 17 million in Back Bay, and 15 million in the South Boston Waterfront. Boston's office vacancy rate rose from around 6% in 2019 to 11% by the end of 2021 with office vacancy rates above the citywide average in the South Boston Waterfront, Downtown, Charlestown, and East Boston. Office vacancy rates continued to rise throughout 2021 in Boston's financial district, while beginning to fall from a high level in the Seaport and stabilizing in Back Bay. CoStar forecasts Boston office vacancies to stabilize at around 10%, which is the historical average for the past 15 years. Despite the increase in vacancies, Boston had positive net absorption of over 431, 000 SF in office space during 2021 with Class A space performing well with net absorption of 1.2 million SF[6].

Office space utilization, however, remained low in 2021, below 20% for major downtown building throughout the year.[7] Low worker occupancy of office buildings due to the pandemic reduces sales at stores and restaurants in the city's major business district with negative effects on the retail real estate market. The city's retail vacancy rate increased to 2.4% in 2021, compared to 2.2% in 2020 while retail rents fell from $48.27/sf in 2019 to $46.19/sf in 2020 to $46.00/sf in 2021[8].

Fueled by Boston's growing Life Science industry, the Lab real estate market has been booming in Boston and throughout the region. While Life Science firms were historically centered in

[6] Colliers, *2021 Q4 Boston Office Market Report.*
[7] Cited in BPDA Research Division, *Boston's Economy 2022* from CBRE, https://www.cbre.us/research-and-reports/Boston-Office-Figures-Q3-2021.
[8] BPDA Research Division, *Boston's Economy 2022.*

Cambridge, especially around MIT and Kendall Square, Boston has attracted a growing number of Life Science companies as firms look for lower cost alternatives to Kendall Square and rapid industry growth has outpaced the supply of space. Rapid industry growth has resulted in a large shortage of lab space with vacancy rates close to zero in Boston and Cambridge and at 2% in the suburban market[9]. According to real estate firm CBRE, Boston had positive absorption of 1.3 million SF of life science space in 2021 with rents reaching $103.24 per SF, triple net[10].

Strong growth and real estate demand in the Life Science industry has resulted in a boom in the lab development pipeline with many new lab projects being proposed and existing planned office projects being converted to lab space. Within Boston, new lab/life science projects are being proposed in new parts of the City beyond the Seaport District, including the Fenway, Allston-Brighton, Dorchester and Roxbury. Substantial new lab development is also in the pipeline for Cambridge and the Boston suburbs. According to a recent report by real estate brokerage firm Newmark[11], there is a potential pipeline of over 49 million SF of new lab development in the Boston region, with 14.5 million SF under construction and another 34.6 million in proposed projects. This pipeline is approaching twice the size of the region's 26.8 million SF of existing lab space and if largely developed, poses the risk that the market will become overbuilt and experience increased vacancy and declining rents later this decade.

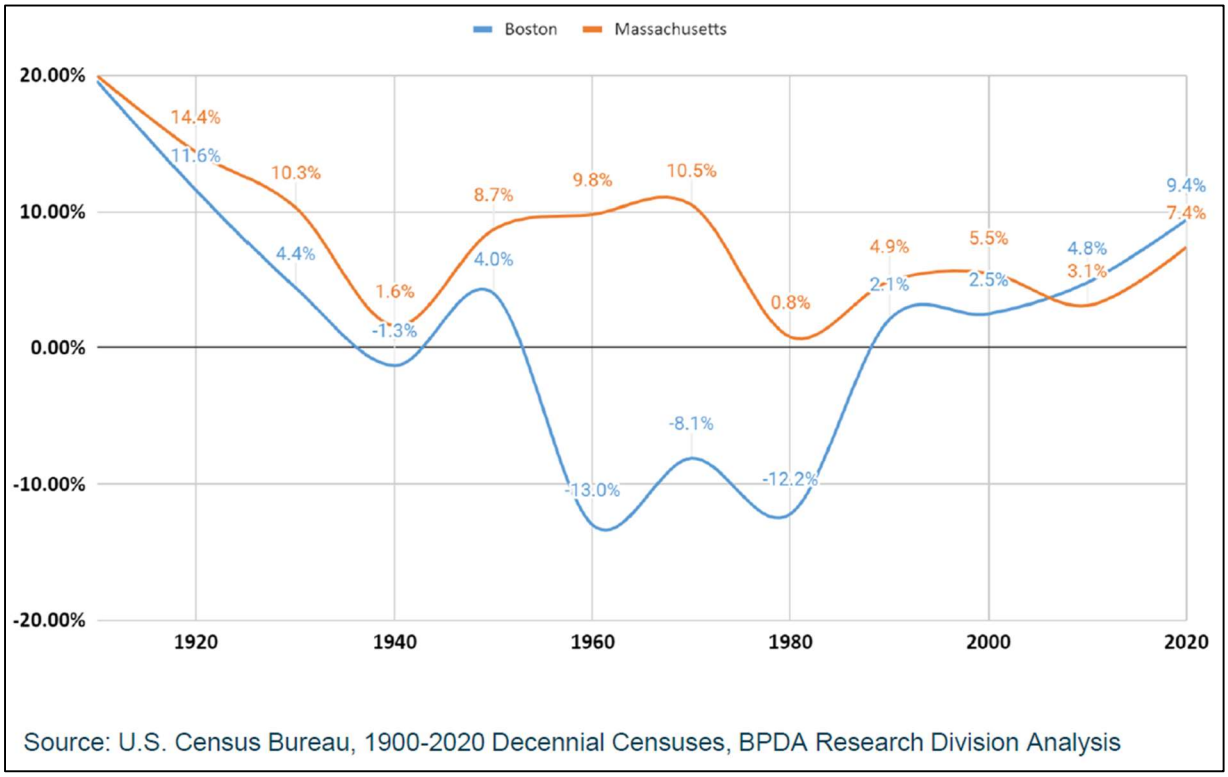
[9] Colliers, *2021 Q4 Boston Lab Report.*
[10] BPDA Research Division, *Boston's Economy 2022.*
[11] Newmark, *2021 Year End Life Science Overview and Market Clusters.*

3.0 DEMOGRAPHIC PROFILE AND TRENDS

Population and Household Size

According to the Census 2020, the population of Boston was about 675,000 and there were 279,000 households. The average household size was 2.35 persons based on the American Community Survey 2020 (5-year) estimates. **Figure 2-5.** shows the population growth in Boston and Massachusetts from 1910 to 2020. Boston grew by 9.4% from 2010 to 2020, faster than the state total (7.4percent) and national total (7.4percent).

Figure 2-5. Population Growth for Boston and Massachusetts by Decade (1910 to 2020)



Source: U.S. Census Bureau, 1900-2020 Decennial Censuses, BPDA Research Division Analysis

Age Characteristics

The age distribution for Boston is shown in **Figure 2-6**. The largest age group in the population was from age 20 to 34, representing 35% of the total population. Boston had 102,000 children under the age of 18 in 2020, making up 15 percent of the total population.

Figure 2-6. Age Distribution for Population of Boston, 2016 to 2020 5-Year ACS Estimates

Age Distribution - 5YR ACS 2016-2020		
Total Population	689,326	
< 5	34,039	4.9%
5 - 14	57,230	8.3%
15 - 17	17,323	2.5%
18- 19	31,301	4.5%
20 - 34	238,796	34.6%
35 - 44	86,463	12.5%
45 - 54	73,036	10.6%
55 - 64	69,854	10.1%
> 65	81,284	11.8%

Source: Boston Public Schools, Boston Public Schools at a Glance 2021-2022, BPDA Research Division Analysis.

Foreign-Born Population

Data in **Figure 2-7** shows the number of Boston residents born in the U.S. and born in foreign countries, as well as citizenship in 2020. Boston had approximately 194,000 foreign-born residents in 2020, representing about 28% of Boston's population, and about 14% of the population was not a U.S. citizen.

Figure 2-7. Nativity for Population of Boston, 2016 – 2020 5-Year ACS Estimates

Nativity - 5YR ACS 2016-2020		
Total Population	689,326	
Native	494,788	71.8%
Foreign Born	194,538	
U.S. Citizen by Naturalization	97,303	14.1%
Not a U.S. Citizen	97,235	14.1%

Source: Boston Public Schools, Boston Public Schools at a Glance 2021-2022, BPDA Research Division Analysis.

Racial and Ethnic Composition

Of the total population in Boston in 2020, about 45% identified their race / ethnicity as White Only. The next two largest racial / ethnic groups were Black or African American Only (22%) and Hispanic Only (20%). The breakdown of race / ethnicity for Boston is shown in **Figure 2-8**. Boston has become more diverse in recent history and Boston's child population is more diverse than its adult population.

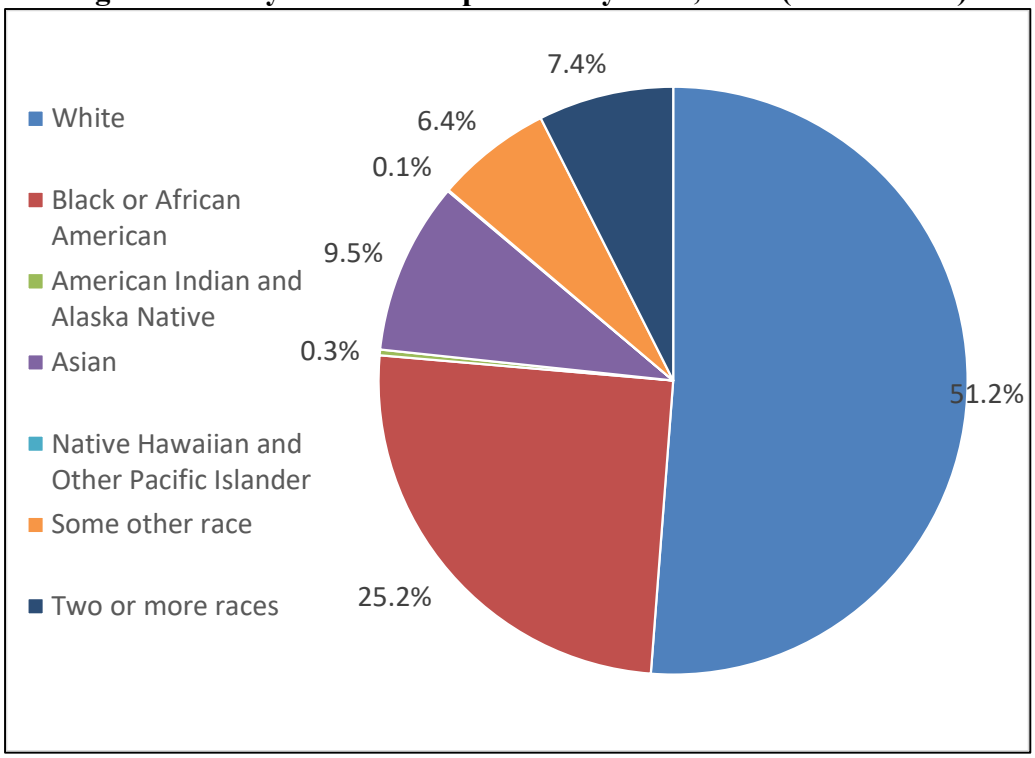
Figure 2-8. Race and Ethnicity for Population of Boston, 2016 – 2020 5-Year ACS Estimates

Race & Ethnicity - 5YR ACS 2016-2020		
Total Population	689,326	
White Only	308,346	44.7%
Black or African American only	151,564	22.0%
American Indian and Alaska Native Only	1,388	0.2%
Asian Only	67,041	9.7%
Native Hawaiian and Pacific Islander Only	331	0.0%
Hispanic Only *	134,703	19.5%
Other Race	4,918	0.7%
Two or More Races	21,035	3.1%

Note: Hispanics can be of any race but are reported separately in this analysis.
Source: Boston Public Schools, Boston Public Schools at a Glance 2021-2022, BPDA Research Division Analysis.

Data in **Figure 2-9** show the 2020 population by race (not including Hispanic ethnicity) in Boston. Just over half of the population is White, and people of Black or African American descent make up just over a quarter of the population. About 17% of total population was of Hispanic or Latino origins, and about 51% of the population was White alone.

Figure 2-9. City of Boston Population by Race, 2020 (ACS 5-Year)



Source: U.S. Census Bureau, 2016 – 2020 5-Year American Community Survey; and ConsultEcon Inc.

Poverty Rates

About 59,000 people, representing 9.1% of the population of Boston for whom poverty status is determined, were at less than 50% of the poverty level. Child poverty during the same period was 12.3%, according to 5-Year ACS Estimates (2016 – 2020). Data in **Figure 2-10** show families in poverty by family type for 2020.

Figure 2-10. City of Boston Families in Poverty by Family Type, 2020

Family Type	Less than 50 percent of the poverty level	Percent of Families in Poverty	Total Population [1/]	Poverty Rate
In family households				
In married-couple family	6,205	10.6%	248,196	2.5%
In Female householder, no spouse present households	18,552	31.6%	137,420	13.5%
In family households	27,038	46.1%	422,461	6.4%
In other living arrangements	31,579	53.9%	223,968	14.1%
Total Population	**58,617**	**100.0%**	**646,429**	**9.1%**

1/ Total population for whom poverty status is determined.

Source: U.S. Census Bureau, 2016 – 2020 5-Year American Community Survey; and ConsultEcon Inc.

Data in **Figure 2-11** show the population of Boston at or below the poverty line in 2020 by race. While the White population had a relatively lower percentage of the population at or below the poverty line compared to their percentage of the total population (36% versus 51%), the other racial groups had a relatively higher percentage of population at or below the poverty line.

Figure 2-11. City of Boston Population and Poverty Rates, 2020

	Less than 50 percent of the poverty level	Poverty Rate (< 50%)	Less than 100 percent of the poverty level	Poverty Rate (< 100%)	Less than 125 percent of the poverty level	Poverty Rate (< 125%)	Total
Total Population [1/]	58,825	9%	116,357	18%	140,922	22%	646,429
By Race and Hispanic or Latino Origin							
One race	52,669	9%	105,937	18%	128,082	21%	598,515
White	22,505	7%	41,369	13%	49,974	15%	330,952
Black or African American	14,645	9%	34,496	21%	41,819	26%	162,719
American Indian and Alaska Native	162	8%	514	25%	556	27%	2,030
Asian	9,555	16%	17,088	28%	20,640	34%	61,247
Native Hawaiian and Other Pacific Islander	17	5%	17	5%	17	5%	346
Some other race	5,647	14%	12,243	30%	15,211	37%	41,221
Two or more races	5,989	13%	10,302	22%	12,458	26%	47,914
Hispanic or Latino origin (of any race)	16,740	13%	35,297	27%	43,992	34%	129,770
White alone, not Hispanic or Latino	16,663	6%	29,090	10%	34,738	12%	282,424

1/ Total population for whom poverty status is determined.

Source: U.S. Census Bureau, 2016 – 2020 5-Year American Community Survey; and ConsultEcon Inc.

Source: U.S. Census Bureau, 2016 – 2020 5-Year American Community Survey; and ConsultEcon Inc.

Household Types and Sizes

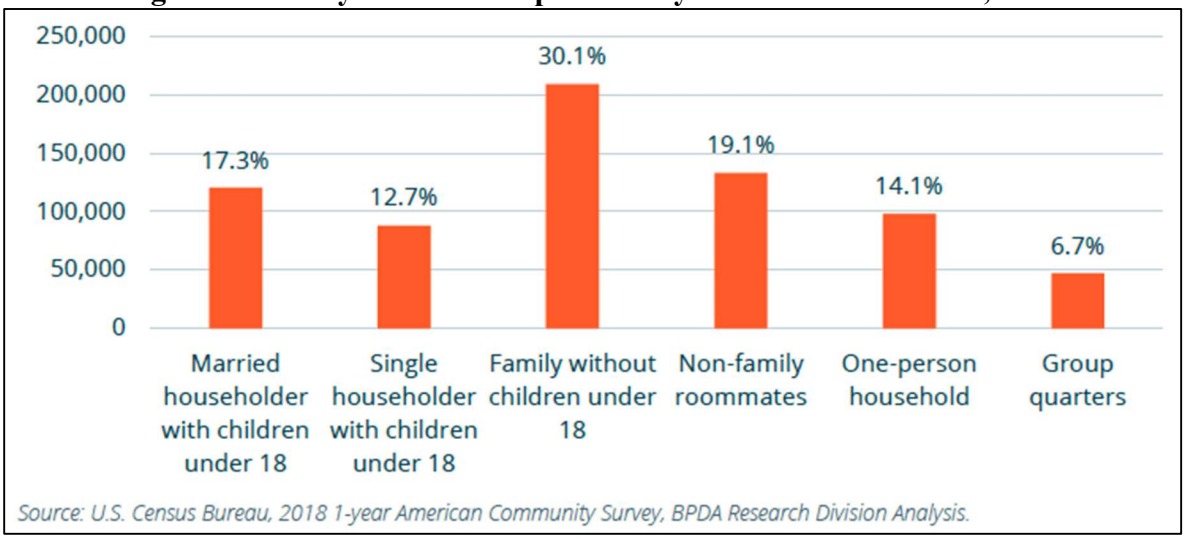
Of the 273,000 households in Boston in 2020, about half were family households and half were non-family households. The most common household size was 1 person (36%), followed by 2-person (33%), 4-or-more-person (16%), and 3-person households (16%). Data in **Figure 2-12** show households by type and by size. **Figure 2-13** shows more detail on household types in 2018, including families without children (30%), non-family roommates (19%), married households with children (17%), one-person households (14%), single households with children (13%), and group quarters (7%).

Figure 2-12. City of Boston Household Type and Size, 2020

Household Type - 5YR ACS 2016-2020		
Total Households	273,188	
Family Households **	130,052	47.6%
Non-Family Households	143,136	52.4%
Household Size - 5YR ACS 2016-2020		
Total Occupied Housing Units	273,188	
1-Person Household	98,340	36.0%
2-Person Household	88,817	32.5%
3-Person Household	42,226	15.5%
4-or-More Person Household	43,805	16.0%

Source: Boston Public Schools, Boston Public Schools at a Glance 2021-2022, BPDA Research Division Analysis.

Figure 2-13. City of Boston Population by Household Structure, 2018



Renter- and Owner-Occupied Households

In 2020, about 92% of housing units in Boston were occupied. Of occupied housing units, about 35% were occupied by owners and about 65% were occupied by renters (shown in **Figure 2-14**).

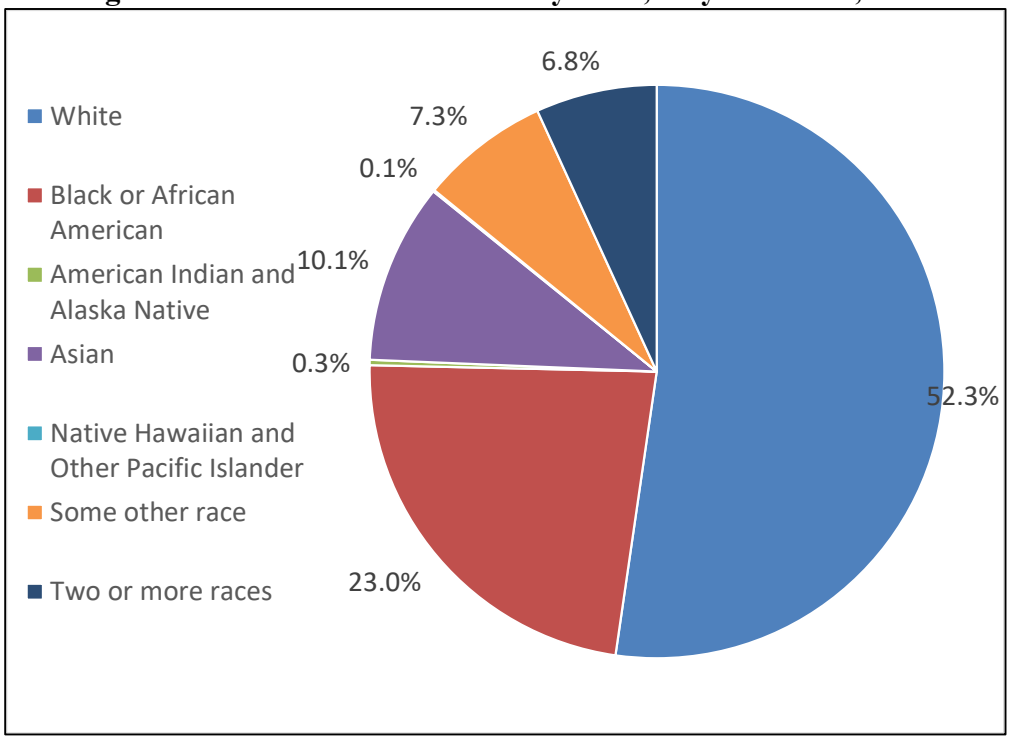
Figure 2-14. City of Boston Housing Units, 2020

Housing Units - 5YR ACS 2016-2020		
Total Housing Units	298,708	
Occupied	273,188	
Owner-Occupied	96,502	32.3%
Renter-Occupied	176,686	59.2%
Vacant	25,520	8.5%

Source: Boston Public Schools, Boston Public Schools at a Glance 2021-2022, BPDA Research Division Analysis.

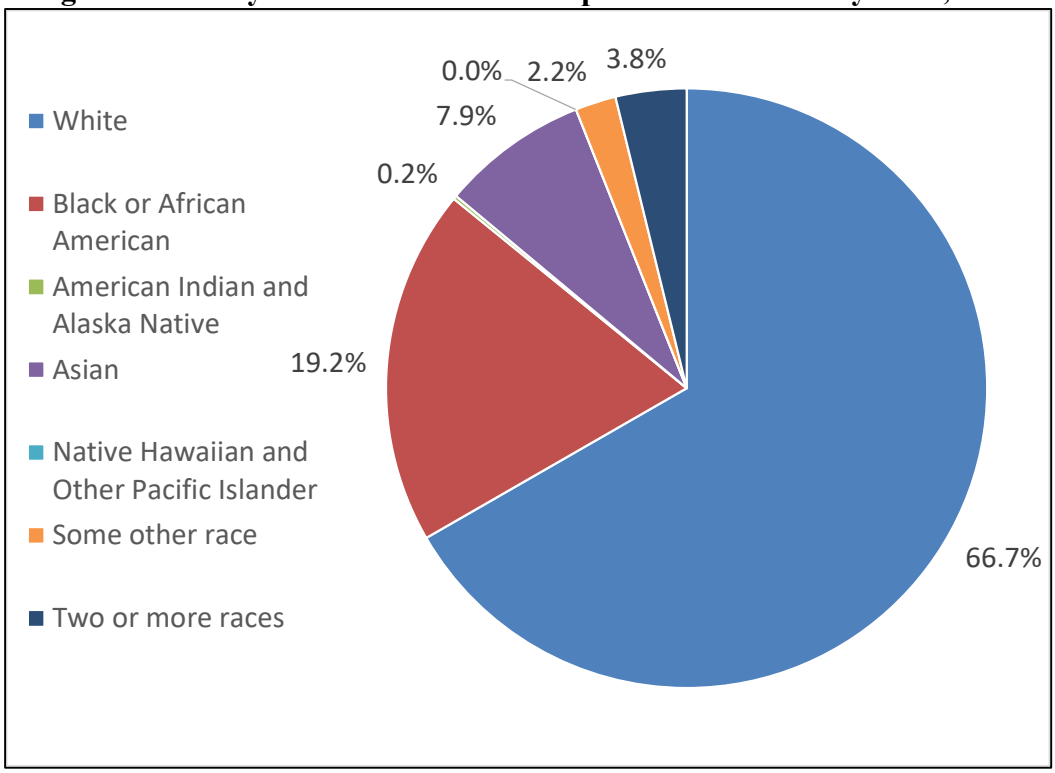
Figures 2-15 and **2-16** show the breakdown of renter- and owner-occupied households by race. While the percentage breakdown of renter households by race is like the population percentage breakdown, White households make up an outsized portion of homeowners. While Black or African American households make up more than 25 percent of the total population, they make up less than 20 percent of homeowners.

Figure 2-15. Renter Householder by Race, City of Boston, 2020



Source: U.S. Census Bureau, 2016 – 2020 5-Year American Community Survey; and ConsultEcon Inc.

Figure 2-16. City of Boston Owner Occupant Householder by Race, 2020



Source: U.S. Census Bureau, 2016 – 2020 5-Year American Community Survey; and ConsultEcon Inc.

Household Income Distribution

The median household income in Boston was $76,000 in 2020, with per capita income of $47,000. **Figure 2-17** shows a summary of median income and **Figure 2-18** shows income ranges for households by race in 2020.

Figure 2-17. City of Boston Household Income, 2020

Income (In 2020 Inflation-Adjusted Dollars)- 5YR ACS 2016-2020	
Per Capita Income	$46,845
Median Household Income	$76,298
Median Family Income	$89,270
Median Non-Family Income	$61,649

Source: Boston Public Schools, Boston Public Schools at a Glance 2021-2022, BPDA Research Division Analysis.

There is a distinct disparity of household incomes between racial groups, as shown by data in **Figure 2-18** and in **Figure 2-19**. White households account for 57 percent of all households. They make up 74 percent of households earning over $100,000. Black households account for 22 percent of all households and 12 percent of households earning over $100,000. Asian households account for 9 percent of households and 8 percent of households earning over $100,000. Moreover, the median household income for White Households, at $108,291 is over twice that of Black, Latino and Asian households, at $47,800, $43,337 and $52,326, respectively (see Figures 2-19 and 2-20).

Figure 2-18. City of Boston Households by Household Income Group and by Race, 2020

Income Group	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Total	White Alone, Non-Hispanic	Hispanic or Latino	White, Hispanic
	Households by Household Income by Race										
Less than $24,999	24,853	18,266	268	8,638	0	6,660	4,203	62,888	18,894	16,809	10,850
$25,000 to $49,999	16,808	12,115	95	3,811	15	2,874	2,684	38,402	13,578	8,702	5,472
$50,000 to $74,999	17,126	9,232	113	2,658	39	1,748	2,512	33,428	15,008	6,054	3,936
$75,000 to $99,999	17,184	6,448	61	2,228	72	1,328	1,740	29,061	15,231	4,560	2,607
$100,000 to $149,999	30,212	6,775	59	3,059	0	1,235	2,216	43,556	27,649	4,906	2,343
$150,000 to $199,999	20,176	3,397	47	1,882	0	649	1,116	27,267	19,223	2,052	1,099
$200,000 or more	30,354	2,994	79	3,279	54	546	1,280	38,586	28,703	2,984	1,333
All Households	**156,713**	**59,227**	**722**	**25,555**	**180**	**15,040**	**15,751**	**273,188**	**138,286**	**46,067**	**27,640**

Income Group	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Total	White Alone, Non-Hispanic	Hispanic or Latino	White, Hispanic
Median Household Income	$103,291	$47,800	$46,875	$52,326	$77,143	$32,218	$58,170	$76,298	$109,505	$43,337	
Percent of Households in Each Racial Group Earning Over $100,000	51.5%	22.2%	25.6%	32.2%	30.0%	16.2%	29.3%	40.0%	54.7%	21.6%	17.3%
Percent of Households by Race Earning Over $100,000	73.8%	12.0%	0.2%	7.5%	0.0%	2.2%	4.2%	100.0%	69.1%	9.1%	4.4%
Percent of All Households Earning Over $100,000	57.4%	21.7%	0.3%	9.4%	0.1%	5.5%	5.8%	100.0%	50.6%	16.9%	10.1%

Income Group	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Total	White Alone, Non-Hispanic	Hispanic or Latino	White, Hispanic
	Percentage of Households by Income Group for Each Race										
Less than $24,999	15.9%	30.8%	37.1%	33.8%	0.0%	44.3%	26.7%	23.0%	13.7%	36.5%	39.3%
$25,000 to $49,999	10.7%	20.5%	13.2%	14.9%	8.3%	19.1%	17.0%	14.1%	9.8%	18.9%	19.8%
$50,000 to $74,999	10.9%	15.6%	15.7%	10.4%	21.7%	11.6%	15.9%	12.2%	10.9%	13.1%	14.2%
$75,000 to $99,999	11.0%	10.9%	8.4%	8.7%	40.0%	8.8%	11.0%	10.6%	11.0%	9.9%	9.4%
$100,000 to $149,999	19.3%	11.4%	8.2%	12.0%	0.0%	8.2%	14.1%	15.9%	20.0%	10.6%	8.5%
$150,000 to $199,999	12.9%	5.7%	6.5%	7.4%	0.0%	4.3%	7.1%	10.0%	13.9%	4.5%	4.0%
$200,000 or more	19.4%	5.1%	10.9%	12.8%	30.0%	3.6%	8.1%	14.1%	20.8%	6.5%	4.8%
All Households	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Income Group	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Total	White Alone, Non-Hispanic	Hispanic or Latino	White, Hispanic
	Percentage of Households by Race for Each Income Group										
Less than $24,999	39.5%	29.0%	0.4%	13.7%	0.0%	10.6%	6.7%	100.0%	30.0%	26.7%	17.3%
$25,000 to $49,999	43.8%	31.5%	0.2%	9.9%	0.0%	7.5%	7.0%	100.0%	35.4%	22.7%	14.2%
$50,000 to $74,999	51.2%	27.6%	0.3%	8.0%	0.1%	5.2%	7.5%	100.0%	44.9%	18.1%	11.8%
$75,000 to $99,999	59.1%	22.2%	0.2%	7.7%	0.2%	4.6%	6.0%	100.0%	52.4%	15.7%	9.0%
$100,000 to $149,999	69.4%	15.6%	0.1%	7.0%	0.0%	2.8%	5.1%	100.0%	63.5%	11.3%	5.4%
$150,000 to $199,999	74.0%	12.5%	0.2%	6.9%	0.0%	2.4%	4.1%	100.0%	70.5%	7.5%	4.0%
$200,000 or more	78.7%	7.8%	0.2%	8.5%	0.1%	1.4%	3.3%	100.0%	74.4%	7.7%	3.5%
All Households	**57.4%**	**21.7%**	**0.3%**	**9.4%**	**0.1%**	**5.5%**	**5.8%**	**100.0%**	**50.6%**	**16.9%**	**10.1%**

Source: U.S. Census Bureau American Community Survey, 2020 (5-year) and ConsultEcon, Inc.

Figure 2-19. City of Boston Households Earning Over $100,000 by Race, 2022

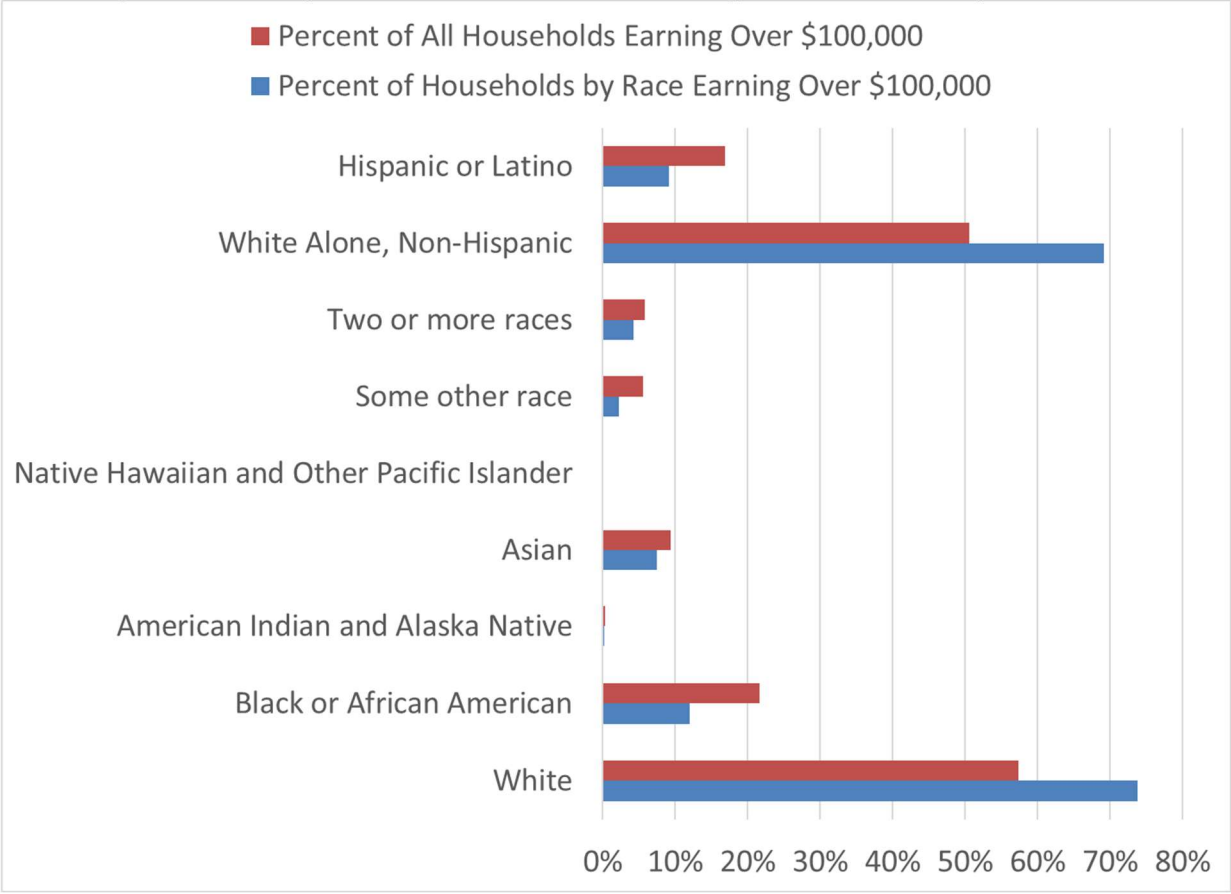
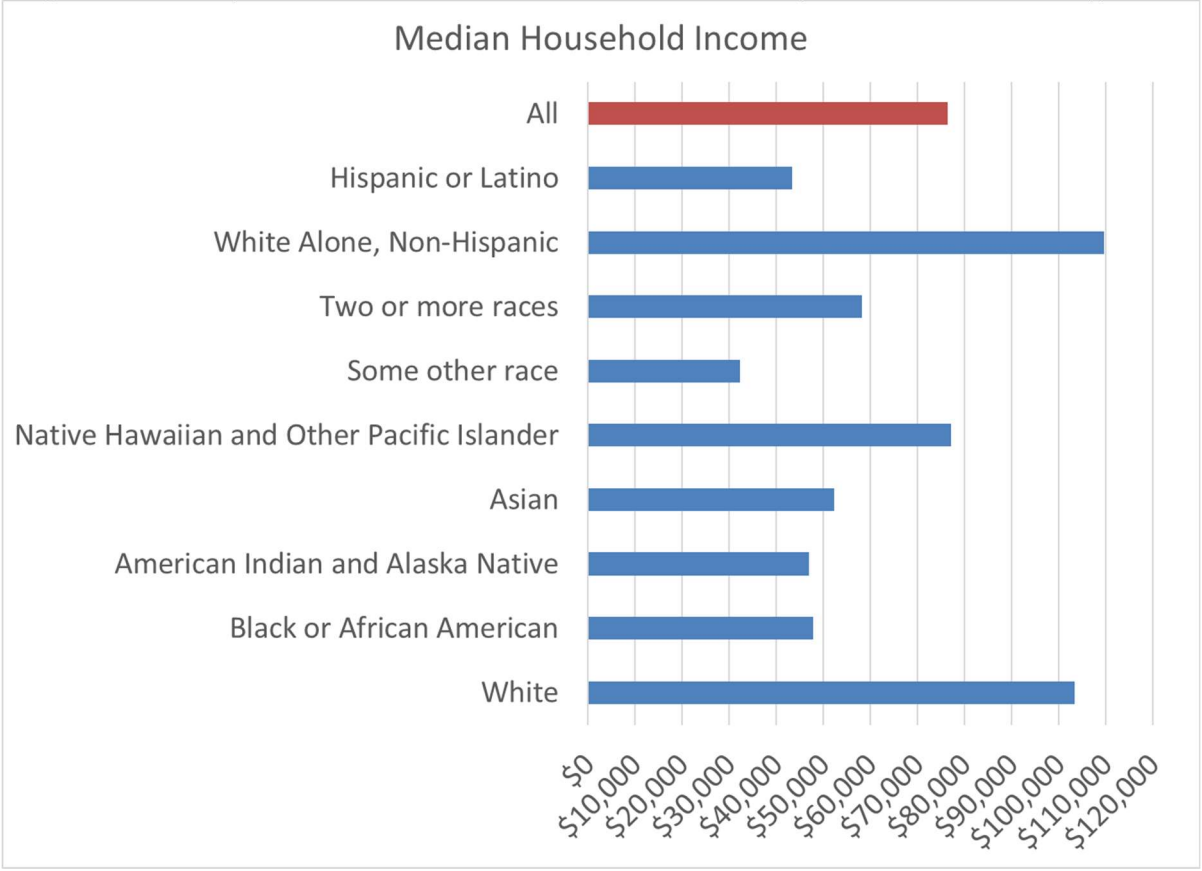


Figure 2-20. City of Boston Households Median Income by Racial/Ethnic Group, 2020



Source: U.S. Census Bureau American Community Survey, 2020 (5-year) and ConsultEcon, Inc.

Household Wealth / Net Worth

Figure 2-21 shows a comparison of median net worth for racial and ethnic groups in the Greater Boston Metro Area from *The Color of Wealth in Boston*, a report from the Federal Reserve Bank of Boston published in 2015[12]. While White households had a median net worth of close to $250,000, U.S.-born Black households had a median net worth of only $8 and Dominican households had median net worth of $0. Caribbean-born Black households and NEC (not elsewhere categorized, mainly respondents that chose more than one race) had median net worth of about $12,000, and Puerto Rican and Other Hispanic households had net worth of $3,000 and $2,700, respectively.

[12] Federal Reserve Bank of Boston, *The Color of Wealth*, 2015.

Figure 2-21. Greater Boston Comparison of White and Non-White Household Median Net Worth, 2015

	Median net worth	
	Amount (U.S. dollars)	Nonwhite household percentage of white household median net worth
White	247,500	100.0
U.S. Black	8	0.0***
Caribbean Black	12,000	4.8***
Cape Verdean[b]	–	–
Puerto Rican	3,020	1.2***
Dominican	0	0.0***
Other Hispanic	2,700	1.1***
NEC[a]	12,000	4.8***

Source: NASCC survey, authors' calculations
Note: Difference in findings of nonwhite household median or mean net worth values were statistically significant at the ***99 percent level.
[a] The "not elsewhere classified" (NEC) category includes mainly respondents that chose more than one race.
[b] Net worth values for Cape Verdeans were not calculated because sample sizes were too small.

As of May 2022, a new study will be conducted over 3 years to provide more in depth and accurate data on the underlying causes of the wealth gap, including the outsized impact of student debt on Black families and the engagement of members of the Black community in the high-growth and high-paying life sciences industry in Massachusetts[13]. The 2015 report had small sample sizes – about 70 households led by US-born Black people, 80 white-led households, 130 Hispanic households, and 14 households with Asian backgrounds. The new study is intended "to be broader, to cover racial inequities statewide, with bigger samples (3,000 to 5,000 people) to consider and a broader variety of ethnic groups," according to Boston Fed Executive Vice President Prabal Chakrabarti. The report will also point to strategies to reduce and ultimately eliminate wealth disparities.

English Proficiency and Languages Spoken

Data in **Figure 2-22** show English proficiency for the population of Boston age 5 years and older. About 37% of the population speaks another language at home and about 46% speak English "less than very well". **Figure 2-23** shows the languages spoken by the population age 5 years and older.

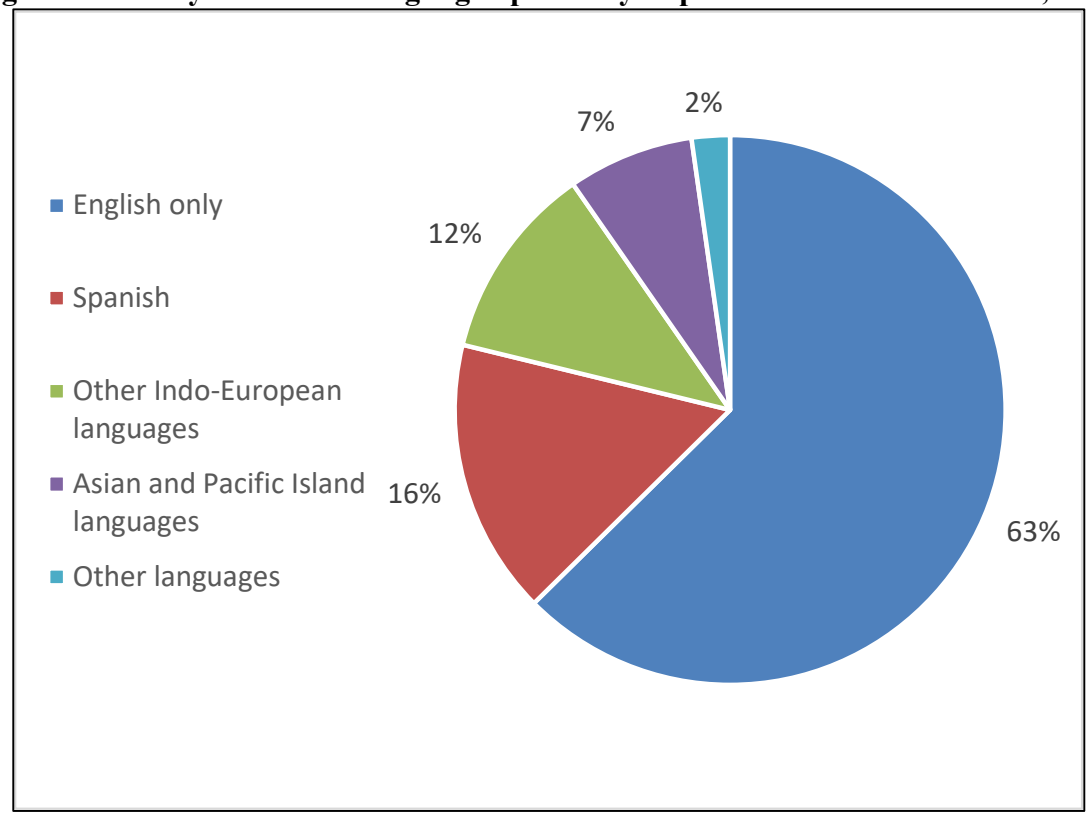
[13] Boston Globe, "Fed, business groups to update study that found average Black Boston household had net worth of $8," May 9, 2022. (Link).

Figure 2- 22. City of Boston English Proficiency, 2020

English Proficiency - 5YR ACS 2016-2020		
Total Population (5 Years and Over)	655,287	
Speak Only English at Home	412,091	62.9%
Speak Another Language at Home	243,196	37.1%
Speak English "Very Well"	132,250	54.4%
Speak English "Less than Very Well"	110,946	45.6%

Source: Boston Public Schools, Boston Public Schools at a Glance 2021-2022, BPDA Research Division Analysis.

Figure 2-23. City of Boston Language Spoken by Population Over 5 Years Old, 2020



Source: U.S. Census Bureau, 2016 – 2020 5-Year American Community Survey; and ConsultEcon Inc.

Summary

Given the percentage of people in poverty, the number of low-, moderate- and middle-income households, combined with the higher percentage of renter and owner households that are cost burdened, there is a need for affordable housing. Building affordable housing and lowering housing costs means that households are more able to spend on other important categories, such as food, child care and other spending that support households. There is a need to raise incomes, especially for lower income racial and ethnic population groups with higher poverty rates and lower incomes. The new commercial development in the city offers the potential for jobs at new development to help address the need for increasing incomes among Boston's households.

4.0 KEY DEMOGRAPHIC TRENDS, 2010 TO 2020

Population and Household Growth

Figure 2-24 shows the Boston population by decade from 1900 to 2020. Since reaching a low point in 1980, the city has steadily grown in population. From 2010 to 2020, the population grew from 618,000 to 676,000 – about 9%. **Figure 2-25** shows the average household size in Boston from 1950 to 2020. While household size continues to decline, the rate of decline has flattened, decreasing less than 1% from 2010 to 2020.

Figure 2-24. City of Boston Population by Decade, 1900 to 2020

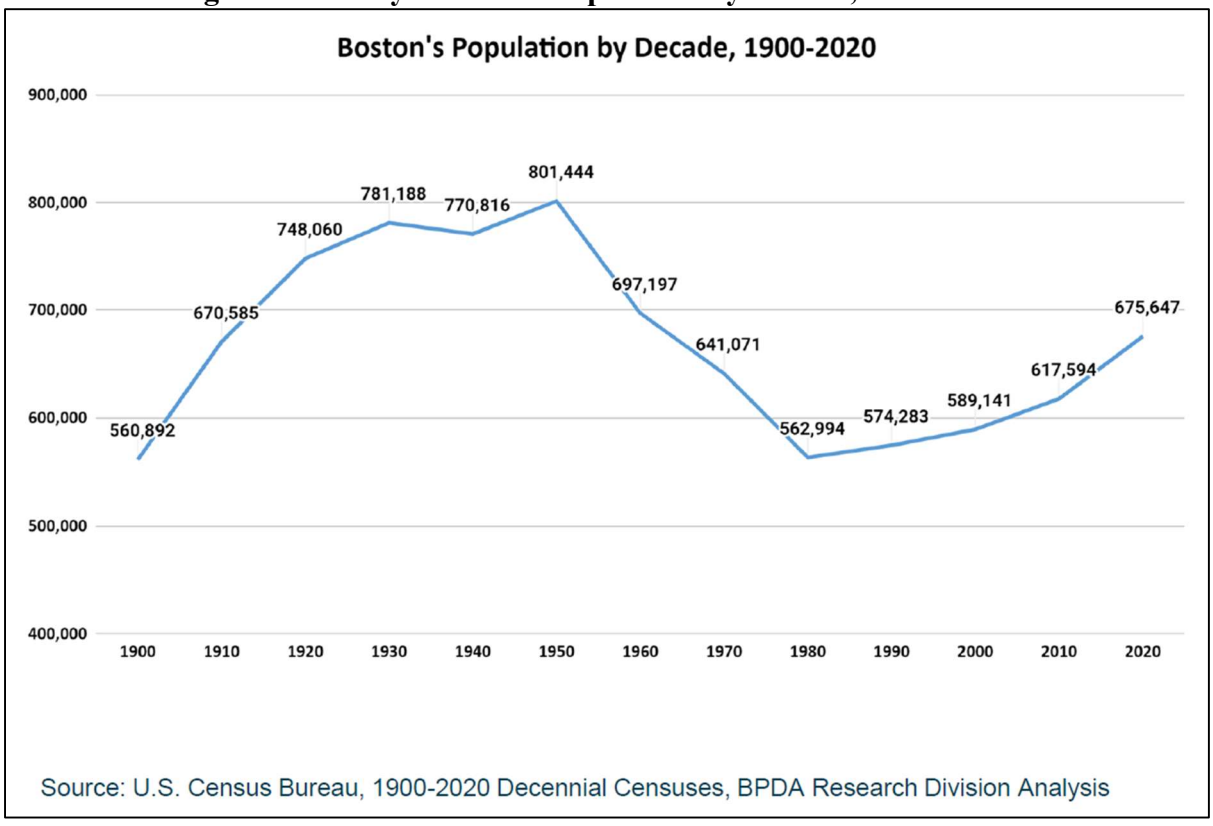
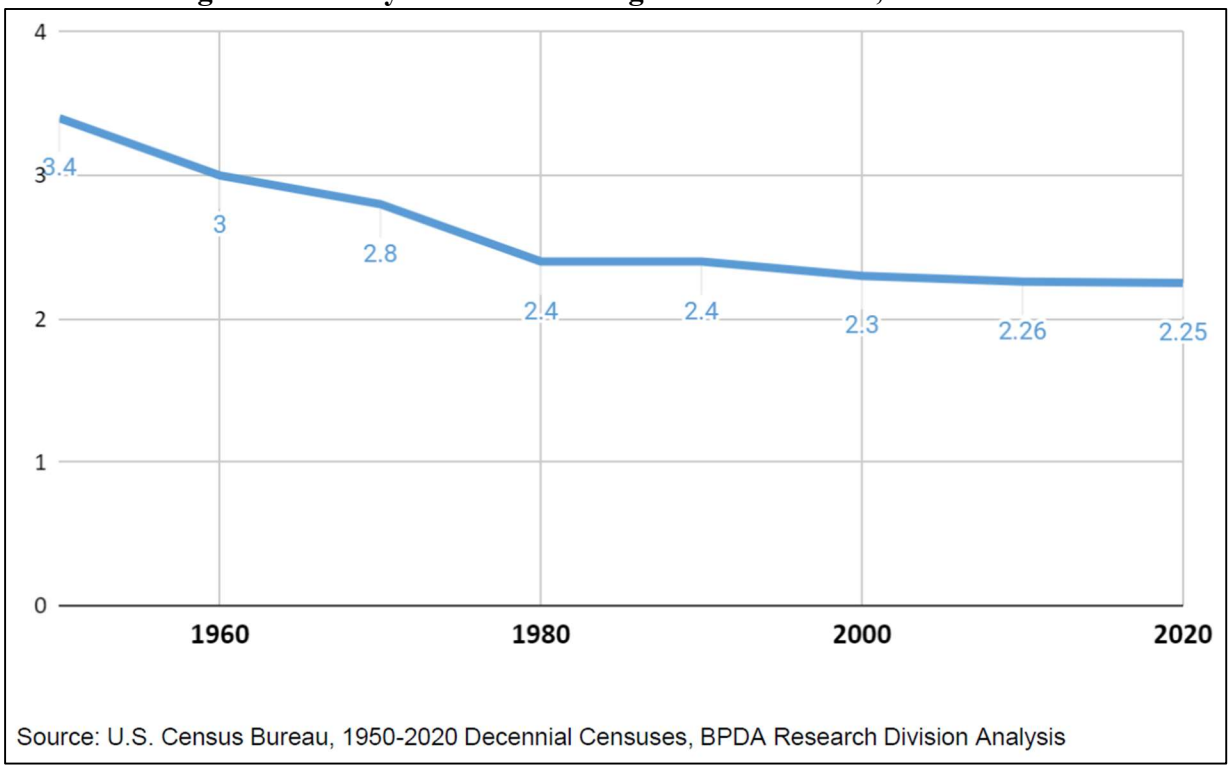


Figure 2-25. City of Boston Average Household Size, 1950 to 2020



Note: The average household size reported by the American Community Survey 5-Year Estimates (2016 to 2020) was 2.35 persons. The data in this graph is from the decennial census, which reported 2.25 persons.

Changes in Racial Composition of Population

The city of Boston has become more diverse over time, as shown in **Figure 2-26**. From 2010 to 2020, the city's White population continued to represent a smaller portion of the total population, while Black / African American, Hispanic, or Latino, and Asian / Pacific Islander populations, as well as those of some other or two or more races, represent a larger percentage. The Hispanic/Latino and Asian/Pacific Islander share of Boston's population have grown over the last two decades while the share of White Alone and Black/African-American has declined. **Figure 2-27** shows the population by race and ethnicity for children under 18. Children had greater diversity than the total population.

Figure 2-26. City of Boston Population by Race and Ethnicity, 1970 to 2020

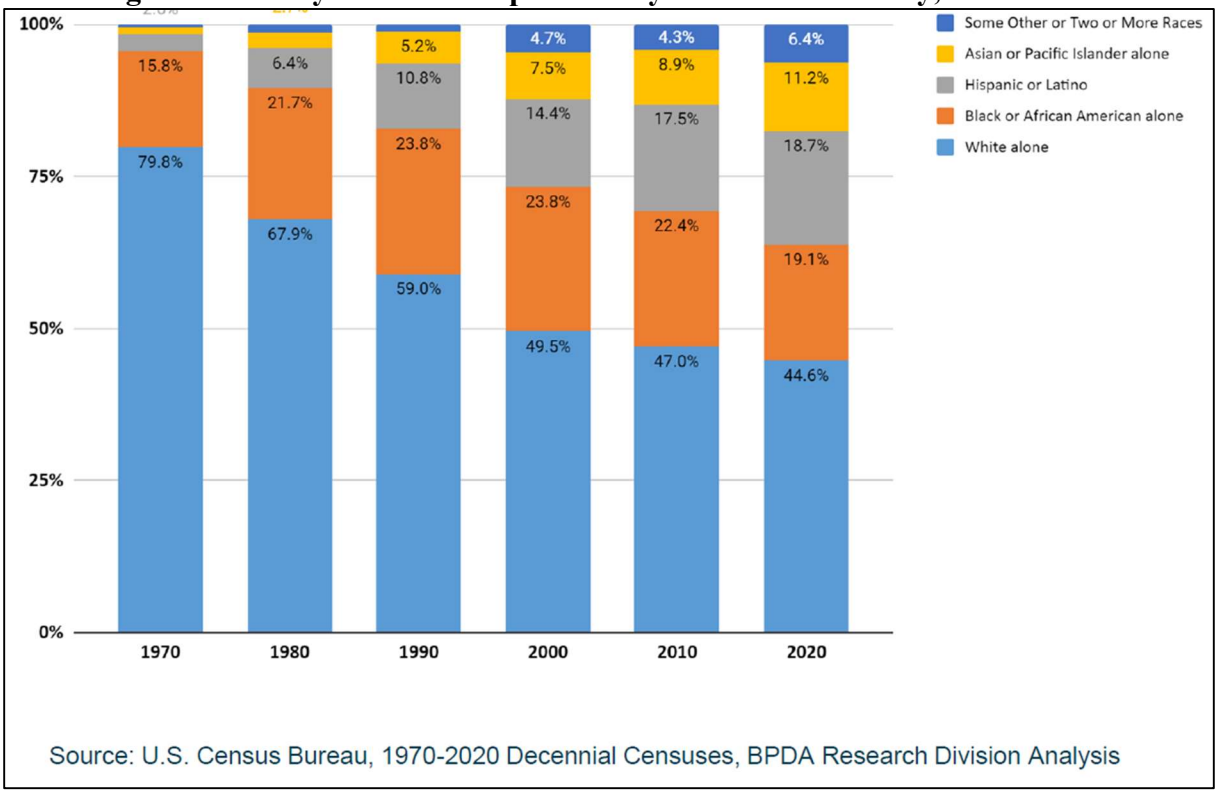
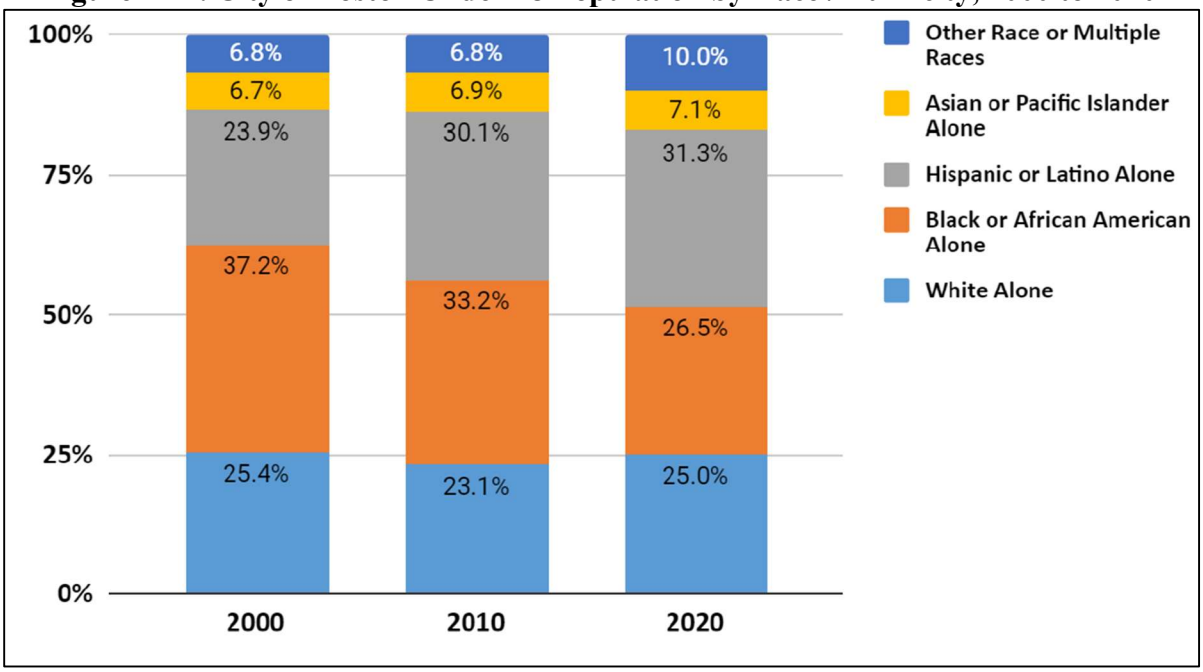


Figure 2-27. City of Boston Under 18 Population by Race / Ethnicity, 2000 to 2020

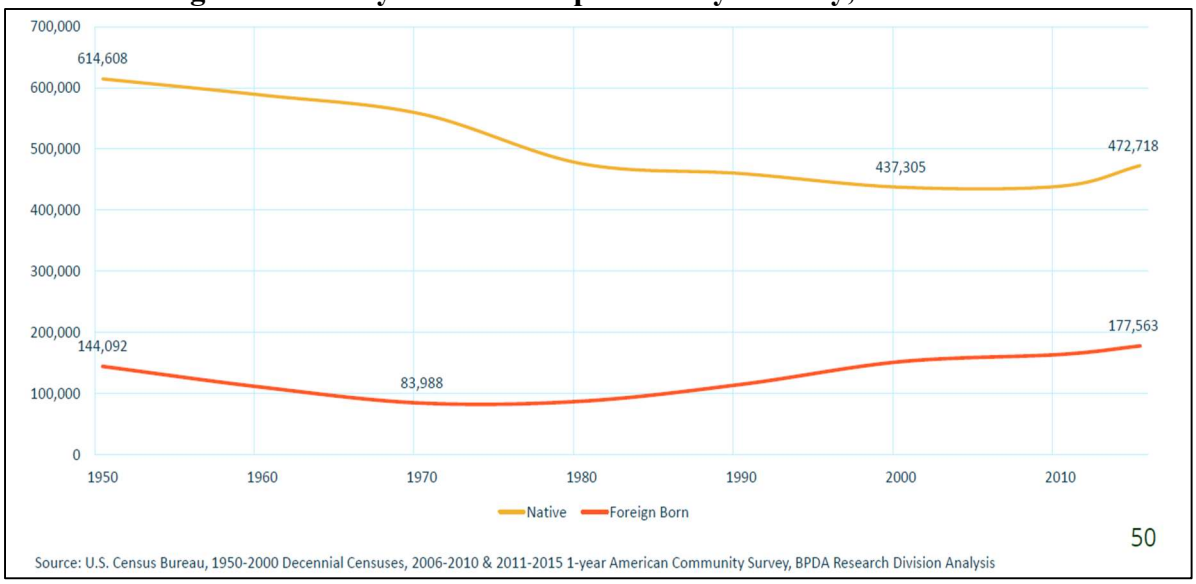


Source: US Census Bureau 2000 to 2020 Census and BPDA Research Division Analysis

Change in Foreign-Born Population

Boston's foreign-born population has more than doubled since 1970. **Figure 2-28** shows the change in Boston's population's nativity from 1950 to 2015. From 2015 to 2020, the population of foreign-born residents grew from 178,000 to 194,000 – an increase of 9%.

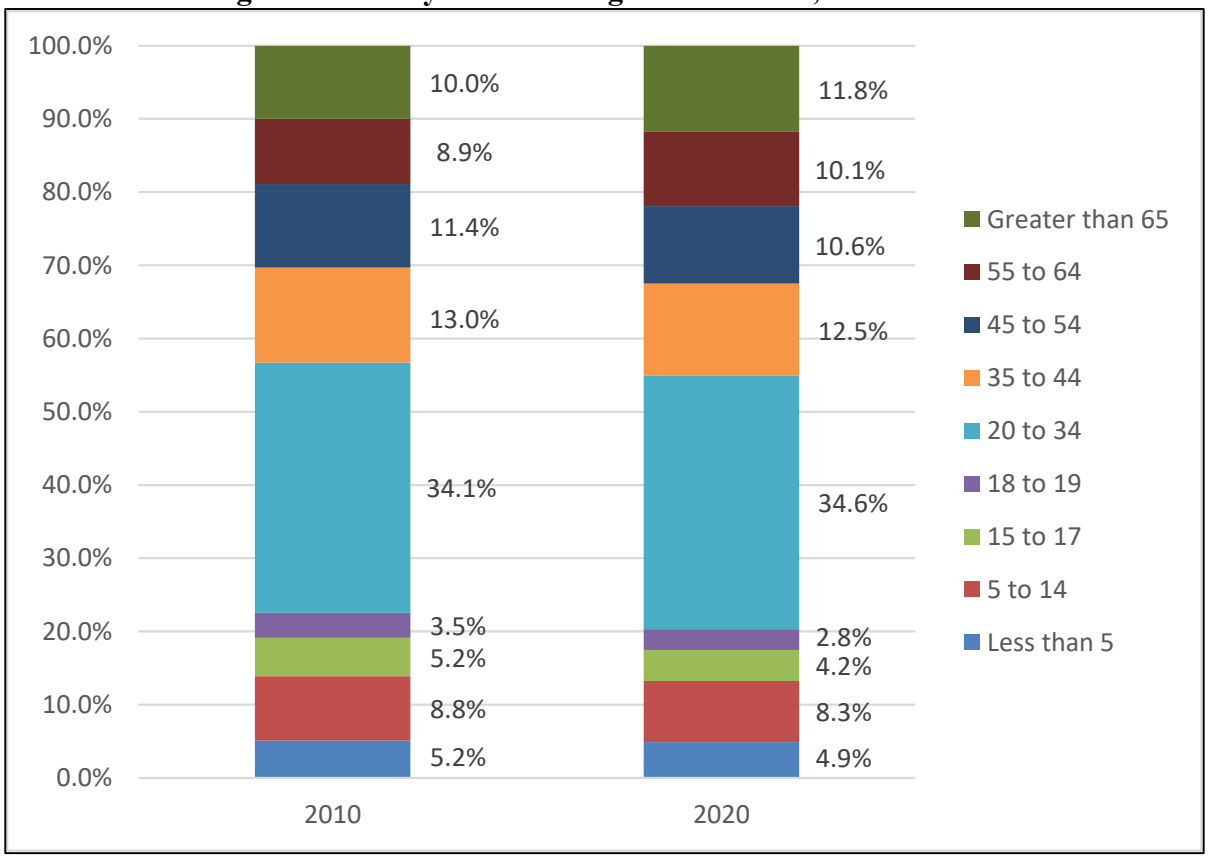
Figure 2-28. City of Boston Population by Nativity, 1950 to 2015



Changes in Age Distribution of Population

Figure 2-29 shows the age distribution of the population of Boston from 2010 to 2020. The population over age 55 and from 20 to 34 increased from 2010 to 2020, while other age groups decreased during the period.

Figure 2-29. City of Boston Age Distribution, 2010 to 2020

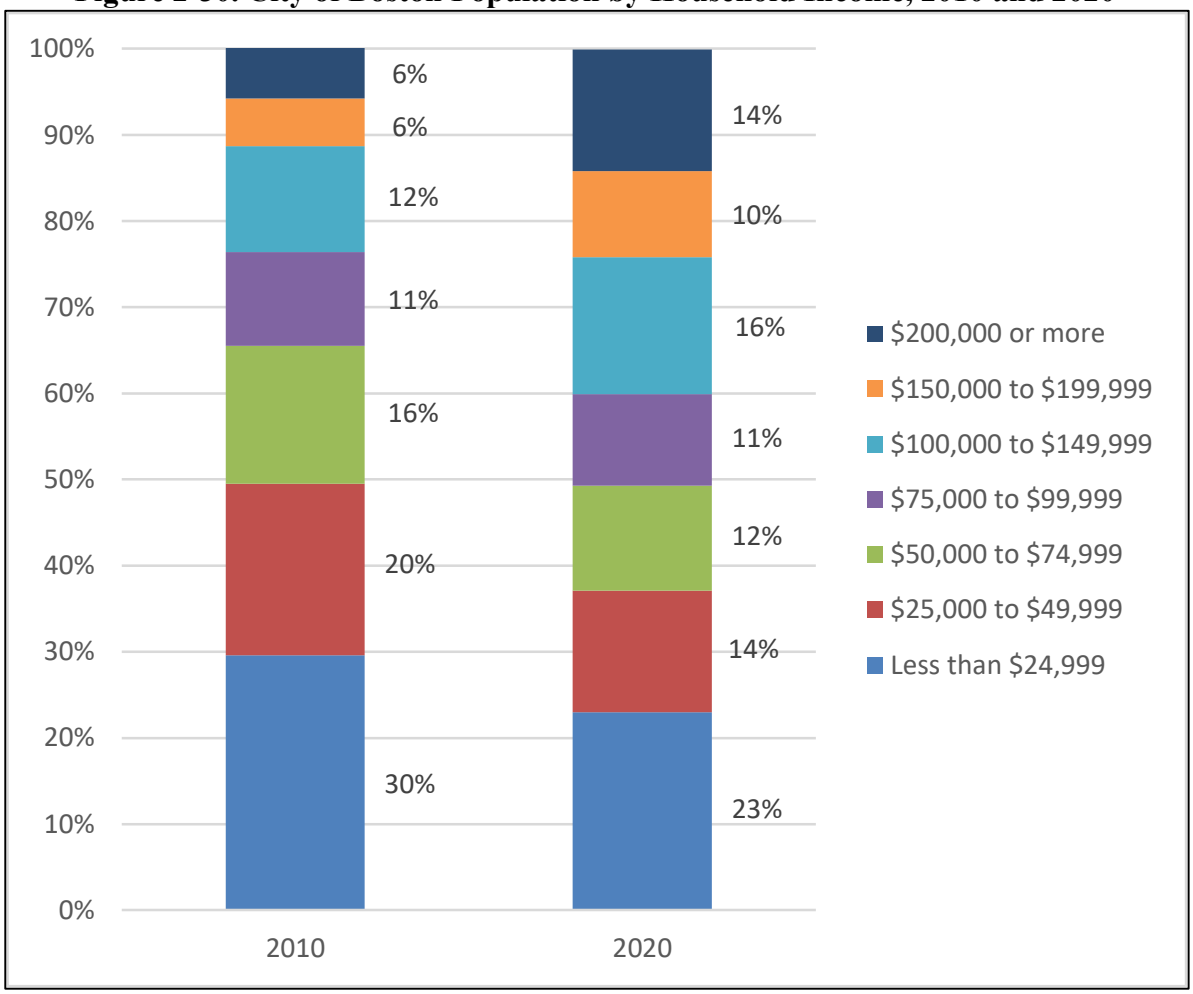


Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

Changes in Income Distribution of Population

From 2010 to 2020, the percentage of Boston's households making $100,000 or more grew from about 24% to 40%, as shown in **Figure 2-30** while the share of households with incomes below $75,000 dropped from 66% to 49% . The city's median household income increased during the period from about $51,000 to $76,000.

Figure 2-30. City of Boston Population by Household Income, 2010 and 2020

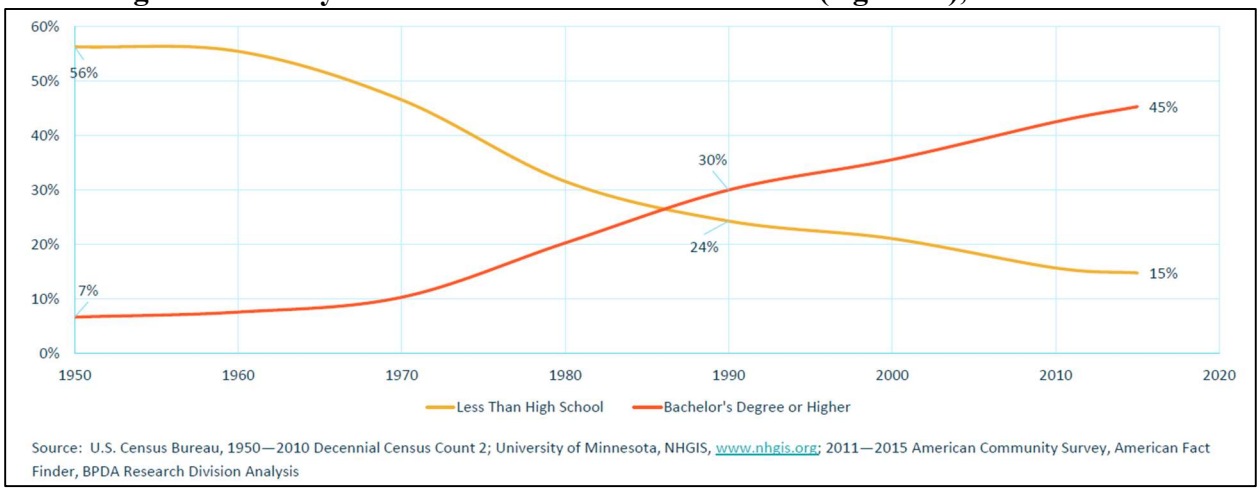


Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

Changes in Educational Attainment of Population

Figure 2-31 shows the change in educational attainment from 1950 to 2015. The share of the population over age 25 with a bachelor's degree or higher has continued to grow since the 1980s, and the population with less than a high school diploma has declined.

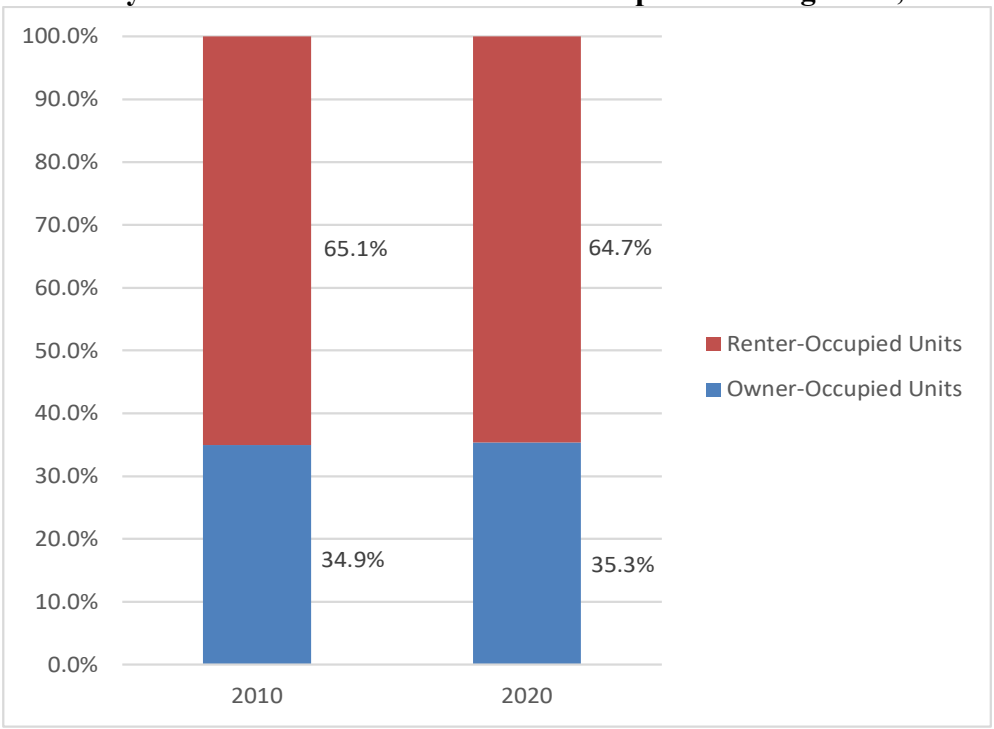
Figure 2-31. City of Boston Educational Attainment (Age 25 +), 1950 to 2015



Changes in Renter- and Owner-Occupied Housing

The percentage of renter- and owner-occupied units stayed fairly steady from 2010 to 2020, shown in **Figure 2-32**.

Figure 2-32. City of Boston Renter- and Owner-Occupied Housing Units, 2010 to 2020



Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

5.0 Boston Labor Force Profile and Trends

This labor force profile and review of labor force trends in Boston utilizes three primary data sources: (1) the 2016-2020 American Community Survey (ACS); (2) comparative data from the 2006-2010 ACS; and (3) Bureau of Labor Statistic Local Area Unemployment data provided by the Massachusetts Department of Unemployment Assistance. ACS data provides five-year estimates, summarizing data from 2016 to 2020, for a range of labor force characteristics and outcomes by age, gender and race while the state data provides the most recent information on overall labor force size, participation and unemployment. For the purpose of this section, ACS five-year estimates are referred to by the last year of their period, either 2010 or 2020. The data analysis is supplemented with qualitative and quantitative information for several recent studies.

Labor Force Profile

Overview. In 2020, Boston's labor force participation rate was 69.8% with 413,366 residents aged 16 and over in the labor force. While there is roughly even representation of men and women in the labor force (49.4% and 50.6% respectively), men's participation rate is slightly higher at 72.5% while women's participation rate is 67.4%.[14] To contextualize Boston's labor force participation rate within the region, the state of Massachusetts experienced its lowest labor force participation rate in March 2020 at 60.5%, though the figure has stabilized at around 65.5% since June 2020.[15] As such, Boston's labor force participation rate continues to exceed that of the state average by roughly four to five percentage points. State estimates for March 2022 show a decline in Boston's labor force by over 16,000 to 397,064[16]. The city's unemployment rate in 2020 was 6.90%, according to the ACS. More recent state estimates report a reduced unemployment rate of 3.1%, below the statewide rate of 4.3%.[17] While slightly above the pre-pandemic rate of 2.7% in 2019, it marks a major reduction in unemployment from Boston's peak of 15.8% in May and June, 2020[18].

Table 2-5. Boston Labor Force Size, Participation Rate, and Unemployment Rate by Educational Attainment, ACS 2016-2020

Educational Attainment Level	Population Count	Labor Force Participation Rate	Unemployment Rate
Less than high school	37,552	66.9%	11.2%
High school graduate (or equivalent)	68,796	75.0%	8.8%
Some college or associate's degree	71,146	81.9%	7.4%
Bachelor's degree or higher	220,086	89.5%	3.4%

Source: U.S. Census Bureau (2020). *2016-2020 American Community Survey 5-Year Estimates*.

[14] Boston Planning and Development Agency Research Division, "Boston at a Glance – 2022."
[15] U.S. Bureau of Labor Statistics, "Labor Force Participation Rate for Massachusetts," retrieved from FRED, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/LBSSA25.
[16] Massachusetts Department of Unemployment Assistance *Statewide Report: Labor Force and Unemployment Rate.* February 2022.
[17] US Bureau of Labor Statistics LAUS Program download at https://www.bls.gov/lau/ .
[18] US Bureau of Labor Statistics LAUS Program download at https://www.bls.gov/lau/ .

Labor force participation rates were lowest and unemployment rates highest in 2020 for individuals with less than a high school level education, at 66.0% and 11.2%, respectively. Labor participation rates increased and unemployment rates declined consistently at higher levels of education (See **Table 2-5**). Labor participation reached 89.5% and the unemployment rate was at 3.4% for individuals with a Bachelor's degree or higher. Individuals between 16 and 24 years of age, likewise, experienced higher unemployment rates and lower labor force participation during this time period relative to other age cohorts. Labor force participation and employment rates peaked for workers between 30 and 44 years old (See **Table 2-6**).

Table 2-6. Boston Labor Force Size, Participation Rate, and Unemployment Rate by Age, ACS 2016-2020

Age Group	Population Count	Labor Force Participation Rate	Unemployment Rate
16-19 years	42,445	40.5%	24.1%
20-24 years	70,569	66.5%	10.7%
25-29 years	93,848	86.0%	5.8%
30-34 years	74,379	89.8%	3.7%
35-44 years	86,463	88.1%	5.5%
45-54 years	73,036	82.9%	7.3%
55-59 years	37,249	74.1%	6.1%
60-64 years	32,605	61.7%	5.0%
65-74 years	46,846	31.4%	5.1%
75 years and over	34,438	7.6%	5.1%

Source: U.S. Census Bureau (2020). *2016-2020 American Community Survey 5-Year Estimates*.

Table 2-7. Boston Population 16+, Participation Rate, and Unemployment Rate by Race/Ethnicity, ACS 2016-2020

Race/Ethnicity	Population Count	Labor Force Participation Rate	Unemployment Rate
White	323,682	72.8%	5.3%
White alone, not Hispanic or Latino	282,781	73.1%	4.9%
Black or African American	133,971	67.8%	9.9%
American Indian and Alaska Native	1,778	50.9%	8.1%
Asian	60,991	59.2%	6.2%
Native Hawaiian and Other Pacific Islander	323	82.0%	1.9%
Other Race	34,586	66.8%	10.9%
Two or More Races	36,547	72.4%	8.3%
Hispanic or Latino origin (any race)	104,328	69.7%	9.2%

.

Considerable racial disparity in Boston's labor participation and unemployment rates exists (See **Table 2-7**). With the exception of the small Native Hawaiian and Other Pacific Islander labor force, White, non-Hispanic workers had the highest labor participation rate, at 73.1% and lowest unemployment rate, 4.9%, in 2020. Unemployment rates were highest, and over twice that of White, non-Hispanic workers, for individuals who identify as another race/ethnicity only (10.9%) and for Black or African American Bostonians (9.9%). Hispanic/Latino workers and those of two or more races also experienced high unemployment rates, at 9.2% and 8.3%, respectively. Labor

force participation rates, for 2020, were lowest among Boston's American Indian and Alaska Native population (50.9%) as well as the Asian population (59.2%).

Occupational Composition

Table 2-8 shows the distribution of occupations for Boston's employed residents over the age of 16 by race. Since earnings vary by occupation, with management, business and science occupations typically providing higher pay than service, sales/office and production/transportation ones, this data indicates how racial disparities in occupational employment contribute to racial income inequality. Almost half (49.9%) of Boston workers were employed in management, business, science, or arts occupations. However, two-thirds of White workers and almost 59% of Asian workers held jobs in these higher paying occupations, compared to 31.4% for Black/African American workers, 30.4% for Hispanic or Latino workers, 35.9% for workers with Two or More races and 28.7% for those identifying as Other Race. The majority of employed Black/African American (52.4%) and Hispanic/Latino (53.1%) Bostonians worked in service and sales/office occupations in 2020. Non-white workers were also far more likely to work in Production/Transportation and Material Moving occupations, ranging from 6.3% for Asians to 26.9% for Native Hawaiian and Pacific Islanders, compared to only 3.2% for White workers.

Table 2-8. Occupational Composition of Boston's Employed Population 16+ by Race, 2020

Race/Ethnicity	Total Employed Population	Percent in management, business, science, and arts occupations	Percent in service occupations	Percent in sales and office occupations	Precent in natural resources, construction, and maintenance occupations	Percent in Production, transportation, and material moving occupations
Asian	33,883	58.7%	18.7%	14.0%	2.4%	6.3%
Black or African American	81,654	31.4%	30.3%	22.1%	4.6%	11.6%
Hispanic or Latino	66,015	30.4%	34.1%	19.0%	6.5%	10.0%
American Indian and Alaska Native	832	34.5%	25.5%	16.1%	10.7%	13.2%
Native Hawaiian and Other Pacific Islander	260	27.7%	24.6%	8.5%	12.3%	26.9%
White	196,210	66.7%	9.6%	17.7%	2.8%	3.2%
Two or More Races	24,182	35.9%	31.5%	17.9%	6.2%	8.4%
Other Race	20,569	28.7%	33.3%	19.7%	7.8%	10.4%
Total, All Races	423,605	49.9%	20.6%	18.6%	4.1%	6.8%

Source: U.S. Census Bureau (2020). *2016-2020 American Community Survey 5-Year Estimates*.

A recent study of the Boston metropolitan region found that Black/African-American workers and Hispanic/Latino workers are over-represented, compared to their percentage of the overall labor force, in occupations with lower pay and less benefits, such as health-care support, transportation and material moving, building and grounds cleaning worker and under-represented in higher-paying life, physical, and social sciences occupations; computer and mathematical jobs; architecture and engineering positions.[19] This study also found the Black and Hispanic/Latino workers in the Boston region are two to three times as likely as White workers to earn less than $15 per hour with Hispanic/Latino immigrants four times as likely. While these data refer to the

[19] Abbie Langston, Justin Scoggins, Matthew Walsh, *Advancing Workforce Equity In Boston: A Blueprint For Action*, National Equity Atlas, 2021

Boston region, similar patterns are likely to exist in Boston given the racial composition of its workforce and the occupation data presented above.

Employment by Industry

Reflecting Boston's employment base, the two largest industry sectors in which Boston residents were employed in 2020 are Educational, Healthcare, and Social services (31.07%); and Professional, Scientific, Management, Administrative, and Waste management services (18.20%). Boston residents employed in the first set of industries were primarily female (69.3%), while male workers were a higher share of Boston residents employed in all other industries except other services (Sed **Table 2-9**).

Table 2-9. Employed Boston Residents, 16+ by Industry, 2020

Industry	**Total**		**Male** *Count and Percent*		**Female** *Count and Percent*	
Agriculture, forestry, fishing, hunting, and mining	545	0.14%	431	79.1%	114	20.9%
Construction	13,146	3.42%	11,767	89.5%	1,379	10.5%
Manufacturing	16,433	4.28%	10,206	62.1%	6,227	37.9%
Wholesale trade	5,607	1.46%	3,582	63.9%	2,025	36.1%
Retail trade	31,017	8.07%	15,728	50.7%	15,289	49.3%
Transportation, warehousing and utilities	14,656	3.81%	11,001	75.1%	3,655	24.9%
Information	9,438	2.46%	5,058	53.6%	4,380	46.4%
Finance, insurance, real estate, rental, and leasing	34,911	9.09%	19,567	56.0%	15,344	44.0%
Professional, scientific, management, administrative, and waste management services	69,935	18.20%	38,367	54.9%	31,568	45.1%
Educational services, health care, and social assistance	119,399	31.07%	36,642	30.7%	82,757	69.3%
Arts, entertainment, recreation, accommodation, and food services	38,016	9.89%	20,973	55.2%	17,043	44.8%
Other services	16,520	4.30%	6,290	38.1%	10,230	61.9%
Public administration	14,617	3.80%	7,804	53.4%	6,813	46.6%
TOTAL	384,240					

Source: U.S. Census Bureau (2020). *2016-2020 American Community Survey 5-Year Estimates*.

Educational Attainment

Educational attainment is another important indicator of access to higher skill and higher paying employment. Over half (55%) of Boston's population age 25 or older had a bachelor's degree or higher in 2020 but educational attainment varied by race and ethnicity (see **Tables 2-10** and **2-11**). The highest share of adults with a bachelor's degree or higher was among Asians (54.4%), Native Hawaiian and Other Pacific Islander (50.9%), and White (67.3%) individuals. Black/African American and Hispanic/Latino adults had among the lowest percentage with a bachelor's degree or higher, at 19.8% and 25.7%, respectively. Hispanic/Latino adults had the highest concentration of individuals (28.1%) with less than a high school level education, followed by those identified as other race (27.1%) and two or more races (26.1%).

Table 2-10. Educational Attainment for Population Aged 25+, 2020

Educational Attainment Level	Population Count	Percent of Total Population Aged 25+
Less than High School	37,552	9.45%
High School Graduate (or equivalent)	68,796	17.30%
Some College or Associate's Degree	71,146	17.89%
Bachelor's Degree or Higher	220,086	55.36%

Source: U.S. Census Bureau (2010-2020). *2016-2020 American Community Survey 5-Year Estimates*.

Table 2-11. Educational Attainment by Race for Boston Population Aged 25+, 2020

Race	Total Population 25+	Percent Less than High School	Percent High School Graduate (or equivalent)	Percent Some College or Associate's Degree	Percent Bachelor's Degree or Higher
Asian	46,469	20.6%	14.4%	10.5%	54.4%
American Indian and Alaska Native	1,346	16.8%	21.9%	32.5%	28.8%
Black	103,103	18.6%	32.3%	29.7%	19.4%
Native Hawaiian and Other Pacific Islander	218	16.1%	7.3%	25.7%	50.9%
White	263,797	6.1%	13.6%	13.1%	67.3%
Two or More Races	28,367	26.1%	18.8%	17.3%	37.8%
Other Race	27,530	27.1%	30.4%	20.7%	21.9%
Total, All Races[1]	470,830	12.7%	19.1%	17.2%	51.0%
Hispanic or Latino	81,668	28.1%	26.3%	19.9%	25.7%

Source: U.S. Census Bureau (2020). *2016-2020 American Community Survey 5-Year Estimates*.
[1]Totals for ACS 2016-2020 estimates by race differ slightly from estimates for the total population 25+

English Language Proficiency

Among Bostonians five years or older, 243,196 (37.1% of the total population) reported speaking a language other than English at home in 2020, with Spanish representing the most common language spoken at home other than English (16.3%). French, Haitian, or Creole (5.1%) as well as Chinese (4.5%) were the second and third most common languages spoken at home other than

English amongst Boston's population. The East Boston, Dorchester, and Brighton neighborhoods had the highest concentration of individuals speaking those languages, respectively.

Table 2-12. English Language Proficiency of Population Five Years and Over, 2020

English Language Proficiency	2020 Population Count	Percent of Total Population
Speak Only English at Home	412,091	62.9%
Speak Another Language at Home	243,196	37.1%
Speak English "Very Well"	132,250	54.5%
Speak English "Less than Very Well"	110,946	45.6%
TOTAL	243,196	100%

Source: Boston Planning & Development Agency Research Division, "Boston in Context: Neighborhoods."

Labor Force Trends (2010-2020)

Boston's labor force increased by 17.9%, or 62,723 workers between 2010 and 2020, while its labor force participation rate increased by 1.3 percentage points. The city has likewise experienced an approximately 25% decline in its unemployment rate over the decade.

Table 2-13. Boston Labor Force Size, Participation Rate, and Unemployment Rate (2010-2020)

Year	Labor Force Size	Percent Change	Labor Force Participation Rate	Percent Change	Unemployment Rate	Percent Change
2020	413,366	17.9%	69.80%	1.90%	6.90%	-25.81%
2010	350,643		68.50%		9.30%	

Source: U.S. Census Bureau (2010-2020). *2016-2020 American Community Survey 5-Year Estimates* and *2006-2010 American Community Survey 5-Year Estimates*.

Management, business, science, and arts occupations represented the most common occupations for employed Boston residents in both 2010 and 2020. The share of employed workers in these occupations grew from 44.8% to 52.3%, while the number increased by 41.04%. Workers in sales and office occupations are the only occupation group in which the number of employed workers declined between 2010 and 2020, with a drop of 2.6%.

Table 2-14. Occupational Composition of Boston's Employed Workers (2010-2020)

Occupation type	2010 Total	2010 Percent	2020 Total	2020 Percent	Percent Change
Management, business, science, and arts	142,468	44.8%	200,933	52.3%	41.0%
Service	68,760	21.6%	73,164	19.0%	6.4%
Sales and office	72,815	22.9%	70,946	18.5%	-2.6%
Natural resources, construction, and maintenance	13,575	4.3%	14,596	3.8%	7.5%
Production, transportation, and material moving	20,224	6.4%	24,601	6.4%	21.6%
TOTAL	317,842	100%	384,240	100%	20.9%

Source: U.S. Census Bureau (2010-2020). *2016-2020 American Community Survey 5-Year Estimates* and *2006-2010 American Community Survey 5-Year Estimates*.

The educational attainment of Boston adults 25 and over increased between 2010 and 2020. The number with a bachelor's degree or a higher level of education has increased by almost 70,000, or 46.5% percent over the decade. Those with some college or an associate's degree increased by 15.6%. On the other hand, the number who were high school graduates (or equivalent) dropped by 3.3% while those with less than a high school education had a steeper decline of 10.1% in the last decade.

The percentage of Boston residents over 5 years old that spoke another language at home increased slightly from 35.5% in 2010 to 37.1% in 2020. English language proficiency changed little over the decade with the percentage of residents over 5 who speak only English or speak English very well remaining the same at 83% for the 2006-2010 and 2016-2020 ACS survey estimates.

Table 2-15. Educational Attainment of Population 25+ (2010-2020)

Educational Attainment Level	2010 Population Count	2020 Population Count	Percent Change
Less than High School	41,766	37,552	-10.1%
High School Graduate (or equivalent)	71,134	68,796	-3.3%
Some College or Associate's Degree	61,567	71,146	15.6%
Bachelor's Degree or Higher	150,231	220,086	46.5%

Source: U.S. Census Bureau (2010-2020). *2016-2020 American Community Survey 5-Year Estimates* and *2006-2010 American Community Survey 5-Year Estimates*.

Table 2-16. English Language Proficiency of Population 5+ (2010-2020)

English Language Proficiency	2010 Population Count	Percent of Total 2010 Population	2020 Population Count	Percent of Total 2020 Population
Speak Only English at Home	380,338	64.5%	412,091	62.9%
Speak Another Language at Home	209,200	35.5%	243,196	37.1%
Speak English Only or "Very Well"	NA	83.2%	544,341	83.1%
Speak English "Less than Very Well"	NA	16.8%	110,946	16.9%

Source: U.S. Census Bureau (2010-2020). *2016-2020 American Community Survey 5-Year Estimates* and *2006-2010 American Community Survey and 5-Year Estimates*.

Boston Labor Force and Inclusionary Employment

A key issue as Boston updates its jobs linkage policies is how well future employment growth generated from new development aligns with the city's existing workforce, especially for low-income and racial and ethnic communities that have historically lacked full access to jobs that provide a living wage and career advancement opportunities.

Labor Force Alignment with Industry and Employment Growth. A gap appears to exist between the type of jobs being created in many of Boston's high growth industries and the occupational profile of Boston's Black/African American, Hispanic/Latino and multi-racial work force. Key industries generating the most job growth over the last decade are information technology, life sciences, management and technical consulting and architectural and engineering services. All of these industries have 70% to 85% of their jobs in management, business, science, and arts occupations and their continued growth accompanying new development will create substantial demand for workers in these occupations. However, many Boston residents lack experience and skills in these occupations, as indicated by their low share of employment in these occupations in 2020. Less than 35% of Black/African American, Hispanic/Latino and multi-racial workers in 2020 were employed in these occupations. Investments in expanded education and training programs will be needed to address these occupational gaps for Boston residents, particularly its non-white workers, and connect them to the type of new job opportunities created by Boston's growing technology and professional services industries.

Opportunity and Employment Barriers. Many Boston residents, including low-income and non-white workers, face barriers to stable employment in better quality jobs. These barriers, discussed in several recent reports[20] on the city and regional workforce system, include:

- Basic education levels, limited English language abilities and financial literacy.

[20] These reports include: *Advancing Workforce Equity In Boston: A Blueprint For Action*, National Equity Atlas, 2021; Preparing for the Future of Work in the Commonwealth of Massachusetts; *The Future of Boston's Workforce: The path forward from COVID-19 Findings*, 2021; *Catapult Forward: Accelerating A Next-Generation Workforce Ecosystem In Greater Boston, 2019;* and *Preparing for the Future of Work in the Commonwealth of Massachusetts*, n.d.

- Criminal background checks.
- Transportation services, access and cost.
- Availability of affordable child-care.
- "Cultural fit" expectations in the job or application process.
- Computers and technology skills as more training and services are provided on-line.
- Basic professional/job readiness skills (e.g., punctuality, dress codes).
- Growing insecurity with increased risk of eviction, food insecurity, and mental health needs-all heightened with the pandemic.

Several themes on how workforce development programs are working to address these barriers include:

- Creating skill-building and employment programs customized to both employer and worker needs.
- A need for stronger bridge programs or "onramps" from basic skills trainings into more advanced courses.
- A growing need for "wraparound services" to address insecurity, mental health and other needs, delivered in partnership with other service providers.

Future investments to connect unemployed and underemployed Boston residents to new jobs created at new development projects will need to address many of these employment barriers.

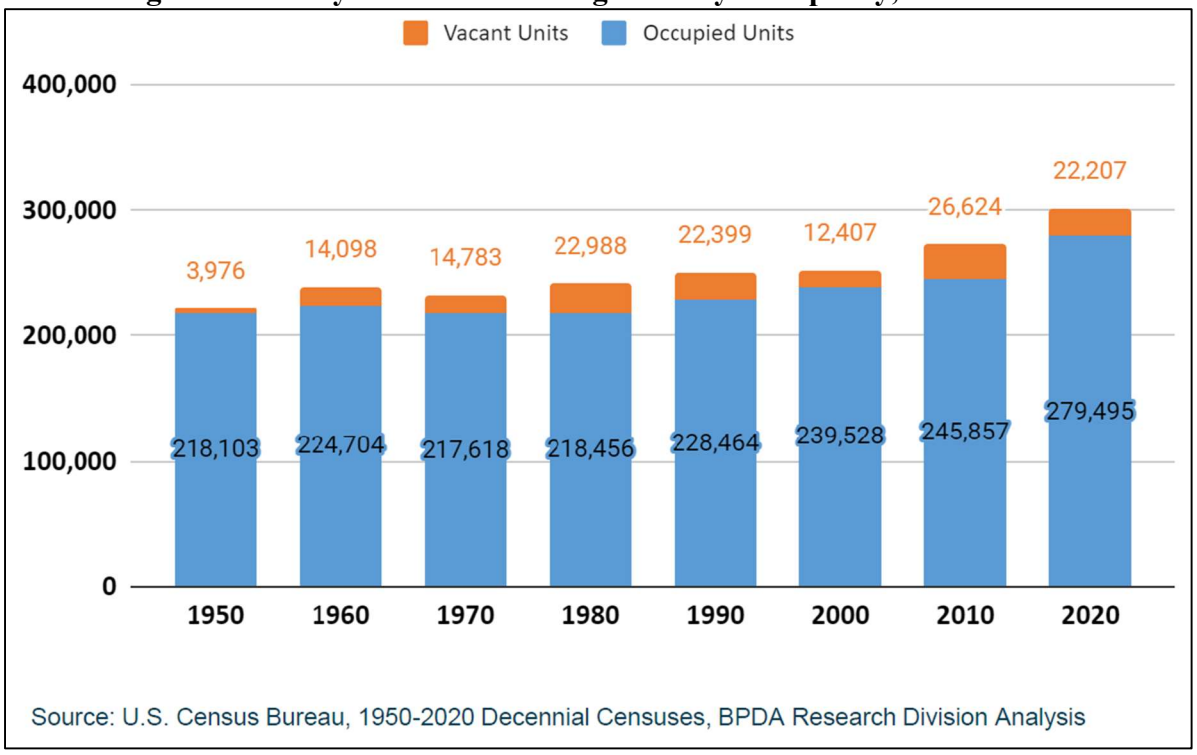
6.0 HOUSING CONDITIONS AND TRENDS

This section summarizes Boston's current housing market conditions and trends, with an emphasis on changes between 2010 and 2020.

Housing Units and Vacancy Rate

Data in **Figure 2-33** show the number of occupied and vacant housing units in Boston. Boston had 302,000 housing units in 2020, an increase of 10.7% from 2010.

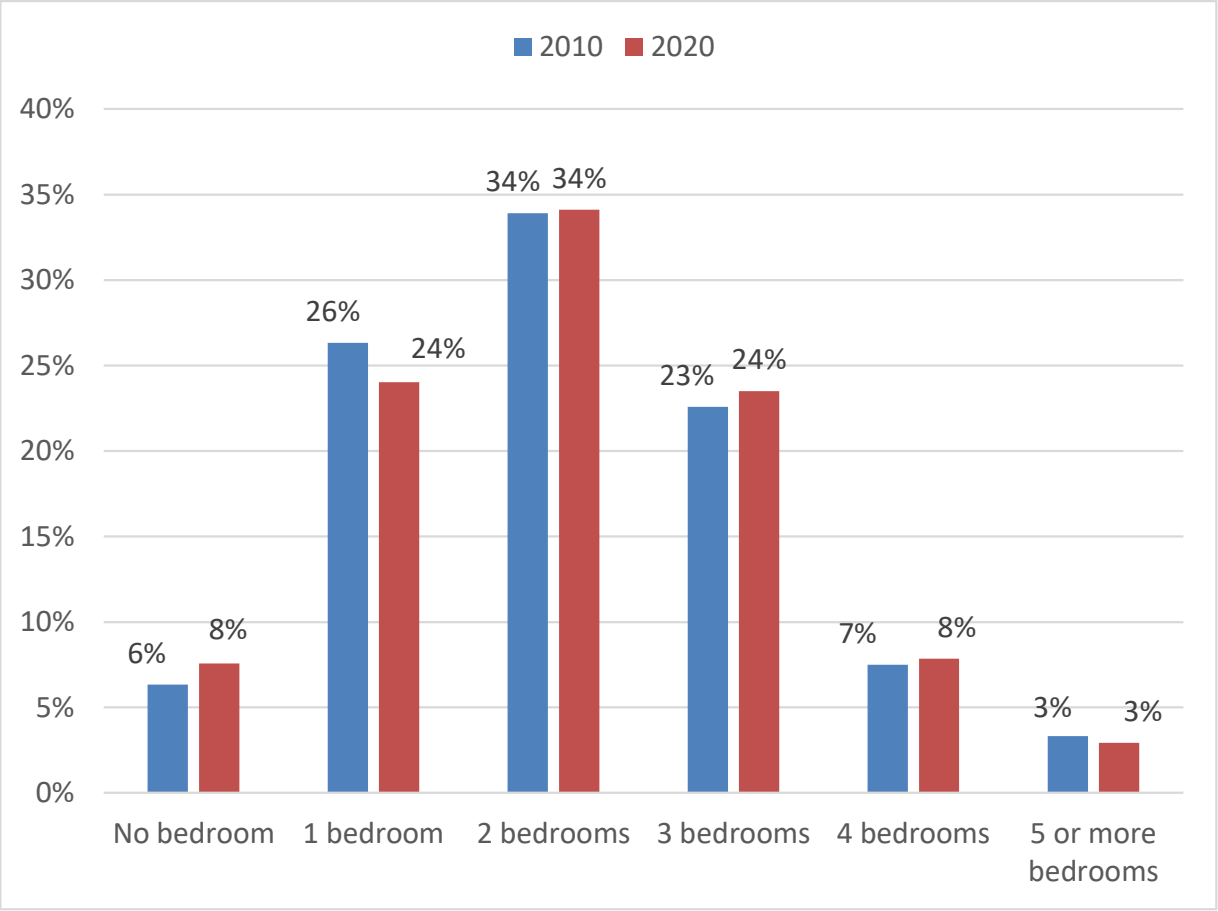
Figure 2-33. City of Boston Housing Units by Occupancy, 1950 to 2020



Unit Size

From 2010 to 2020, the number of bedrooms per housing unit stayed relatively the same, with a slight decrease in the number of 1-bedroom units and a slight increase in the number of studio units, 3-bedroom units, and 4-bedroom units (shown in **Figure 2-34**). The most common size for housing units in Boston was 2-bedroom units in both 2010 and 2020.

Figure 2-34. City of Boston Number of Bedrooms per Housing Unit, 2010 and 2020

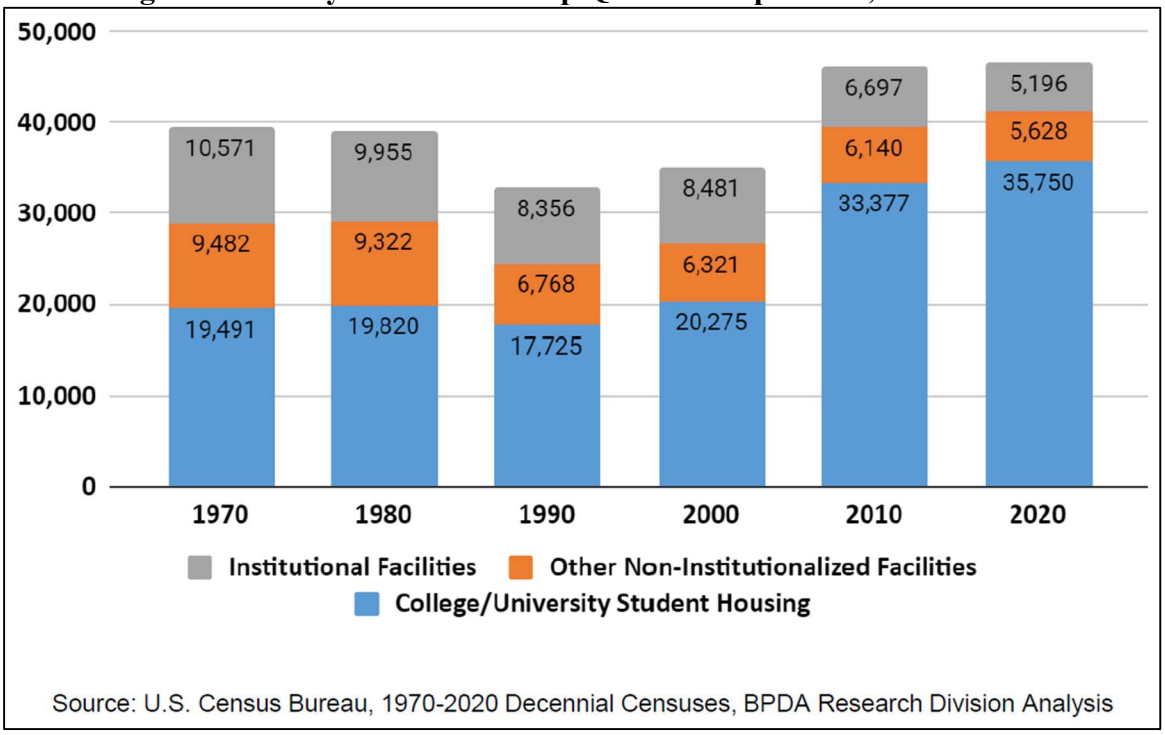


Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

Group Quarters

In 2020, about 36,000 residents lived in college or university student housing in Boston, up about 7% from 2010, shown in **Figure 2-35**. Institutional facilities include correctional facilities, nursing homes, and psychiatric hospitals and non-institutionalized group quarters include college dorms, military barracks, and worker housing.

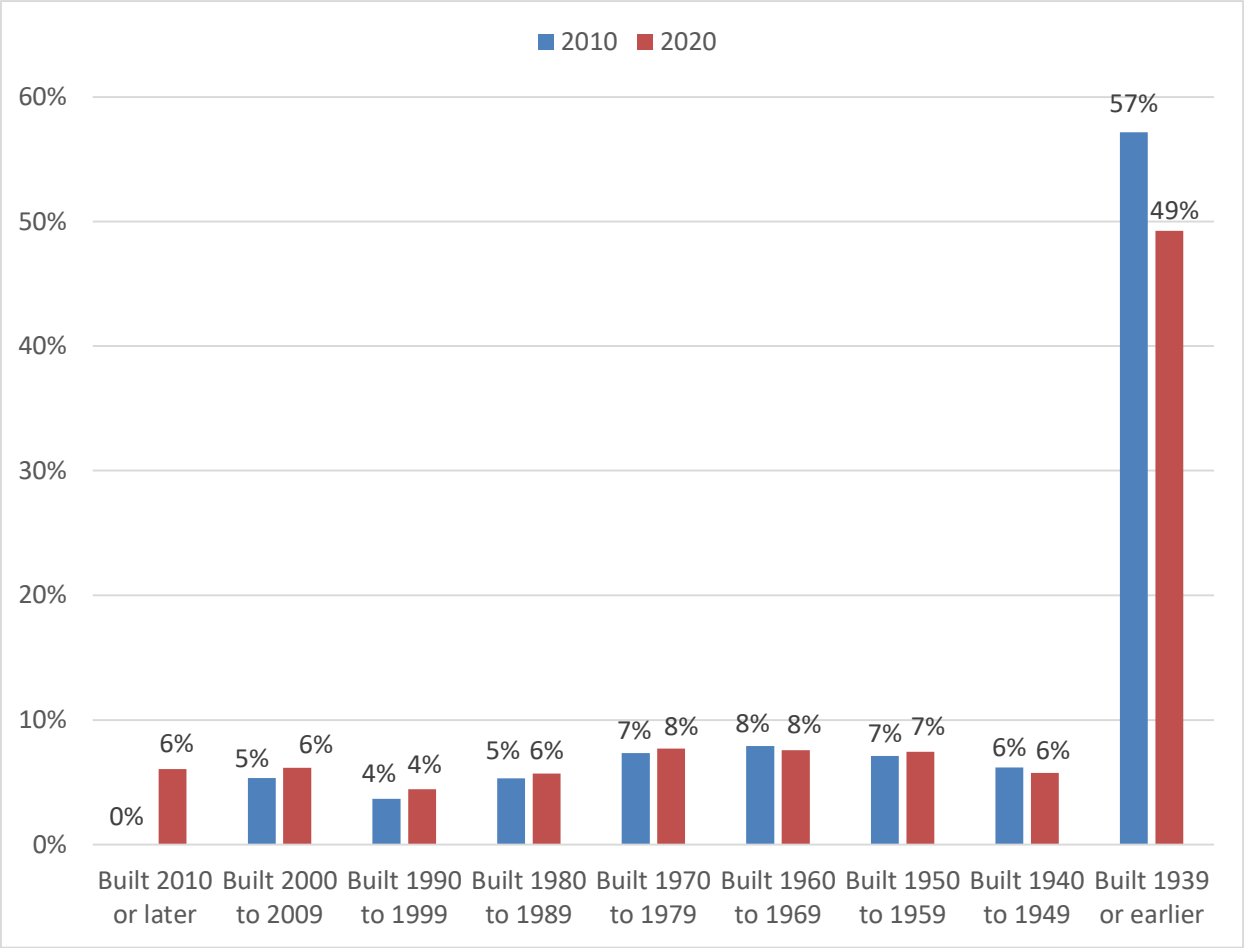
Figure 2-35. City of Boston Group Quarters Population, 1970 to 2020



Age of Housing Units

Figure 2-36 shows the age of housing units in Boston in 2010 and 2020. While nearly 60% of units in 2010 were built in 1939 or earlier, only about 50% of units in 2020 were that old. About 6% of housing units in 2020 had been built in 2010 or later.

Figure 2-36. City of Boston Age of Housing Units, 2010 and 2020

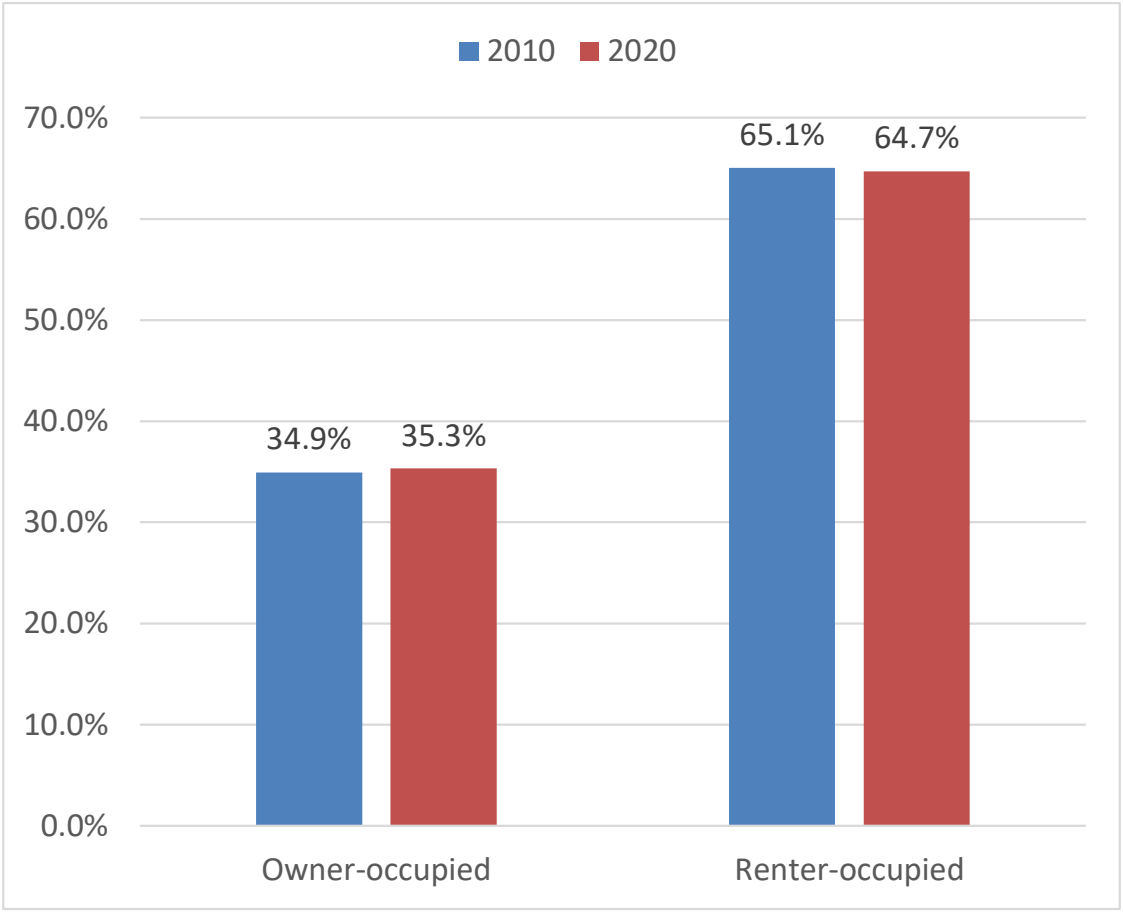


Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

Tenure of Housing Units

The share of housing units occupied by owners and renters in Boston stayed about the same from 2010 to 2020, as shown in **Figure 2-37** About two-thirds of housing units were occupied by renters.

Figure 2-37. City of Boston Owner-Occupied and Renter-Occupied Housing Units, 2010 and 2020



Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

Gross Rents

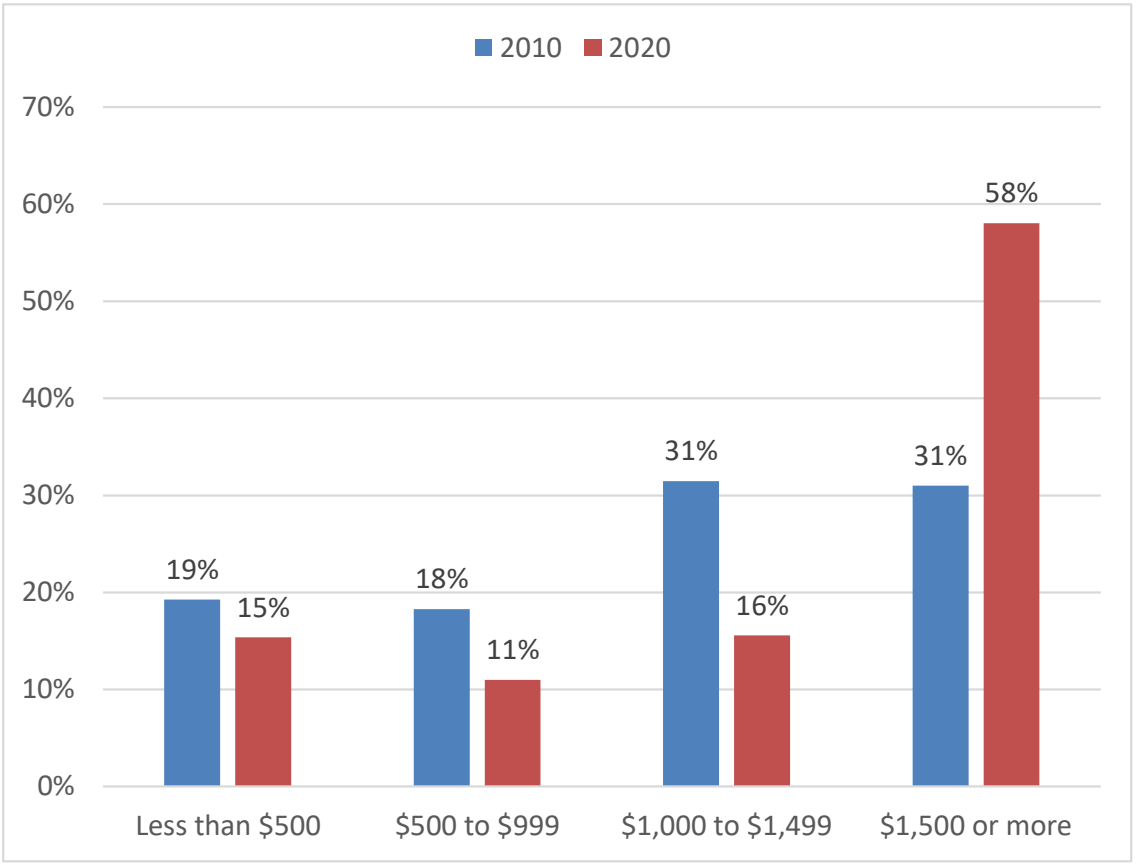
The median rent in 2020 was $1,685, an increase of about 41% and nearly $500 from $1,199 in 2010. Data in **Figure 2-38** shows the gross rents for renter-occupied housing units in Boston in 2020 and **Figure 2-39** shows the gross rents for renter-occupied housing units in 2010 and 2020. The number of housing units with rent costing $1,500 per month or more nearly doubled from 31% in 2010 to about 58% in 2020.

Figure 2-38. City of Boston Gross Rents for Renter-Occupied Housing Units, 2020

Gross Rents	Housing Units	Percent to Total
Less than $500	26,641	15%
$500 to $999	19,076	11%
$1,000 to $1,499	26,991	16%
$1,500 to $1,999	37,616	22%
$2,000 to $2,499	28,661	17%
$2,500 to $2,999	15,679	9%
$3,000 or more	18,615	11%
Occupied units paying rent	**173,279**	**100%**
No rent paid	3,407	
Median (dollars)	**$1,685**	

Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

Figure 2-39. City of Boston Gross Rents by Rent Amount for Renter-Occupied Housing Units, 2010 and 2020

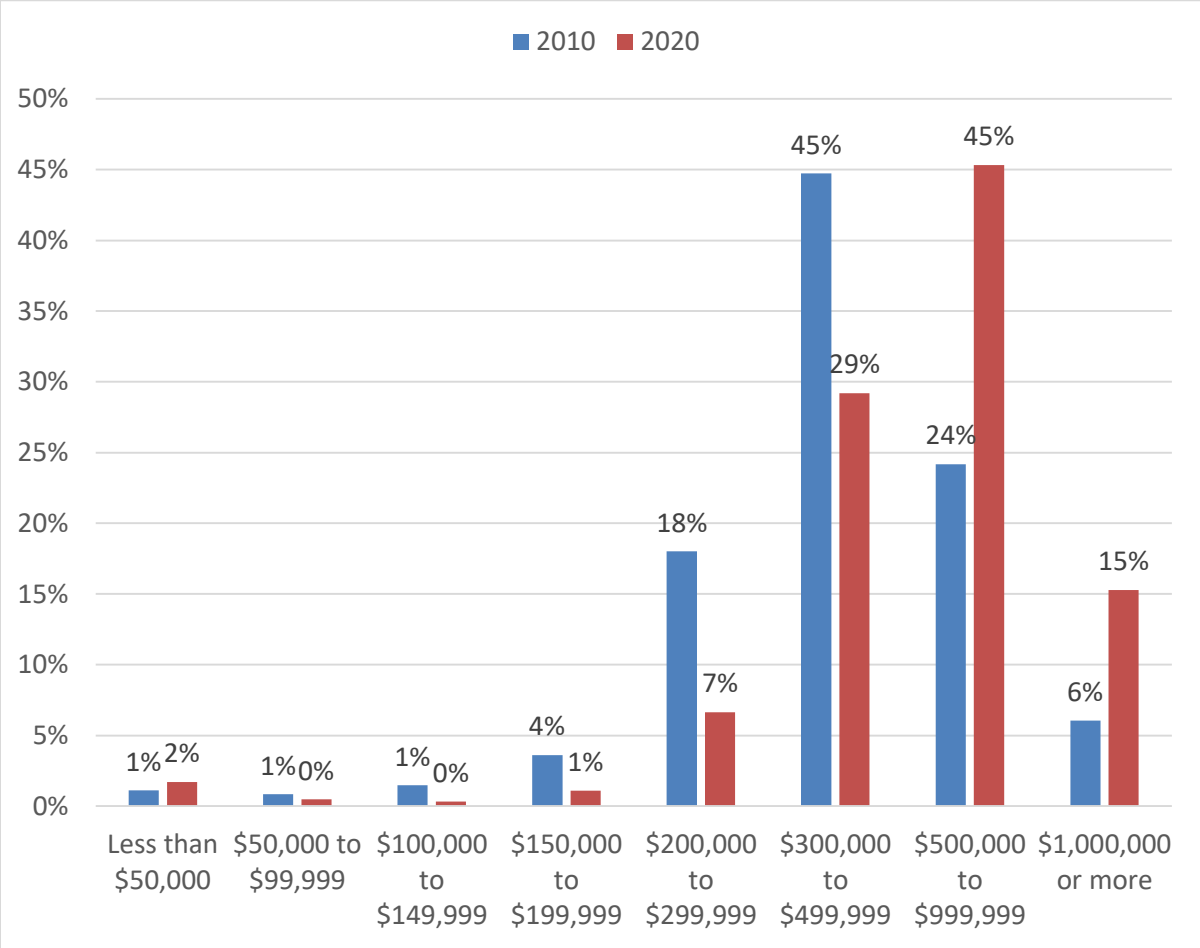


Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

Housing Values

The median home value[21] for owner-occupied units was $581,200 in 2020, an increase of nearly 50% from $395,200 in 2010. **Figure 2-40** shows the home values for owner-occupied housing units in Boston in 2010 and 2020. The largest percentage of housing units in 2010 had a home value between $300,000 and $499,999 (about 45%) and in 2020 the largest percentage had a home value from $500,000 to $999,999 (about 45%). The percentage of housing units worth more than $1,000,000 grew from 6% to 15% during the 10 year period.

Figure 2-41. City of Boston Home Values for Owner-Occupied Housing Units, 2010 and 2020



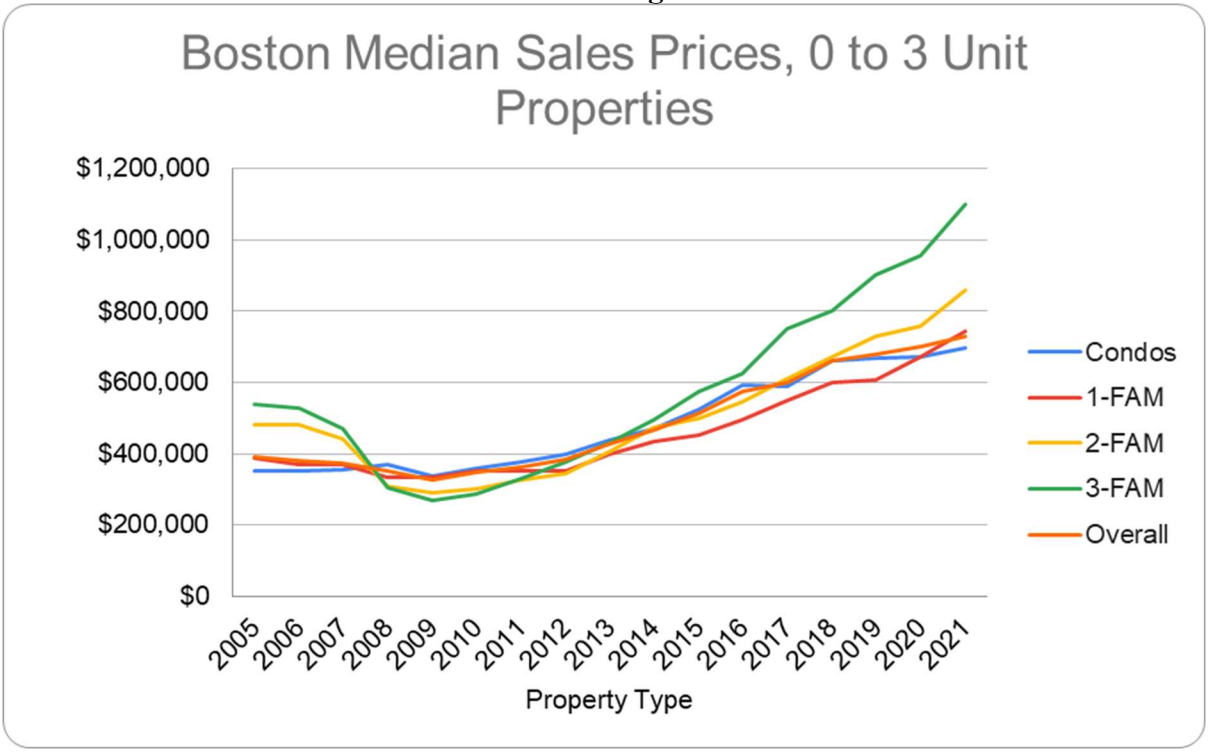
Source: U.S. Census Bureau, 2016 – 2020 and 2006 – 2010 5-Year American Community Survey; and ConsultEcon Inc.

[21] The definition of home value from the U.S. Census Bureau is as follows – Value is the respondent's estimate of how much the property (house and lot) would sell for if it was for sale. Data includes only specified owner-occupied housing units – single family houses on less than 10 acres without a business or medical office on the property.

Housing Sales

In 2020 and 2021, the city averaged 7,700 condo, single family, 2 family and 3 family houses. Data in **Figure 2-42** shows trends in housing prices for these property types. Prices are the highest they've ever been for each type of property. The median sales price increased 4 percent between 2020 to 2021 from $700,000 to $730,000. A household would need more than $150,000 in annual income in order to afford a house at these median sales prices.

Figure 2-42. City of Boston Single Family, Two and Three Family and Condominium Sales, 2005 through 2021



Source: City of Boston.

Trends in Housing Inventory

Boston had 301,702 total housing units in 2020, an increase of 10.7% from 2010. According to the U.S. Census Bureau, 7.4% of Boston housing units were vacant in April 2020. Of the occupied units, 68% were occupied by homeowners and 32% were occupied by renters.

Affordable Housing Stock

As shown in **Figure 2-43,** nearly 1 in 5 housing units in the city 20% of 56,695 are income-restricted, affordable housing in five units. 95% of these units are rental units. As shown in **Figure 2-45,** in the past 10 years, Boston has permitted 8,420 income-restricted units, which is 28% of total housing production during that time. In 2021, 36% of all housing production was income restricted (767 units). The vast majority (85%) of income-restricted units are for low-income households with less than 60% of Area Median Income (AMI) with 27% for extremely low-income households below 30% AMI ((see Figure 6-10).

Figure 2-43. Income-Restricted Units as a Percentage of Total Housing Stock City of Boston

	ALL UNITS	RENTAL	OWNER
Total Housing Units in Boston[1]	296,035	198,189	97,846
Total Income-Restricted Units	56,695	53,898	2,797
% Income-Restricted	19.2%	27%	3%

1/ 2010 Decennial Census (includes all occupied housing units, rented/sold not occupied, and vacant for rent/sale) + permitting data (units completed between 2011-2020).
Source: City of Boston Department of Neighborhood Development.

Figure 2-44. Income-Restricted Units by Income Restriction, City of Boston

INCOME LEVEL (PERCENT OF AMI)	UNITS	PERCENT OF TOTAL
<30%	15,483	27%
31-50%	21,065	37%
51-60%	11,908	21%
61-80%	5,736	10%
81-120%	1,745	3%
>120%	143	0.3%
Unknown	615	1%
TOTAL*	**56,695**	**100%**

*Percentages add up to slightly over 100% due to rounding
Source: City of Boston Department of Neighborhood Development

Housing Permit Trend

Over the last 10 years, 39,000 new housing units were permitted in the city of Boston, 21% of which were income restricted as shown in **Figure 2-45.**

Figure 2-45. Total Permitted and Income-Restricted Units, 2011 to 2021, City of Boston

YEAR	TOTAL PERMITTED UNITS	INCOME-RESTRICTED PERMITS	PERCENT INCOME-RESTRICTED
2011	2,059	462	22%
2012	2,428	368	15%
2013	3,328	728	22%
2014	4,070	658	16%
2015	4,539	964	21%
2016	2,833	535	19%
2017	6,051	1,047	17%
2018	4,201	726	17%
2019	3,161	829	26%
2020	3,252	1,023	31%
2021	3,404	1,080	32%
TOTAL 2011-2021	**39,326**	**8,420**	**21%**

Source: City of Boston Department of Neighborhood Development

Affordable Housing Production

There were over 7,200 new affordable housing units produced in the city between 1989 and 2022, as shown in **Figure 2-46**. Eighty-six percent of these units were rental units and 14% ownership units. Over the same period, 770 units of market rate housing were converted to affordable housing and 5,800 affordable rental units were preserved. About 59% of the new housing produced was targeted to moderate-income households and 34% to low-income households, with the remaining 7% to middle income households.[22] Most housing units produced and in the pipeline, have been 1- and 2-bedroom units, with fewer studios and 3+ bedrooms.

For projects that are under construction or awarded funding, a greater proportion of rental units are targeted to low-income households than was targeted in projects completed from 1989 to April 2022.

Figure 2-46. Selected Characteristics of Completed and Future Affordable Housing Projects, City of Boston, 1989 through April 2022

	Completed, 1989 to 2022	Percent to Total	In construction or DND/ Awarded/ Ready to Issue	Percent to Total
New Affordable Units by Tenure				
Afford New Owner Units	1,007	13.9%	77	3.9%
Afford New Rental Units	6,222	86.1%	1,857	95.0%
Afford New Units	**7,229**	**100.0%**	**1,954**	**100.0%**
New Affordable Units by Income Group				
Below 50% AMI	2,497	34.5%	838	42.9%
50-80% AMI	4,260	58.9%	980	50.2%
80-120% AMI	472	6.5%	136	7.0%
Total	**7,229**	**100.0%**	**1,954**	**100.0%**
New Affordable Units by Unit Size (not available for all projects)				
0BR	774	13.2%	302	16.6%
1BR	1,770	30.1%	548	30.2%
2BR	2,490	42.4%	771	42.5%
3+BR	840	14.3%	195	10.7%
Total	**5,874**	**100.0%**	**1,816**	**100.0%**

Source: City of Boston, Department of Neighborhood Development, and ConsultEcon, Inc.

[22] Low-income group is households earning less than 50% of area median income, moderate-income group is household earning between 50% and 80% of AMI and middle income group is households earning 80% to 120% of AMI.

Multi-Family Property Vacancy Rates
There was a total of 102,000 multi-family inventory units in 2,900 buildings in Boston in 2022, representing about 2.2% growth in units from the prior year[23]. About 3,400 of those units were vacant in 2022, a decrease of nearly 40% from 2021. Vacancy peaked in 2020 during the global pandemic. The vacancy rate in 2022 was 3.4%, compared to 5.4% in 2021.

Multi-Family Property Market Rents per Unit
The weighted average market rent per unit for multi-family properties in Boston in 2022 was about $2,800 per month, a 9% increase from 2021[24]. Rents had been increasing steadily up to 2020, when rent prices dipped slightly during the global pandemic. Rent prices across the city increased about $200 per unit from 2021 to 2022, and are projected to continue rising at a steeper rate than prior to the pandemic.

Housing Cost-Burdened Households
Data in **Figure 2-47** show the extent of housing cost burden, measured as housing costs as a percentage of household income, for Boston owner- and renter-households in 2020. Households with housing costs above 30% of income are considered housing-cost burdened and those with housing costs above 50% of income are considered to have a severe housing cost burden[25]. Among all households, 42% are housing cost-burdened and 24% are severely cost-burdened. There are more renter households in the city and 50% of them are cost burdened while 28% of owner households are cost burdened.

Based on Census data, 19% of owner households without a mortgage, 32% of owner households with a mortgage, and 49% of renter households pay more than 30% of their income on housing costs.

Figure 2-47. Housing Cost Burden for Owner and Renter Households, 2016 to 2020, City of Boston

	Total Households	Paying 30-49% of income on housing	Paying 50%+ of income on housing	Total Cost Burdened	Total Cost Burden as a Percent of Tenure	Total Cost Burden as a Percent of Total Burdened	Total Severely Burdened as a Percent of Tenure
Renter Households	177,652	36,361	52,820	89,181	50%	77%	30%
Homeowners	95,536	13,785	12,974	26,759	28%	23%	14%
Total Households	273,188	50,146	65,794	115,940	42%	100%	24%
Source: 2016-2020 American Community Survey, PUMS Data; MOH analysis							

[23] CoStar Realty Information Inc., City of Boston, and ConsultEcon, Inc.
[24] CoStar Realty Information Inc., City of Boston, and ConsultEcon, Inc.
[25] https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html.

Housing Cost-Burdened Households by Race/Hispanic

Black and Hispanic or Latino households in Boston are more likely than white renters to be severely costs burdened, as shown by data in the **Figure 2-48** for renter households and **Figure 2-49** for renter households.

Figure 2-48. Housing Cost Burden for Renter Households, by Race/Ethnicity, 2016 to 2020, City of Boston

Race/Ethnicity	Total Renters	Paying 30-49% of income on housing	Paying 50%+ of income on housing	Total Cost Burdened	Percent of Race/Ethnicity Paying 30-49% of Income on Housing	Percent of Race/Ethnicity Paying 50%+ of Income on Housing	Percent of Race/Ethnicity who are Cost Burdened	Race/Ethnicity as Percent of All Renter Households	Race/Ethnicity as Percent of All Those Paying 30-49% of Income on Housing	Race/Ethnicity as Percent of All Those Paying 50%+ of Income on Housing	Race/Ethnicity as Percent of All Those Housing Cost Burdened
Other, non-Latinx	1,259	217	525	742	17.2%	41.7%	59%	0.7%	0.6%	1.0%	0.8%
Hispanic/Latinx	39,086	9,246	13,234	22,480	23.7%	33.9%	58%	22.0%	25.4%	25.1%	25.2%
Black, non-Latinx	36,515	8,219	13,257	21,476	22.5%	36.3%	59%	20.6%	22.6%	25.1%	24.1%
Asian/Pacific Islander, non-Latinx	18,153	3,881	6,701	10,582	21.4%	36.9%	58%	10.2%	10.7%	12.7%	11.9%
Two or More Race, non-Latinx	4,074	644	1,463	2,107	15.8%	35.9%	52%	2.3%	1.8%	2.8%	2.4%
White, non-Latinx	78,206	14,084	17,459	31,543	18.0%	22.3%	40%	44.0%	38.7%	33.1%	35.4%
Native American, non-Latinx	359	70	181	251	19.5%	50.4%	70%	0.2%	0.2%	0.3%	0.3%
All BIPOC Categories	99,446	22,277	35,361	57,638	22.4%	35.6%	58%				
Total	177,652	36,361	52,820	89,181	20.5%	29.7%	50%	100.0%	100.0%	100.0%	100.0%

Source: 2016-2020 American Community Survey, PUMS Data; MOH analysis

Figure 2-49. Housing Cost Burden for Homeowners, by Race/Ethnicity, 2016 to 2020, City of Boston

Race/Ethnicity	Total Owners	Paying 30-49% of income on housing	Paying 50%+ of income on housing	Total Cost Burdened	Percent of Race/Ethnicity Paying 30-49% of Income on Housing	Percent of Race/Ethnicity Paying 50%+ of Income on Housing	Percent of Race/Ethnicity who are Cost Burdened	Race/Ethnicity as Percent of All Homeowner Households	Race/Ethnicity as Percent of All Those Paying 30-49% of Income on Housing	Race/Ethnicity as Percent of All Those Paying 50%+ of Income on Housing	Race/Ethnicity as Percent of All Those Housing Cost Burdened
Other, non-Latinx	599	149	184	333	25%	31%	56%	1%	1%	1%	1%
Hispanic/Latinx	7,588	1,656	1,398	3,054	22%	18%	40%	8%	12%	11%	11%
Black, non-Latinx	17,855	3,247	3,926	7,173	18%	22%	40%	19%	24%	30%	27%
Asian/Pacific Islander, non-Latinx	7,566	963	1,053	2,016	13%	14%	27%	8%	7%	8%	8%
Two or More Race, non-Latinx	2,024	434	150	584	21%	7%	29%	2%	3%	1%	2%
White, non-Latinx	59,769	7,336	6,263	13,599	12%	10%	23%	63%	53%	48%	51%
Native American, non-Latinx	135	0	0	0	0%	0%	0%	0%	0%	0%	0%
Total	95,536	13,785	12,974	26,759	14%	14%	28%	100%	100%	100%	100%

Source: 2016-2020 American Community Survey, PUMS Data; MOH analysis

Summary

Due to the high cost of both rental and ownership housing, a large share of households are spending more than 30 percent of their income on housing costs. This cost burden can be alleviated by providing more housing that is affordable to low-, moderate- and middle-income households. The employment in the region is driven by in new non-residential development. This employment opportunity attracts people from inside and outside of the region, some of whom will look for and perhaps purchase or rent housing in Boston because of the convenience that job proximity offers. Some of those jobs are for low-, moderate- and middle-income households, which will create new

demand from households in these groups. This is problematic because there is already a shortage of affordable housing for these groups and this demand exacerbates the shortage. Therefore, policies like the linkage policy can mitigate the impact of this new affordable housing demand.

7.0 Local and National Trends

Several trends have the potential to influence Boston's economic development and housing market conditions over the next decade. This section highlights key trends and discusses their potential impact.

Increase in remote and hybrid work arrangements. The pandemic resulted in the widespread use of remote work along with hybrid arrangements in which workers split their time between the employer's office and remote work. The extent to which these alternative work arrangements will become permanent is uncertain but it is expected that both remote and hybrid work will grow, in part due to the employee's desire for these arrangements and the need of employers to accommodate these preferences to attract and retain workers. Significant growth in remote and hybrid work may impact Boston in several ways:

- Reducing the amount of space that employers need to occupy, lowering the demand for office space, reducing its net absorption and the amount of future development that occurs[26].
- Lowering daily occupancy of space by employees with a resulting decrease in retail, food, and service spending among office workers. This reduced spending may reduce occupancy and employment among restaurants, bars, stores and service businesses that are highly dependent on worker spending.
- Lowering demand for housing in Boston due to a remote work option among Boston employers, which may reduce these workers' desire to live in Boston and seek housing in the city, especially given the availability of lower-cost housing options in the Boston region and even outside the region. Reduced housing demand could slow the growth in housing costs if housing supply continues to grow. It might also slow the development of new housing, especially if developers believe that remote work will reduce demand and the rents and sales prices that they will obtain.
- Increasing the importance of access to computers, high-speed internet access and computer literacy for accessing jobs and education and training services, many of which shifted to on-line delivery during the pandemic.[27] This disproportionately impacts low-income workers and neighborhoods which lack resources to acquire computers and afford high speed internet services.

[26] McKinsey & Company, Preparing for the Future of Work in the Commonwealth of Massachusetts.
[27] Will Dorsey Eden, Joseph Fuller, and Rachel Lipson, The Future of Boston's Workforce: The path forward from COVID-19, The Project on Workforce at Harvard and The Boston Foundation, 2021.

Inflation, Federal Reserve Policy and Interest Rates. The current high rate of inflation and the Federal Reserve Bank's response in raising interest rates will affect the national and local economy with multiple potential impacts:

- Higher interest rates will slow economic growth as the cost of investment and large consumer purchases grows, and will increase the risk of an economic recession. Slower economic and employment growth will reduce demand for new office and other non-residential space and likely increase real estate vacancies. These weakened market conditions may cause developers to delay or abandon some development projects.
- Higher interest rates also will increase the cost of capital, which may make some planned projects infeasible for investment and delay and/or lower non-residential and residential development activity.
- Higher interest rates will increase the cost of buying and owning housing, making home ownership less affordable for more Boston residents.

Stock market decline and the bear market for tech stocks. Boston's innovation and technology economy depends on a steady flow of venture capital and initial public stock offerings that finance the start-up and growth of new and early stage ventures, particularly in the Life Science and Information Technology-related industries. The bear market in tech stocks will reduce the supply of venture capital, shift investment away from tech sectors with poor stock market returns and make it more difficult for growing firms to raise capital on the stock market.[28] This reduced supply of capital will reduce demand for lab and office space in Boston, as fewer start-ups will get launched and existing firms shrink or slow expansion to conserve their capital until the financing environment improves. There is already evidence that tech companies are freezing or slowing employment growth in part due to preserve capital.[29]

Growing Racial Income and Wealth Inequality. The long-standing and growing racial disparities in income and wealth is both a national and local trend that impacts Boston's economy and housing market in many ways. Several examples are:

- Slower economic growth: a recent report estimated that racial gaps in wages and employment within the Boston regional economy resulted in almost $45 billion in lost economic activity in 2018 and that equal wages for Black and Latino worker would have added 10% to the region's GDP[30].
- Increasing income inequality and the high cost of housing in Boston may push more low- and moderate-income residents and people of color to move out of Boston, adding an additional barrier to accessing jobs in the city[31].

[28] Pitchbook, Analysts Advise on Key Trends to Watch as Markets Return to Turmoil, May 17, 2022.
[29] Aaron Pressman, "This one is different': Tech companies brace for impact amid market plunge," *Boston Globe, May 26, 2022.*
[30] Abbie Langston, Justin Scoggins, Matthew Walsh. *Advancing Workforce Equity In Boston: A Blueprint For Action, National Equity Atlas*, 2021.
[31] Tracie Neuhaus, Kaitlin Terry Canver, & Heena Khoja. Catapult Forward: Accelerating A Next-Generation Workforce Ecosystem In Greater Boston, Boston Foundation, 2019.

- Reduced access to home ownership for Black, Latino and other people of color due to the lack of savings needed for home purchase down-payments and insufficient incomes to obtain a home purchase mortgage.
- Higher barriers to stable employment and good quality jobs for Black, Latino and minority workers due to greater economic insecurity and a lack of financial resources needed for higher education, transportation, child care, technology and other "social determinants" of employment[32].

Tight Labor Market Conditions and Automation. The decline in labor force participation post - pandemic, combined with low unemployment rates and recent strong economic growth has created a tight labor market in which it is difficult to find and hire workers, with several potential impacts:

- Economic and employment growth may slow if firms and institutions are unable to attract the number and type of workers needed to respond to market demand and undertake growth plans.
- Employers are likely to speed adoption of automation to save costs and address the challenges of recruiting workers in a very tight labor market. This trend may reduce the level of employment growth that results from new development in some industries and disproportionately impact Black, Latino, and Native American workers who are overrepresented in the transportation and accommodation and food services sectors, which are facing a higher risk of automation[33].
- Increased employer interest in working with the workforce development system to train, hire workers and alter hiring practices and bias that have historically created barriers to employment and better quality jobs for immigrants, non-white workers and those without a college education.

Conclusion

Boston has a strong and diversified economy that will continue to grow in the next decade, generating significant new non-residential development and employment growth. This development and job growth will generate the need for affordable housing to accommodate new workers. It will also create opportunities to expand stable employment and earnings for Boston residents, particularly unemployed and low-income workers, and to reduce current racial disparities in income and employment in higher paying occupations.

The following sections of the report provide more detailed analysis to estimate the projected impacts on future non-residential development on affordable housing and employment opportunities, the costs to mitigate these impacts and the linkage fees rates needed to fund these costs.

[32] Tracie Neuhaus, Kaitlin Terry Canver, & Heena Khoja. *Catapult Forward: Accelerating A Next-Generation Workforce Ecosystem In Greater Boston*, Boston Foundation, 2019.

[33] Abbie Langston, Justin Scoggins, Matthew Walsh. Advancing Workforce Equity In Boston: A Blueprint For Action, National Equity Atlas, 2021.

III. Boston Development Trends and Future Development

Boston's diverse and growing economy generated significant new development over the past decade. As noted in the prior section, it faces new challenges with the pandemic's impact on office occupancy, a growing risk of recession and financial market conditions. This section reviews recent development trends and market conditions that inform the scale of Development Impact Projects (DIP) subject to linkage fees and the industries that will occupy new DIP development over the next decade. It concludes with a ten-year forecast of future development and employment by use and industry that will be used to estimate impacts on demand for affordable housing and employment and training services for Boston residents.

Table 3-1. Gross Floor Area of DIP Projects by Use and Development Status, Completed January 2012 to April 2022 and Permitted as April 2022

Development Category	Construction Complete	Permitted / Under Construction	Board Approved	Grand Total
DIP Uses by Type	**Square Feet**			
Office	7,777,283	1,794,492	12,332,612	21,904,387
RnD	233,500	413,951	5,872,505	6,519,956
Institutional	1,515,982	1,390,000	3,586,418	6,492,400
Hotel	2,227,827	1,493,510	1,198,107	4,919,444
Retail	1,034,883	234,410	1,160,425	2,429,718
Total DIP Uses	**12,789,475**	**5,326,363**	**24,150,067**	**42,265,905**
DIP Uses by Type	**Percent of Total**			
Office	61%	34%	51%	52%
RnD	2%	8%	24%	15%
Institutional	12%	26%	15%	15%
Hotel	17%	28%	5%	12%
Retail	8%	4%	5%	6%
Total DIP Uses	**100%**	**100%**	**100%**	**100%**

Source: City of Boston, Karl F. Seidman Consulting Services, and ConsultEcon, Inc.

Over the past ten years, from 2012 to the first quarter of 2022, 12.8 million square feet (SF) of DIP projects were completed in Boston (see **Table 3-1**). Office and lab/research and development uses (R&D) accounted for 63% of the developed space with hotels generating 17% and institutional uses representing 12%. Boston's development pipeline in April 2022 was much larger with 5.3 million SF of DIP projects under construction and almost 24.2 million SF approved by the Boston Planning and Development Agency (BPDA) but not under construction. A larger share of DIP projects under construction are for hotel and institutional use, 26% and 28%, respectively, than for completed projects while the share for office/R&D use (42%) is lower. However, office/R&D uses dominate board approved projects at 75%, which reflects the plans by many developers to build new space for the region's growing life sciences sector. Hotel projects, on the

other hand, account for only 4% of board approved projects. Retail space is a relatively small share of SF, ranging from 8% in completed projects to 4% for those under construction.

Market Demand and Absorption

Although Boston's large DIP project pipeline suggests the potential for almost 30 million SF of new development in the next decade, actual development and its occupancy will depend on the absorption of newly developed space by new and expanding employers and the city's success in attracting business growth within the region. This section reviews historic trends in Boston's supply, vacancy and absorption of office and Lab space, and discusses recent development trends and the city's competitive position in the region, particularly in the fast-growing life science lab market.

Strong pre-pandemic growth in office space supply and healthy absorption have slowed while lab space development and absorption have increased. From 2012 through 2021, Boston added almost 6 million SF of office space and 2.5 million SF of lab space—averaging 571,114 SF and 252,282 SF annually, respectively (see **Table 3-2)**. Average annual absorption of space mirrored the supply increase during this period, at 590,190 for offices and 266,121 SF for labs. Moreover, in the decade before the pandemic , net absorption office space was even greater, averaging 943,600 SF per year-over five times absorption of lab space. However, this pattern has reversed in the last five years, as the pandemic reduced demand for office space and generated significant new vacancies. From 2017-2021, office space absorption was negative –reducing occupancy by 594,000 SF (an average of -118,839 SF per year) while net absorption of lab space averaged over 368,000 annually.

Table 3- 2. Boston Office and Lab Space Growth and Absorption, 2012 to 2021

Metric	Office	Lab
Increase in Supply , 2012 - 2021	5,952,845	2,514,827
Average Annual Supply Increase, 2012-2021	571,114	252,283
Average Annual Net Absorption , 2012-2021	590,190	266,121
Increase in Supply , 2017 - 2021	898,777	1,544,489
Average Annual Supply Increase, 2017-2021	233,269	308,898
Average Annual Net Absorption , 2017-2021	(118,839)	368,329
Average Annual Supply Increase, 2010-2019*	699,121	184,826
Average Annual Net Absorption , 2010-2019*	943,600	171,888

Source: Colliers International and Karl F. Seidman Consulting Services *Pre-pandemic period

Demand for lab space throughout the Boston region has been very strong over the past several years, fueling rapid growth in the life science sector and medical research and development. **Table 3-3** summarizes the absorption of lab space from 2019 through the first quarter of 2022 in the Boston region. Annual net absorption more than tripled from almost 611,000 SF in 2019 to over 2 million SF in 2021, and averaged almost 1.3 million SF for the three years. The majority (57%) of absorbed space occurred in the suburbs, with Boston accounting for 24% of total net absorption. Boston's share increased over the period from 29% in 2019 to 38% for the first quarter of 2022.

Table 3- 3. Net Absorption of Lab Space, Boston Region and Sub-markets, 2019 to Q1, 2022

Year	Total	Boston	Cambridge	Suburbs	Boston %
2019	610,972	178,433	222,184	210,355	29%
2020	1,242,691	98,762	384,183	759,746	8%
2021	2,037,676	609,966	316,011	1,111,699	30%
2022 , Q1	459,500	176,000	-103,728	387,228	38%
Total	4,350,839	1,063,161	818,650	2,469,028	24%
Average, 3 years	1,297,113	295,720	307,459	693,933	23%

Source: Colliers International and Karl F. Seidman Consulting Services

Strong market demand for lab space and the associated increase in rents[34] has resulted in developers in Boston and throughout the region planning new lab development projects, including converting existing office buildings to lab use and converting projects originally planned for office development into planned lab buildings. Consequently, there is an extremely large pipeline of planned lab space in Boston, Cambridge and throughout the region that could lead to an oversupply of lab space in the next three to four years. According to a recent report by real estate brokerage firm Newmark[35], there is a potential pipeline of over 49 million SF of new lab development in the Boston region, with 14.5 million SF under construction and another 34.6 million in proposed projects. This pipeline is approaching twice the size of the region's 26.8 million SF of existing lab space. While Kendall Square and East Cambridge historically have been the center and most desirable location of life science firms, the Seaport District has emerged as a key alternative and lower cost location. In addition to the Seaport, lab projects are under construction and/or being planned for several other Boston neighborhoods, including Allston, Dorchester, Fenway, Longwood, Roxbury, and Suffolk Downs. Lab development in Boston, however, will face new competition, beyond Cambridge, in the next decade from expanding inner suburban lab districts, including Watertown, with an existing supply of 1.1 million SF and another 2 million SF under construction, and Somerville, which has almost 1.8 million SF under construction in Assembly Square and Union Square/Boynton Yards.

The large regional pipeline of lab projects creates the potential for an oversupply of lab space with growing amounts of vacant space and lower rents. If such an oversupply materializes, some Boston lab projects with board approval and in planning stages may not get built or may get delayed for many years. Thus, actual lab development in Boston over the next decade is likely to be less than the large scale of planned projects.

Interviews with developers and real estate professionals indicated considerable optimism about the outlook for Boston's economic growth and development. The combination of a diversified economy, strong growth among life science firms and Boston's advantages with a robust transportation network, strong workforce and urban amenities is expected to continue to generate demand for new lab and office development. Although overall office space demand and absorption

[34] Asking rents were $111.98/SF in East Cambridge and $110.10 in Boston during the first quarter of 2022, according to the Lincoln Property Company's *Lab Market Report*

[35] Newmark, *2021 Year End Life Science Overview and Market Clusters*

has declined, brokers and developers report strong demand for new high quality space, which companies view as a magnet for attracting talent and bringing workers back to the office. A combination of existing Boston tenants and firms moving to Boston from the suburbs (including consolidating multiple locations into a new Boston office) is driving demand for new office space. Nonetheless, future office demand is expected to fall below pre-pandemic levels and vacancies in existing older Class A and Class B buildings are likely to increase. Opinions on the outlook for life science lab development were mixed: some developers reported a slowdown in lab demand during 2022 while others see the market remaining strong, in part due to continued growth and acquisitions among large pharmaceutical companies.

Future Development and Employment Projection

Based on its market position, pipeline of projects under construction, and absorption and new development in recent years, **Boston is projected to absorb and spur new development of 14.861 million SF in office, laboratory, institutional (hospital and college/university) and ground retail/restaurants/service space over the next ten years.** The components of this projection by use (see **Table 3-4**) and key assumption used for the projections are:

- **Office:** 5.67 million SF of new development based on annual absorption at 90% of the pre-Covid level with a 2-year reduction in absorption from an economic slowdown or recession. Net new Boston occupancy is expected to be 3.827 million SF due to an expected 10% vacancy rate and 75% of the occupancy from new or growing Boston tenants and the other 25% of occupied space from relocations of existing firms and jobs within Boston.
- **Lab/Life Science:** 3.51 million SF of new development based on Boston attracting 30% of average annual regional absorption from 2019 to 2021 and a 2-year slowdown. Net new occupancy of 3.37 million SF due to a 4% vacancy and 100% new Boston tenants.
- **Hotel:** 1.78 million SF assuming that new development occurs at 80% of the level for the past ten years due to current low level of hotel occupancy.
- **Retail/restaurants/ground floor services:** 918,000 SF of new development based on 10% of office and lab SF and net occupancy of 826,000 SF, assuming a 10% vacancy rate.
- **Institutional:** 2.983 million SF of new development, including 2.013 million by hospitals and 970,000 by colleges and universities, generated by projects that are currently approved and/or included in institutional master plans and deemed likely to be built based on input from BPDA and institution staff .

Table 3-4. Summary of Projected Boston Development and Occupancy by Use, 2022 to 2031

Use	Gross Developed SF	Newly Occupied SF
Lab	3,510,000	3,370,000
Office	5,670,000	3,826,000
Retail/Ground Floor	918,000	826,000
Hotel	1,780,000	1,780,000
Hospital	2,013,000	2,013,000
College/University	970,000	970,000
Total	14,861,000	12,785,000

Source: Karl F. Seidman Consulting Services

Expected Tenant Businesses

To determine the likely jobs and earnings from this new development, the industries likely to occupy the new large developments need to be projected. Since linkage fees are tied to **new development,** this type of new business and employment growth will differ from Boston's overall or net job growth, which reflects growth in existing businesses, loss of jobs from firms' contractions and relocations, and new businesses locating in smaller projects, under 100,000 SF.

As discussed in the macroeconomic analysis, Boston has a diverse economy with a large share of jobs in education and health care, professional and business services and financial services (see Figure 2-1 and Table 2-1 in Section II). Recent employment growth is a better indicator of the likely industry composition of new development than the overall employment base since growing industries are the likely source of new tenants. Table 2-2 listed 15 industries that added the most jobs between 2010 and the first half of 2021; together they added 94,365 jobs—above Boston's overall net job growth of 71,208 during this period. Health care and information technology were key drivers of growth over this period, accounting for eight of the 15 high growth industries and 65% of their new jobs. Four IT industries (Computer Systems Design, Electronic Shopping, Software, and Data Processing) combined to add 34,258 jobs and represented three of five industries with the highest absolute job growth. Three professional service industries (Management & Technical Consulting, Architecture & Engineering, and Accounting & Bookkeeping) were also important sources of growth, together adding 13,308 jobs. These high growth IT and professional service industries are projected to occupy new office development, along with one growing financial services industry. Scientific Research and Development Services—the largest component of Life Science industries—grew by 80% and added 6,103 jobs from 2010 to 2021 and is expected to occupy the new project lab development space.

The projections for businesses in new ground floor retail space reflect the mix of businesses in Boston's growing development districts, with 50% restaurants and the other 50% a mix of stores and services, including grocery stores, pharmacies, clothing and home furnishing stores, bank branches, day care and medical offices.

Table 3-5 summarizes the overall projected development by tenant industry and employment over the next ten years. These projections will be used to estimate occupations and wage levels for new employees working in the expected new buildings. Employment projections assume the amount of space occupied per new employee will be: 300 SF for office users; 450 SF for private and hospital life science occupants; 500 to 675 SF for retail, bank and day care tenants; 275 SF for medical offices; 120 SF for restaurants; 2,000 SF for hotels; 740 SF for colleges/universities; and 385 SF for hospital clinical space [36].

Table 3-5. Projected New Boston Development by Use and Tenant Type, 2022 to 2031

Industry	Square Feet	SF/Employee	Number of Employees
Scientific Research & Development /Life Science	3,370,000	450	7,489
Computer Systems Design	1,148,000	300	3,827
Electronic Shopping & Mail-Order Houses	574,000	300	1,913
Software	574,000	300	1,913
Management and Technical Consulting	383,000	300	1,277
Architectural and Engineering Services	287,000	300	957
Other Financial Investment Activities	287,000	300	957
Accounting and Bookkeeping Services	191,000	300	637
Data Processing, Hosting & Related Services	191,000	300	637
Management of Companies and Enterprises	191,000	300	637
Restaurant	413,000	120	3,442
Clothing Stores	41,000	675	61
Home furnishing stores	41,000	675	61
Grocery stores	83,000	500	166
Pharmacies	83,000	675	123
Daycare	41,000	500	82
Bank branches	41,000	500	82
Medical offices-Ambulatory HC services	83,000	275	302
Hotels	1,780,000	2,000	890
Colleges and Universities- Academic	970,000	740	1,311
Hospitals-Research	530,000	450	1,178
Hospitals- Clinical	1,483,000	385	3,852
Total	12,785,000		31,794

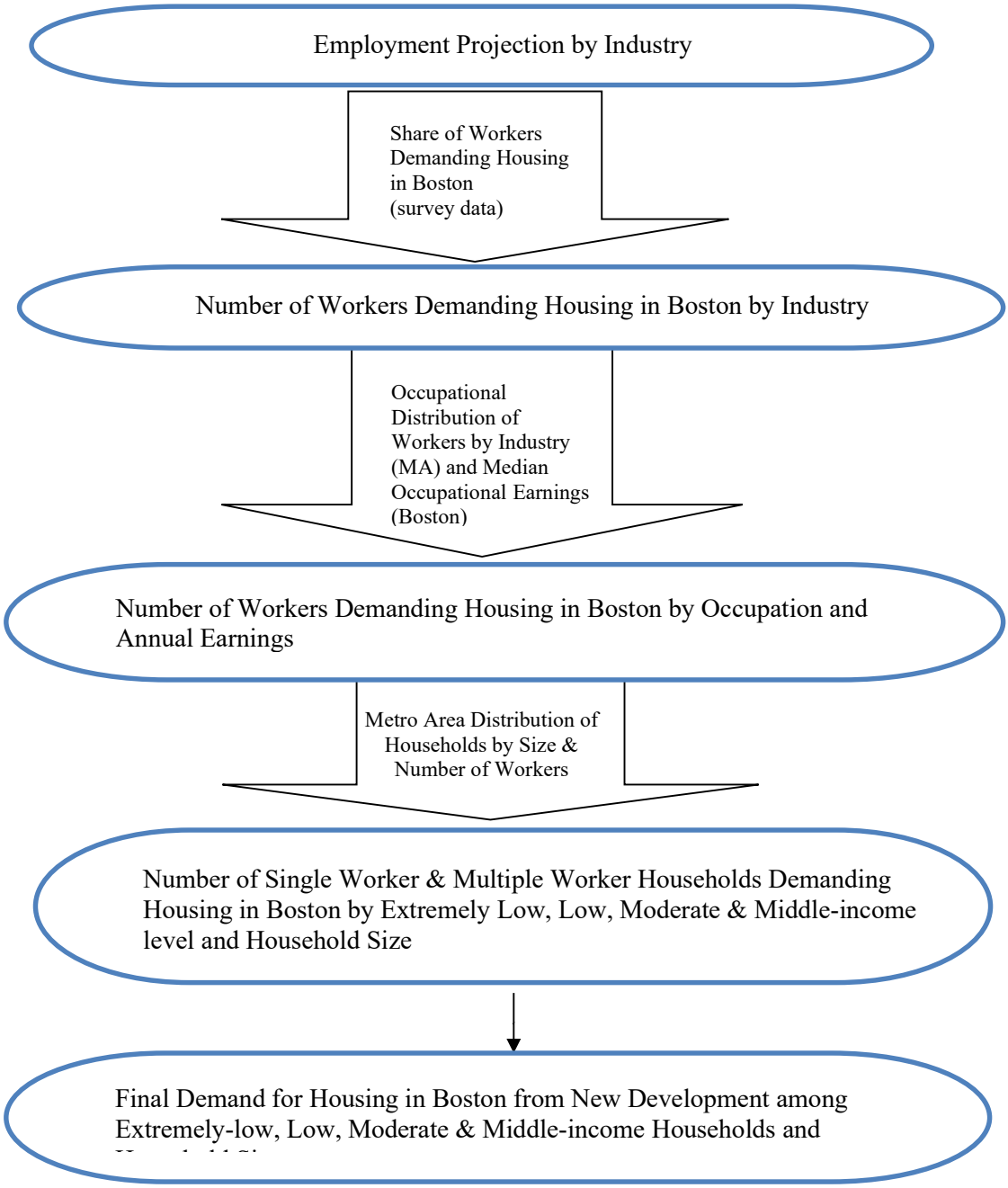
Source: Karl F. Seidman Consulting Services

[36] These figures reflect existing ratios among employers obtained from transportation planning surveys.

IV. Impact of Large Scale Development on Affordable Housing Demand

Using the 10-year development scenario and employment projections summarized in Table 3-6, this section forecasts the demand for affordable housing in Boston that will result from this development. Since this analysis utilizes several data sources and assumptions to prepare the forecast, a full explanation of the methodology used is provided along with the results. **Figure 4-1** provides an overview of the analytical steps and data sources for the housing demand projections.

Figure 4-1. Methodology and Data Sources for Housing Demand Analysis



Since demand for affordable housing is tied to household income, the first step projects the distribution of new jobs by earnings. Using May 2021 data for the occupational distribution by industry in Massachusetts[37], the number of new jobs in 22 occupational categories was calculated for each of the 20 industries expected to occupy new development. Earnings were then estimated for these occupations based on the median annual earnings for the respective occupations in May 2021 for the Boston Workforce Development Area[38], and adjusted for inflation by the Boston region Consumer Price Index to estimate earnings as of May 2022. These calculations yielded the projected number of jobs at different annual earning levels by occupation and industry.

Since new employees will live in a variety of communities, it is necessary to determine the share that will demand housing in Boston. To estimate the percent of new employees who will demand housing within the city, the results from a survey of employees in office, laboratory, institutional, hotel and retail buildings conducted in May and June 2022 were used. This survey measured demand by asking employees whether, as a result of obtaining a job in Boston, they either moved to the city or sought housing in Boston but did not move to the city due to housing costs. Based on the survey results, the percentage of new employees who are expected to demand housing in Boston is 22.2%. This percentage was multiplied by the gross number of new jobs in each industry to estimate the number of new workers who will demand housing in Boston, which equals 7,058. The occupational distribution for each industry was then applied to the number of workers in that industry who were expected to seek housing in Boston to estimate their earnings distribution.

The next step to project demand for affordable housing units among the 7,058 employees who are expected to seek housing in Boston required estimating the distribution of households for these workers by both the number of wage-earners and size. Since the employees in Boston's new developments will be drawn primarily from the greater Boston area, data for the distribution of households by number of earners and household size in the Boston metropolitan area were used to estimate the type of households for these employees[39]. Workers in each occupation expected to demand housing in Boston were first divided into one-, two-, three- and four-or-more-person households based on the metro area distribution[40]. Then each household size group was divided into one, two and three worker households, using the American Community Survey metro area percentages (see **Table 4-1**).

[37] Bureau of Labor Statistics (BLS) Occupational and Wage Statistics by State and Industry, May 2021 Estimates, https://www.bls.gov/oes/2021/may/oes_research_estimates.htm

[38] BLS Occupational Employment and Wage Statistics, https://lmi.dua.eol.mass.gov/LMI/OccupationalEmploymentandWageAllIndustries

[39] This data was from the 2020 five-year American Community Survey for the Boston-Cambridge-Newton MA-NH Metropolitan Area.

[40] From the 2020 five-year ACS, the ratios are: 27.6% one-person, 33.1% two-person 16.7% three person and 22.6% four or more.

Table 4-1. Household Size by Number of Wage-Earners, Boston-Cambridge-Nashua MA-NH NECTA

Number of Workers	One Worker	Two Workers	Three Workers	Total
One Person Household	100.0%	0.0%	0.0%	100.0%
Two Person Household	40.4%	59.6%	0.0%	100.0%
Three Person Household	30.3%	48.4%	21.2%	100.0%
Four or More Person Household	23.8%	47.4%	28.4%	100.0%

Source: US Census 2020 Five-Year American Community Survey

For single-earner households, the median wage for the occupation was used to estimate their household income and determine if they fell below the extremely low-income, low-income, moderate-income or middle-income thresholds for their respective household size (see **Table 4-2** for the respective income levels). Among the single earner households who are expected to demand Boston housing, 205 are estimated to be extremely low-income (less than 30% of area median income), 958 are projected to be low-income (between 30% and 60% of area median income), 248 are projected to be moderate-income (between 60% and 80% of area median income) and 1614 are estimated as middle-income (80% to 120% of area median income) for a total demand of 3,025 affordable housing units. Projecting affordable housing demand among multiple-earner households required estimating the earnings from the additional wage earners. To simplify this analysis, it was assumed that the second worker's earnings equaled the median annual wage for all occupations in the Boston Workforce Area, which was $74,154 adjusted for inflation to May 2022. This resulted in an additional 978 dual-worker households from new development that will demand housing in Boston, 83 in the moderate-income level and 895 in the middle-income category. No three-worker households fall within the moderate or middle-income ranges.

Table 4-2. Maximum Income Levels by Income Category, City of Boston, June 2022

Income Level	Description	One-Person Household	Two-Person Household	Three-Person Household	Four-Person Household
Extremely low-income	less than 30% of median income	$29,450	$33,650	$37,850	$42,050
Low-Income	30 to 60 % of median income	$58,920	$67,320	$75,720	$84,120
Moderate-Income	60 to 80% of median income	$78,550	$89,750	$100,950	$112,150
Middle-Income	80 to 120% of AMI	$117,800	$134,600	$151,450	$168,250

Source: City of Boston Mayor's Office of Housing

Across all household sizes and income groups, the total number of affordable housing units needed to meet the demand generated by new office and retail development is 4,003 units. **Table 4-3** summarizes the total projected demand for new housing by household size and among low-income, moderate-income and middle-income households.

Table 4-3 New Affordable Housing Demand in Boston from New Development Impact Project Developments* by Income Type and Household Size, 2022 to 2031

Income Group	One-Person Households	Two-Person Households	Three-Person Households	Four-Person Households	Total
Extremely-low income	0	103	39	63	205
Low-income	617	201	76	64	958
Moderate-income	11	31	55	234	331
Middle-income	959	875	306	369	2,509
Total	1,587	1,210	476	730	4,003

Source: Karl F. Seidman Consulting Services
*Includes Hotel, Institutional, Office, Lab and Retail Developments

V. Subsidy Required to Address Affordable Housing Demand

This section builds upon the framework established in the earlier sections to project the total subsidy required to address the projected increased demand for affordable housing generated by large-scale developments in Boston. Housing affordability is a function of household income and the cost of available rental and for-sale housing units in each real estate market. The City of Boston and the surrounding region suffer from a well-known and demonstrated lack of sufficient affordable housing. This section calculates the subsidy needed to create new affordable housing that satisfies the demand generated by new workers in new commercial and institutional development by comparing the total development cost of new affordable housing units to the housing prices that can be supported by extremely low-, low-, moderate-, and middle-income households. Before calculating the projected subsidy required, current housing conditions in Boston are reviewed to provide background and context.

Estimate of Required Affordable Housing Subsidy Contribution

The previous section projected the demand for affordable housing from new commercial development as 4,003 units for extremely low-, low-, moderate-, and middle-income households ranging in size from one person to four or more persons. This section determines the projected subsidy required to construct housing that is affordable for those households.

Following is a summary of data and analyses used in calculating the total per square foot subsidy from new non-residential development required to support development of new affordable housing for workers. The subsidies would be for extremely low-, low, moderate and middle-income households whose jobs would be in Boston's new commercial buildings over the next 10 years.

The analyses establish that affordable rents and affordable sales prices do not currently support development of new housing production due to high development costs. Therefore, to stimulate affordable housing development, subsidies or other incentives must be provided. This analysis estimates the amount of subsidy required to meet new affordable housing demand created by employees in the new commercial development. The total required subsidy is the estimated difference between the total development costs of producing new affordable housing units and the capitalized value of affordable rent and unit sale proceeds. The required subsidy is presented as a per square foot housing contribution for projected non-residential development over a 10-year period.

Methodology

The following methodology was used to calculate the subsidy required to produce sufficient housing to satisfy projected ten-year affordable housing demand generated by new development non-residential buildings.

- Estimate the number of extremely low-income, low-income, moderate-income, and middle-income households moving to or seeking to live in Boston that would be generated by new nonresidential development.
- Specify demand by number of persons in the household, number of bedrooms, and by tenure (i.e., renter-occupied units and owner-occupied units).

- Estimate the total development costs of affordable units to satisfy the demand generated based on the actual per-unit development costs of 30 new affordable housing developments completed recently in the City of Boston.
- Estimate the potential capitalized revenue due to annual rents and sales proceeds of affordable units segmented by middle-income, moderate-income, low-income, and extremely low-income households.
- Calculate the difference between the total development costs and the capitalized revenue that is internally generated by renters and owners. This amount is the total subsidy required to produce the targeted new affordable units created by demand from new workers in new non-residential developments.
- Divide the total subsidy required by the total non-residential square feet subject to the housing contribution. This amount is the per square foot subsidy projected to be required to produce the new affordable units created by demand from new workers in new nonresidential developments.

Most state and federal funding programs for affordable housing are targeted to low-income and moderate-income households. The state has a new workforce housing initiative that funds middle-income housing as well. Nonetheless, federal and state tax credits are the largest subsidy source for new affordable housing projects, and they prioritize creation of units for households below 50 percent AMI and 60 percent AMI. Therefore, because of the targeting of available subsidy sources of funding, it is likely that much of the new affordable housing created in Boston will be targeted to these income levels. As the following analysis shows, the amount of subsidy required to create housing for extremely low-income and low-income households is substantial. Yet moderate-income and middle-income households are also increasingly finding housing to be unaffordable in Boston's housing market.

The following key assumptions were made to calculate the housing subsidy required.

Unit Distribution for New Affordable Housing

The distribution of households by number of persons and income levels was derived in a prior section. The household sizes range from one person to four or more persons. One-person households are allocated as 75 percent studio units and 25 percent one-bedroom units. Two-person households are allocated as 20 percent to one bedroom units and 80 percent to two-bedroom units. Three-person households are allocated 80 percent to two-bedroom units and 20 percent to three-bedroom units. All four or more person households are allocated to three-bedroom units. Data in **Table 5-1** show the estimated distribution of housing units by size and income levels (extremely low-low-moderate-middle).

Table 5-1. Distribution of New Affordable Housing Demand by Number of Bedrooms and Household Income

	Households by Size				
	One Person	Two Person	Three Person	Four Person	Total
Total New Housing Units Needed Based on New Non-Residential Construction					**4,003**
Distribution of Units					
Extremely Low-income	0	103	39	63	205
Low-Income	617	201	76	64	958
Moderate-Income	11	31	55	234	331
Middle-Income	959	875	306	369	2,509
Total	**1,587**	**1,210**	**476**	**730**	**4,003**
Distribution of Units by Number of Bedrooms					
Studio	75%	0%	0%	0%	30%
One Bedroom	25%	20%	0%	0%	16%
Two Bedrooms	0%	80%	80%	0%	34%
Three Bedrooms	0%	0%	20%	100%	21%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Units by Number of Bedrooms					
Extremely Low-Income					
Studio	0	0	0	0	0
One Bedroom	0	21	0	0	21
Two Bedrooms	0	82	31	0	113
Three Bedrooms	0	0	7	63	70
Total	**0**	**103**	**38**	**63**	**204**
Low-Income					
Studio	463	0	0	0	463
One Bedroom	154	40	0	0	194
Two Bedrooms	0	161	61	0	222
Three Bedrooms	0	0	16	64	80
Moderate-Income					
Studio	8	0	0	0	8
One Bedroom	3	7	0	0	10
Two Bedrooms	0	24	44	0	68
Three Bedrooms	0	0	11	234	245
Middle-Income					
Studio	719	0	0	0	719
One Bedroom	240	175	0	0	415
Two Bedrooms	0	700	245	0	945
Three Bedrooms	0	0	61	369	430
Units by Size, Number of Bedrooms					
Studio	1,190	0	0	0	1,190
One Bedroom	397	243	0	0	640
Two Bedrooms	0	967	381	0	1,348
Three Bedrooms	0	0	95	730	825
Total Units	**1,587**	**1,210**	**476**	**730**	**4,003**

Note: Rounding may affect totals.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Mix of Rental and Ownership Units

New affordable housing has primarily been supplied through rental housing, due to the available subsidy from federal and state sources. This analysis assumes that the affordable housing to be supplied will be a mix of rental and ownership units. The estimated required subsidy in this analysis assumes that:

- All the units for middle-income households will be ownership units.
- 25 percent of units for moderate-income households will be ownership units and the remaining 75 percent will be rental.
- All the units for extremely low-income and low-income households will be rental units.

Data in **Table 5-2** show the distribution of rental and home ownership housing units by size and income level.

Table 5-2. New Affordable Housing Demand in Boston by Renter and Owner-Occupied Units

	Households by Size					
	One Person	Two Person	Three Person	Four Person	Total	Percent to Total
Distribution of Units						
Extremely Low-Income	0	103	39	63	205	5%
Low-Income	617	201	76	64	958	24%
Moderate-Income	11	31	55	234	331	8%
Middle-Income	959	875	306	369	2,509	63%
Total Units	**1,587**	**1,210**	**476**	**730**	**4,003**	**100%**
Percent of Units that are Rental Housing [1/]						
Extremely Low-income	100%	100%	100%	100%		
Low-Income	100%	100%	100%	100%		
Moderate-Income	75%	75%	75%	75%		
Middle-Income	0%	0%	0%	0%		
Number of Rental Units						
Extremely Low-income	0	103	39	63	205	15%
Low-Income	617	201	76	64	958	68%
Moderate-Income	8	23	41	175	247	18%
Middle-Income	0	0	0	0	0	0%
Total	**625**	**327**	**156**	**302**	**1,410**	**100%**
Percent of Units that are Ownership Housing [1/]						
Extremely Low-income	0%	0%	0%	0%		
Low-Income	0%	0%	0%	0%		
Moderate-Income	25%	25%	25%	25%		
Middle-Income	100%	100%	100%	100%		
Number of Ownership Units						
Extremely Low-income	0	0	0	0	0	0%
Low-Income	0	0	0	0	0	0%
Moderate-Income	3	8	14	59	84	3%
Middle-Income	959	875	306	369	2,509	97%
Total	**962**	**883**	**320**	**428**	**2,593**	**100%**
Rental Units by Number of Bedrooms						
Studio	469	0	0	0	469	12%
One Bedroom	156	66	0	0	222	6%
Two Bedrooms	0	261	125	0	386	10%
Three Bedrooms	0	0	31	302	333	8%
Total Rental	**625**	**327**	**156**	**302**	**1,410**	**35%**
Ownership Units by Number of Bedrooms						
Studio	721	0	0	0	721	18%
One Bedroom	241	177	0	0	418	10%
Two Bedrooms	0	706	256	0	962	24%
Three Bedrooms	0	0	64	428	492	12%
Total Ownership	**962**	**883**	**320**	**428**	**2,593**	**65%**
Total Housing	**1,587**	**1,210**	**476**	**730**	**4,003**	**100%**

1/ Source: City of Boston.

Note: Rounding may affect totals.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Calculation of Needed Subsidy

The following presents the analysis of estimated total development costs, supportable financing, and needed subsidy for affordable housing units that must be created to satisfy the new demand generated by workers in new commercial developments in Boston over the next 10 years. The analysis only presents selected tables that summarize the calculation of the needed subsidy. Additional tables in the Appendix detail all assumptions and intermediate calculations that underlie required subsidy calculation.

Development Project Costs

The costs metrics used to calculate the Total Development Cost are based on an inventory of 30 Boston housing projects recently completed, under construction or in pre-development as of May 2022, as well as other more current development cost estimates in funding applications to the city through August 2022. Data in **Table 5-3** show the calculation of the total development costs of 1,410 rental units and data in **Table 5-4** show the calculation of the total development costs of 2,593 ownership units.

Table 5-3. Calculation of Total Development Costs of Affordable Rental Housing Units in Boston over a 10-Year Period

Project and Cost Assumptions		
Number of Units	1,410	
Average Unit Size GSF [1/]	1,038	
Total Project GSF	1,464,000	
Cost Assumptions [2/]		
Soft Costs, including Design, Permitting, Overhead, Profit, and Contingency, as a Percent of Construction Cost	34.1%	
Construction Cost and Construction Contingency per SF	$337	
Land/Acquisition per Unit Costs [3/]	$39,000	
"Off Budget" per Unit Costs [4/]	$18,000	
Development Costs	**Costs**	**Percent to Total**
Soft Costs, including Design, Permitting, Overhead, and Developer's Fee, and Project Contingency	$167,965,000	22.7%
Construction Cost and Construction Contingency	492,782,000	66.5%
Land/Acquisition	54,990,000	7.4%
"Off Budget" Costs	25,380,000	3.4%
Total Development Costs (TDC)	**$741,117,000**	**100.0%**
TDC per Unit	***$525,615***	
TDC per GSF	***$506***	

1/ See Table A-1 in Appendix for mix of units by size.

2/ Development cost assumptions are based on average costs for recent experience of selected housing projects in Boston, including high-rise and mid-rise new construction projects and substantial and moderate renovation projects. Due to the variation in the size of the units demanded, construction costs are based on project size in square foot costs, with percentage increase for soft costs and per unit

3/ Rounded average per unit for affordable housing development projects where acquisition costs exceeded $250,000. Some projects will have no or low acquisition costs, city owned land for instance.

4/ The City of Boston has a total development cap of $500,000/unit for developers to obtain financing. With current increases on construction, acquisition, insurance and interest rates, project unit costs are exceeding that cap. To show costs lower and obtain funding, developers are getting creative by taking items off budget (or calling them extraordinary). Recent construction costs for projects submitted for fundings have a weighted average cost of $525,000 per unit.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Table 5-4. Calculation of Total Development Costs of Affordable Ownership Housing Units in Boston over a 10-Year Period

Project Assumptions	
Number of Units	2,593
Average Unit Size GSF [1/]	1,052
Total Project GSF	2,729,000
Cost Assumptions [2/]	
Soft Costs, including Design, Permitting, Overhead, Profit, and Contingency, as a Percent of Construction Cost	34.1%
Construction Cost and Construction Contingency per SF	$337
Land/Acquisition per Unit Costs	$39,000
"Off Budget" per Unit Costs [4/]	$18,000

Development Costs	**Amount (Rounded)**	**Percent to Total**
Soft Costs, including Design, Permitting, Overhead, and Developer's Fee, and Project Contingency	$313,100,000	22.7%
Construction Cost and Construction Contingency	918,581,000	66.6%
Land/Acquisition	101,127,000	7.3%
"Off Budget" Costs	46,674,000	3.4%
Total Development Costs (TDC)	**$1,379,482,000**	**100.0%**
TDC per Unit	***$532,002***	
TDC per GSF	***$506***	

1/ See Table A-2 in Appendix for mix of units by size.

2/ Development cost assumptions are based on average costs for recent experience of selected housing projects in Boston, including high-rise and mid-rise new construction projects and substantial and moderate renovation projects. Due to the variation in the size of the units demanded, construction costs are based on project size in square foot costs, with percentage increase for soft costs and per unit acquisition costs for land and buildings.

3/ Rounded average per unit for affordable housing development projects where acquisition costs exceeded $250,000. Some projects will have no or low acquisition costs, city owned land for instance.

4/ The City of Boston has a total development cost cap of $500,000/unit for developers to obtain financing. With current increases on construction, acquisition, insurance and interest rates, project unit costs are exceeding that cap. To show costs lower and obtain funding, developers moving certain cost items "off budget" (or calling them extraordinary). Recent projects presented to the committee have ranged between $550,000 - 600,000/unit if the off budget / extraordinary costs are included.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Development Project Revenue

Project revenue generation and the underlying development economics are different for rental and ownership housing.

Rental Housing

An important step in calculating the subsidy required to create new affordable housing units is to define the rental housing development project's revenue that will be used to support the development and operations of new affordable housing. This analysis assumes that the new rental housing will be solely supported by rental income from tenant households and ownership housing will be supported by the sales of affordable units. Affordable rents and sales prices are derived based on household income. In prior sections of this report, annual occupational wages were the input for establishing the demand for affordable housing among extremely low-, low-, moderate-, and middle-income households of new workers in new commercial development in Boston. The weighted average annual household income for each income level[41], as shown by the data in **Table 5-5**, is the basis for calculating affordable rents and sales prices that in turn support the development of affordable housing.

Table 5-5. Weighted Average Household Income by Income Group and Household Size, Households of Workers in Projected Non-Residential Development

	Households by Number of Persons			
	One Person	Two Person	Three Person	Four Person
Distribution of Weighted Average Income				
Extremely Low-income	NA	$33,487	$33,487	$36,050
Low-Income	$43,638	$49,384	$50,421	$55,027
Moderate-Income	$65,747	$83,373	$93,697	$105,084
Middle-Income	$105,015	$112,230	$115,136	$123,624

Source: Bureau of Labor Statistics, Karl F. Seidman Consulting Services; and, ConsultEcon, Inc.

The needed subsidy for new affordable rental housing is calculated first, followed by the calculation of the needed subsidy for affordable ownership housing.

[41] This average is based on the weighted average for annual household earnings based on median annual earnings for the occupations projected for extremely low, low, moderate and middle-income household as discussed in a prior section.

Affordable Rent Levels

The affordable rents for rental units are based on the estimated annual income of workers in the new commercial developments in Boston. Construction of the 1,410 rental units of affordable housing projected in this analysis are supported by rental revenue from tenants with subsidies used to fill the gap between rental revenue and the cost to develop the housing. In general, the federal Department of Housing and Urban Development (HUD) is a source of many affordable housing subsidies. HUD defines housing costs as affordable to a household when the total cost of shelter consumes no more than 30 percent of gross (total) income. For this analysis, households are assumed to pay 30 percent of household income in rent. Data in **Table 5-6** detail the assumed income levels of households to derive the total gross rental revenue for the 1,410 units, based on the distribution of households by size and income. Total annual gross rental revenue for the units is estimated at $22.8 million.

Table 5-6. Annual Rental Revenue by Household Income and Size of Household

Household Size	Annual Income [1/]	Applicable Monthly Rent [2/]	Number of Households	Total Annual Rent
Extremely Low-Income Households				
1 Person	NA	NA	NA	NA
2 Persons	$33,487	$837	103	$1,034,532
3 Persons	$33,487	$837	39	$391,716
4 Persons	$36,050	$901	63	$681,156
Low-Income Households				
1 Person	$43,638	$1,091	617	$8,077,764
2 Persons	$49,384	$1,235	201	$2,978,820
3 Persons	$50,421	$1,261	76	$1,150,032
4 Persons	$55,027	$1,376	64	$1,056,768
Moderate-Income				
1 Person	$65,747	$1,644	8	$157,824
2 Persons	$83,373	$2,084	23	$575,184
3 Persons	$93,697	$2,342	41	$1,152,264
4 Persons	$105,084	$2,627	175	$5,516,700
Middle-Income Households				
1 Person	$105,015	$2,625	0	$0
2 Persons	$112,230	$2,806	0	$0
3 Persons	$115,136	$2,878	0	$0
4 Persons	$123,624	$3,091	0	$0
Total Households / Housing Units			**1,410**	
Total Annual Rent				**$22,772,760**

Aggregate Annual Rent by Income Level	Number of Units	Total Annual Rent (Rounded)	Percent of Total Rent	Average Monthly Rent
Extremely Low-income	205	$2,107,404	9.3%	$857
Low-Income	958	$13,263,384	58.2%	$1,154
Moderate-Income	247	$7,401,972	32.5%	$2,497
Middle-Income	0	$0	0.0%	$0
Total	**1,410**	**$22,772,760**	**100.0%**	**$1,346**

1/ Weighted average annual earnings based on anticipated mix of occupations and wages in new non-residential development in Boston.

2/ Assumed at 30% of monthly income. Rents are rounded to nearest $1.

Note: Rounding may affect totals.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

To calculate the rental revenue available to support the total development costs described above, the gross rents must be adjusted to reflect lost revenue due to periodic vacancies and the operating costs of maintaining and managing housing. As shown by data in **Table 5-7**, vacancy is assumed at 4 percent of gross rental revenue. Operating costs typically include such items as building management, janitorial services, trash removal, building maintenance, landscaping, marketing and other administrative costs. For this analysis, the full cost of utilities is also included.

MHP's portfolio contains operating expense comps from 32 comparable urban metro Boston projects from 2020-2021 property financial audits or operating statements. The average was $12,833 per unit in operating cost. For the purposes of this analysis, it is assumed that the operating costs of newer and more efficient construction would be 15 percent lower than the average of the existing properties. This would bring total operating costs to $10,880 per unit or $15.3 million total. Net rental income after deducting vacancy and operating costs is estimated at $6.5 million.

Rental Affordability Gap and Needed Subsidy

The next step is to find the gap in project finance between the permanent mortgage and developer equity that the net rental income can support and the total development costs of the 1,410 rental units. In general, the loan amount that lenders will approve is based on the income stream from the project. In this case, the annual net income from rents is $6.5 million. However, lenders prefer to build into their mortgage calculations a cushion between projected net income from rents and the annual debt service needed to pay down the loan. The debt coverage ratio (ratio of net income to allowable debt) reduces the effective amount of net income that can be used to support a mortgage. This analysis assumes a debt coverage ratio of 1.15, based on permanent financing programs offered by the Massachusetts Housing Partnership. After adjusting the net income by the debt coverage ratio, the project has $5.7 million in annual net income with which to pay the debt service on a permanent mortgage.

The total allowable permanent loan is calculated by dividing the net income by the mortgage constant, based on a 6.604 percent mortgage constant, (assuming the available current Massachusetts Housing Partnership financing rate amortized over a 30-year period). The permanent loan that could be supported by the resident households is $85.9 million. The annual revenue not required for the mortgage is then available to support equity investment. Based on a required return of 8 percent, this revenue would support $12.2 million in equity investment. Given the total development costs of $741 million, the subsidy required to create 1,410 new affordable rental housing units is $643 million, approximately 87 percent of the total development cost (TDC).

Table 5-7. Calculation of Financing Gap for Affordable Housing Rental Units

			By Household Type			
		All Units	Extremely Low Income	Low Income	Moderate Income	Middle Income
Potential Development Costs						
Number of Units		1,410	205	958	247	0
Percent to Total			*14.5%*	*67.9%*	*17.5%*	*0.0%*
TDC per Unit [1/]		$525,615	$621,029	$466,801	$674,538	$0
TDC per GSF		$506	$506	$506	$506	$506
Total Gross Square Footage (GSF)		1,464,000	251,000	883,000	329,000	0
Total Development Costs (TDC) (Rounded)		**$741,117,000**	**$127,311,000**	**$447,195,000**	**$166,611,000**	**$0**
Net Rental Income	**Unit Factor**	**Amount**	**Amount**	**Amount**	**Amount**	**Amount**
Gross Annual Rent		$22,772,760	$2,107,404	$13,263,384	$7,401,972	$0
Less Vacancies [2/]	4% of Gross Rent	($910,910)	($84,296)	($530,535)	($296,079)	$0
Less Total Operating Costs [3/]	$10,880 per Unit	($15,340,800)	($2,230,400)	($10,423,040)	($2,687,360)	$0
Net Operating Income (NOI) [4/]		**$6,521,050**	**($207,292)**	**$2,309,809**	**$4,418,533**	**$0**
Derivation of Permanent Mortgage / Supportable Debt Calculation		**Amount**	**Amount**	**Amount**	**Amount**	**Amount**
Net Operating Income (NOI)		$6,521,050	$0	$2,309,809	$4,418,533	$0
Debt Coverage Ratio [5/]		1.15	1.15	1.15	1.15	1.15
Available for Debt Service		$5,670,478	$0	$2,008,529	$3,842,203	$0
Mortgage Constant [5/]		6.604%	6.604%	6.604%	6.604%	6.604%
Permanent Mortgage / Supportable Debt (Rounded)		**$85,862,000**	**$0**	**$30,413,000**	**$58,178,000**	**$0**
Supportable Equity Calculation		**Amount**	**Amount**	**Amount**	**Amount**	**Amount**
Required Return on Equity		8.0%	8.0%	8.0%	8.0%	8.0%
Revenue Available for Return to Equity		$978,157	$0	$346,471	$662,780	$0
Supportable Equity Investment (Rounded)		**$12,227,000**	**$0**	**$4,331,000**	**$8,285,000**	**$0**
Financing Gap Calculation		**Amount**	**Amount**	**Amount**	**Amount**	**Amount**
Total Development Costs		$741,117,000	$127,311,000	$447,195,000	$166,611,000	$0
Less Permanent Mortgage / Supportable Debt		($85,862,000)	$0	($30,413,000)	($58,178,000)	$0
Less Supportable Equity		($12,227,000)	$0	($4,331,000)	($8,285,000)	$0
Financing Gap (TDC-Mortgage-Equity)		**$643,028,000**	**$127,311,000**	**$412,451,000**	**$100,148,000**	**$0**
Financing Gap as a Percent of TDC		*86.8%*	*100.0%*	*92.2%*	*60.1%*	*0.0%*

1/ Variation in TDC per unit for various income levels is due to the differing mix of units. In reality, most developments would be mixed income, targeted to multiple income levels, and the mix of units would vary from project to project.

2/ Source: City of Boston.

3/ Based on 85% of Massachusetts Housing Partnership average operating expenses per unit ($12,800) for affordable multi-family developments in portfolio in Metro Boston. Costs are typical of CAM expenses–Administrative, Utilities, Maintenance, Insurance, Property Taxes--that would be charged to the renter or the building owner would absorb.

4/ NOI is negative based on this model. In practice, any negative income based on supportable rents at 30% would be offset by income from units available at to higher incomes at mixed income developments or offset by other sources of subsidy such as housing vouchers.

5/ Source: ConsultEcon calculation of mortgage constant based on interest rate as of July 21, 2022 for the Massachusetts Housing Partnership Direct Lending, $5 million for 20 year term and 35 year amortization.

Note: Rounding may affect totals.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Ownership Housing Development Project Revenue

The average sales price of affordable units sold in Boston is the basis for estimating the sales proceeds available to support the creation of 2,593 affordable ownership units in Boston. Of the total, 84 units are for moderate-income households and 2,509 units are for middle-income households.

As shown by analysis in **Table 5-8**, the "affordable" sales price is derived based on 30 percent of gross income spent on housing and estimates of housing costs, the same as rental housing. Housing costs for ownership units include mortgage payments based on 5% down payment on the home, real estate taxes and condo fees. (Private Mortgage Insurance is not included in this analysis as it is waived through a housing lending program offered by the Massachusetts Housing Partnership.) It is assumed that all extremely low- and low-income units are all rental units, so estimates of sales prices based on low-income earnings were not prepared.

Table 5-8. Aggregate Affordable Ownership Unit Sales by Household Income and Size of Unit

Household Size	Annual Income [1/]	Monthly Housing Costs [2/]	Number of Households	Supportable Sales Price [4/]	Total Sales
Moderate Income					
Studio	$73,965	$1,849	2	$279,835	$559,670
One bedroom	$60,902	$1,523	3	$220,942	$662,826
Two bedrooms	$93,117	$2,328	17	$357,561	$6,078,537
Three bedrooms	$104,231	$2,606	62	$400,715	$24,844,330
Middle Income Households					
Studio	$105,051	$2,626	719	$396,012	$284,732,628
One bedroom	$107,994	$2,700	415	$426,766	$177,107,890
Two bedrooms	$112,959	$2,824	945	$446,546	$421,985,970
Three bedrooms	$122,473	$3,062	430	$484,510	$208,339,300
Total Households / Housing Units			**2,593**		
Total Sales					**$1,124,311,151**

Aggregate Sales by Income Level	Number of Units	Total Sales	Percent of Total	Average Sales Price
Moderate Income	84	$32,145,363	2.9%	$382,683
MIddle Income	2,509	$1,092,165,788	97.1%	$435,299
Total	**2,593**	**$1,124,311,151**	**100.0%**	**$433,595**

1/ See Appendix Table A-3.

2/ Assumed at 30% of monthly income. Rounded to nearest $1.

3/ See sales price analysis in Appendix A-4. Rounded to nearest $1.

Note: Rounding may affect totals.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Ownership Housing Needed Subsidy

The affordability gap in project financing of ownership units is the difference between the TDC and the proceeds from the sale of the estimated required 2,593 ownership units. Based on the mix of units and the assumed sales prices, the total estimated sales proceeds are $1.12 billion. Assuming TDC of $1.38 billion, the estimated financing gap for 2,593 affordable home ownership units is $255 million, which is approximately 19 percent of the TDC. Data in **Table 5-9** summarize the subsidy needed for ownership units.

Table 5-9. Calculation of Financing Gap for Affordable Ownership Housing Units

				By Household Type	
			All Units	Moderate Income	Middle Income
Potential Development Costs					
Number of Units			2,593	84	2,509
Percent to Total				*3.2%*	*96.8%*
TDC per Unit [1/]			$532,002	$672,643	$527,294
TDC per GSF			$506	$506	$506
Total Gross Square Footage (GSF)			2,729,000	112,000	2,617,000
Total Development Costs (TDC) (Rounded)			**$1,379,482,000**	**$56,502,000**	**$1,322,980,000**
Aggregate Unit Sales Proceeds	**Units**	**Average Price**	**Sales Proceeds**	**Sales Proceeds**	**Sales Proceeds**
Moderate Income	84	$382,683	$32,145,363	$32,145,363	$0
Middle Income	2,509	$435,299	$1,092,165,788	$0	$1,092,165,788
Total Sales Proceeds (Rounded)	**2,593**	**$433,595**	**$1,124,311,000**	**$32,145,000**	**$1,092,166,000**
Financing Gap Calculation			**Amount**	**Amount**	**Amount**
Total Development Costs			$1,379,482,000	$56,502,000	$1,322,980,000
Less Sales Proceeds			($1,124,311,000)	($32,145,000)	($1,092,166,000)
Financing Gap (TDC-Sales Proceeds)			**$255,171,000**	**$24,357,000**	**$230,814,000**
Financing Gap as a Percent of TDC			*18.5%*	*43.1%*	*17.4%*

Note: Rounding may affect totals.

1/ The moderate-income units cost more than the middle-income units because they include a high proportion of 3-bedroom units that are larger and therefore more costly.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Subsidy Needed to Satisfy Ten-Year Affordable Housing Demand

The total development costs for rental and ownership units in Boston that satisfy the demand for new affordable housing from workers in new non-residential developments is $2.12 billion. The total financing gap for the 4,003 rental and ownership units is $895 million, approximately 42 percent of the TDC. The total subsidy is then divided by the total estimated commercial development building area.

Based on an estimated 14.8 million square feet of non-residential space projected over 10 years that are subject to the current housing exaction standards, the total subsidy required is estimated at $80.20 per SF of non-residential development, as shown by data in **Table 5-10**. This represents the maximum linkage fee level that is warranted based on the legal test that linkage fees must be proportional to impact they serve to mitigate.

Table 5-10
Derivation of Financing Gap for New Affordable Rental and Ownership Units per Square Foot of Projected Commercial Development

	All Units	Extremely Low Income	Low Income	Moderate Income	Middle Income
Total Development Cost [1/]	$2,120,599,000	$127,311,000	$447,195,000	$223,113,000	$1,322,980,000
Total Financing Gap Required [1/]	$895,081,000	$127,311,000	$412,451,000	$124,505,000	$230,814,000
Percent of TDC that is the Financing Gap	42.2%	100.0%	92.2%	55.8%	17.4%
Derivation of Commercial Square Footage Subject to Housing Exaction					
Total Commercial Square Footage	14,861,000	14,861,000	14,861,000	14,861,000	14,861,000
Square Footage Exempt from the Housing Exaction under Current Policy [1/]	3,700,000	3,700,000	3,700,000	3,700,000	3,700,000
Commercial Square Footage Subject to the Housing Exaction	11,161,000	11,161,000	11,161,000	11,161,000	11,161,000
Financing Gap per Square Foot of New Commercial Development [2/]	**$80.20**	**$11.41**	**$36.95**	**$11.16**	**$20.68**

1/ Per the City of Boston Incentive Zoning Ordinance, the first 100,000 SF of non-residential building area is exempt from the Housing Exaction. It is assumed that non-residential projects in the future average approximately 400,000 GSF, based on the average project over 100,000 SF that is board approved. Across 37 projects, 3.7 million SF is assumed to be exempt from the Housing Exaction, per the current ordinance.

2/ Total Financing Gap divided by the total Commercial Square Footage Subject to the Housing Exaction.

Note: Rounding may affect totals.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Modified Subsidy Required Based on Other Subsidy Sources

This analysis calculates the full cost of the financing gap due to the housing demand generated by workers of households in projected large-scale developments in the City of Boston. Boston has relatively high affordable housing development costs, given the scarcity of vacant land, and high costs. The purpose of affordable housing is to limit the rental or mortgage payments of low-income households to 30% which is considered "affordable"; this creates a limited revenue stream to finance development costs. Therefore, the City and developers are challenged to find additional sources of funding to fill the gap between the rents and sales proceeds that extremely low, low, and moderate-income families can afford and the development financing that would be incurred by affordable housing developers. Since most affordable housing developers layer multiple funding sources to support the construction of new housing units, the housing exaction will work in conjunction with other financing sources to fill the $895 million financing gap.

The housing exaction due to new commercial development is contributed to the Neighborhood Housing Trust (NHT). Because there are other sources of funding available for development of new affordable housing in Boston, the housing exaction to the NHT does not have to provide all the gap funds needed to build affordable housing. In practice, the NHT has only been needed to cover 4.1% of the of the total financing gap used in recent affordable rental housing projects and none of the gap for recent affordable ownership housing projects in Boston, as shown by data in **Table 5-11**. Overall, the total City funds including NHT and other funds accounted for 14.7% of rental projects, and 58.9% of ownership projects. It should be noted that most of the funds for affordable housing are available only to projects targeting extremely low and low-income households.

Table 5-11. Sources of Funds for Recent NHT Supported Housing Projects in Boston

All Sources of Funds for Affordable Housing	Rental Projects [1/] Residential TDC	Rental Projects [1/] Percent to Total Sources	Ownership Projects [1/] Residential TDC	Ownership Projects [1/] Percent to Total Sources	Total Residential TDC	Total Percent to Total Sources
City NHT	$25,668,984	3.0%	$0	0.0%	$25,668,984	2.9%
City Other	66,307,922	7.8%	13,224,995	29.1%	79,532,917	8.8%
Commonwealth Grant and Debt Programs	210,022,456	24.6%	9,239,520	20.3%	219,261,976	24.4%
Tax Credits/Federal Funds	321,667,453	37.6%	0	0.0%	321,667,453	35.7%
Total Financing Gap Funds	**$623,666,815**	**73.0%**	**$22,464,515**	**49.4%**	**$646,131,330**	**71.8%**
Debt/Equity/Other Private and Unaccounted for	230,777,340	27.0%	23,043,501	50.6%	253,820,841	28.2%
Total Sources of Funds	**$854,444,155**	**100.0%**	**$45,508,016**	**100.0%**	**$899,952,171**	**100.0%**
Total Financing Gap Funds (NHT + Other Sources of Financing Gap Funds)	**$623,666,815**		**$22,464,515**		**$646,131,330**	
NHT Percent of Total Financing Gap Funds [3/]	***4.1%***		***NA***		***4.0%***	
NHT "Leverage" Ratio, NHT to Other Financing Gap Funds [4/]	***23.30***		***NA***		***24.17***	
City Percent of Total Financing Gap Funds [3/]	***14.7%***		***58.9%***		***16.3%***	
City "Leverage" Ratio, City Funds to Other Financing Gap Funds [4/]	***5.78***		***0.70***		***5.14***	

1/ Source: City of Boston. Based on city funded projects, including 24 rental projects and 6 ownership projects.

2/ CDBG = Community Development Block Grant. HOME funds are another federal program that supports housing.

3/ NHT or total City contribution divided by the Total Financing Gap Funds.

4/ The leverage ratio is equal to the Other Sources of Financing Gap Funds divided by NHT or total City contribution.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Housing Exaction Level Scenarios

Data in **Table 5-12** show housing exaction level scenarios including scenarios that model two fee increase scenarios of $10 and $20, as well as applying the historic ratio of NHT and total City funds to total funds needed to fill the full financing gap. Increasing NHT's share of the required financing gap to leverage more state funds and counteract the decline in federal funds may be required to produce the level affordable housing required to satisfy the new demand from commercial development. NHT funding is an important component of the City's affordable housing production and has a substantial impact because the Commonwealth requires the City to provide matching funding as a way of investing in its own affordable housing projects. Without City generated sources like NHT and IDP, the City would not have the primary sources of funding to leverage state funds effectively.

Table 5-12. Housing Exaction Scenarios for the City

	Factor	Rental + Ownership
Total Financing Gap per Square Foot of Commercial Development		$80.20
Current Linkage Fee	***16.2%***	***$13.00***
Current NHT Share of Existing Affordable Housing Funds to Fill the Financing Gap [1/]	2.9%	$2.36
Current Total City Share of Existing Affordable Housing Funds to Fill the Financing Gap [1/]	27.3%	$21.88
Housing Exaction Scenarios		
$10 fee increase	28.7%	$23.00
$20 fee increase	41.1%	$33.00

1/ The factors used in this analysis are weighted based on the mix of rental and owner units in the calculation of the financing gap of affordable housing demand due to commercial development. For 24 NHT rental projects in the past, the NHT accounted for 4.1% of financing gap funds and total City sources accounted for 14.7% of financing gap funds. For 6 NHT ownership projects in the past, the NHT accounted for **NONE** of financing gap funds and total City sources accounted for 58.9% of financing gap funds.

NA = Not applicable.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

VI. Employment Impact and Subsidy Required to Address Resident Employment, Education and Training

Boston's new non-residential development will create thousands of new jobs that can provide employment opportunities for Boston residents and increase the earnings for the city's low-income and moderate-income workers. Boston's job linkage policy provides funding for employment and training programs and related service to help these workers gain access to the non-manufacturing jobs that dominate new development in Boston. City policy allows jobs linkage funding awarded through the Neighborhood Jobs Trust (NJT) to be used for: occupational skills training; other forms of job training; Adult Basic Education (ABE); and English for Speakers of Other Languages (ESOL). Funding can also be used for post-secondary credentials that help connect residents to job opportunities. Furthermore, the NJT requires programs to include services beyond direct education and training that advance successful job placement and retention for participants, including career educational and counseling, support services, job placement, and post-placement/retention services[42]. As noted in Section II, there also are significant racial disparities in employment rates, higher-paying occupations and educational attainment (see Tables 2-7, 2-8 and 2-11) that contribute to the racial disparities in income and wealth among Boston residents (see Figures 2-19 and 2-20). Programs and services funded through jobs linkage can capitalize on the jobs in new development projects to help overcome historic and structural barriers to better paying occupations among workers of color in Boston and help reduce these racial disparities.

Methodology

This section estimates the jobs linkage fee level needed to fill the funding gap for employment and training services needed to connect low-income and moderate-income workers with jobs in Boston's projected new development over the next decade. The methodology for this analysis has four components:

1. Forecasting the demand by occupation for 31,794 new jobs projected to be created by new development over the next ten years. This forecast uses the May 2021 occupational distribution by industry for Massachusetts prepared by the US Bureau of Labor statistics[43] and focuses on jobs that do not require a college degree. Two demand scenarios were used: 1) Boston residents fill 40% of these jobs, which reflects the current share of jobs within the city held by Boston residents; 2) Boston residents fill 50% of jobs, which reflects an increase in city resident employment that may be feasible and desirable for the city and employers, given the challenges in hiring workers during a tight labor market and the potential environmental benefits from having a higher share of workers living and commuting within Boston.
2. Estimating the supply of Boston workers from occupational training programs in the existing education and training ecosystem, based on several parameters that include the number of participants and the share who graduate, are placed in jobs and are Boston residents. Data for these estimates came from a variety of sources, including interviews with training providers, directories of training providers from the Boston Private Industry Council and MassHire, the national Integrated Postsecondary Education Data System

[42] Request for Proposals Neighborhood Jobs Trust, FY2022
[43] https://www.bls.gov/oes/2021/may/oes_research_estimates.htm

*(*IPEDS*)* database for community college associate degrees and certificates, Boston Public School data on vocational program graduates and data on the use of Individual Training Account (ITA) vouchers under the federal Workforce Innovation and Opportunities Act (WIOA). For programs in which data was not available, assumptions for parameters were made based on data for similar programs. Since these training programs will place workers with employers in existing buildings and new development, 40% of the projected supply was assumed to fill jobs at new development projects[44]. Low-supply and high-supply estimates were prepared taking into account planned expansions in some training programs and post-pandemic increase in program participation and use of ITAs.

3. Estimating the gap between employer demand and system supply for specific occupations and groups of occupations and the cost to provide additional training to fill this gap. Cost estimates were based on data from the Neighborhood Jobs Trust and individual training providers on the cost to training a worker for different occupations. In some cases, these costs include services beyond skills training that improve participant training completion, job placement and post-employment support.
4. Estimating the cost for related education and support that are critical for workers to access and succeed in occupational training, including English for Speakers of Other Languages (ESOL), Adult Basic Education, including High School equivalency programs (ABE), skill upgrading after employment to help workers advance into higher paying positions and stipends to offset lost income while attending training programs.

Overall Occupational Demand

Table 6-1 and Table 6-2 present the ten-year projected employment from new development by industry and occupation, respectively. The projected new jobs are heavily concentrated in four industries that account for 80% of the total: life science (including hospital research) at 27.3%; information technology (IT) at 26.1%; health care (hospitals and medical offices) at 13.1%; and hospitality (restaurants and hotels) at 13.6%. Since the vast majority of projected new jobs are in these four industries, and the training ecosystem is different for each industry, a separate analysis of occupation demand, the training supply and the supply gap for each industry is discussed below, followed by a final analysis of the remaining jobs.

[44] This percentage reflects the projected ten-year job growth in tenant industries as a percentage of Boston's job growth in these industries over the past ten years.

Table 6-1. Projected Employment by Industry for New Boston Development, 2022 to 2031

Industry	Number of Employees	Percent of Total
Scientific Research & Development /Life Science	7,489	23.6%
Computer Systems Design	3,827	12.0%
Electronic Shopping & Mail-Order Houses	1,913	6.0%
Software	1,913	6.0%
Management and Technical Consulting	1,277	4.0%
Architectural and Engineering Services	957	3.0%
Other Financial Investment Activities	957	3.0%
Accounting and Bookkeeping Services	637	2.0%
Data Processing, Hosting & Related Services	637	2.0%
Management of Companies and Enterprises	637	2.0%
Restaurant	3,442	10.8%
Clothing Stores	61	0.2%
Home furnishing stores	61	0.2%
Grocery stores	166	0.5%
Pharmacies	123	0.4%
Daycare	82	0.3%
Bank branches	82	0.3%
Medical offices-Ambulatory HC services	302	0.9%
Hotels	890	2.8%
Colleges and Universities- Academic	1,311	4.1%
Hospitals-Research	1,178	3.7%
Hospitals- Clinical	3,852	12.1%
Total	31,794	100.0%

Source: Karl F. Seidman Consulting Services

Table 6-2. Projected Employment by Occupational Group for New Boston Development, 2022 to 2031

Occupational Group	Number of Jobs	Percent of Jobs
Management	5,735	18.0%
Business & Financial Operations	3,869	12.2%
Computer & Mathematical	4,657	14.6%
Architectural & Engineering	1,225	3.9%
Life, Physical & Social Science	2,506	7.9%
Community Service	153	0.5%
Legal	160	0.5%
Educational, Training & Library	619	1.9%
Art. Design, Media	397	1.2%
Health Care Practitioners & Technician	2,351	7.4%
Health care support	632	2.0%
Protectective Services	90	0.3%
Food Preparation & Serving	3,461	10.9%
Buildings & Grounds	418	1.3%
Personal Care	139	0.4%
Sales & Related	1,536	4.8%
Office & Administrative	2,977	9.4%
Farming and Fishing	0	0.0%
Construction & Extraction	38	0.1%
Installation, Maintenance & Repair	176	0.6%
Production	391	1.2%
Transportation and Material Moving	267	0.8%

Source: Karl F. Seidman Consulting Services

The occupational distribution in Table 6-2 shows that over two-thirds (67.7%) of the projected employment will occur in higher skill occupational groups that largely require at least a college degree, including, Management, Business & Financial Operations, Computer & Mathematical, Architectural & Engineering, Life, Physical & Social Science, Legal, Educational, Training & Library and Health Care Practitioners & Technicians. However, this percentage overstates the share of jobs that require a college degree, since there are jobs in these occupational groups that do not require a college degree, e.g., Computer Network Support Specialists in the Computer & Mathematical Group and Pharmacy Technicians within Health Care Practitioners & Technicians. These jobs will be included and discussed below for each of the four key industries. Among the one-third of projected new jobs in occupational groups that primarily do not require a college degree, 77% are in three categories: 1) Food Preparation & Serving, 2) Sales and Related Occupations; and 3)Office & Administrative. While these occupations are important sources of entry-level jobs for workers with limited work experience and/or education, they are low-paying occupations. While the median annual earnings, as of May 2021, for all occupations in the Boston Workforce Development Area was $68,973, the median annual earnings for Food Preparation & Serving, Sales and Office & Administrative occupations were $31,147, $48,900 and $48,294,

respectively. This highlights the importance of funding skill upgrading and career advancement training to help these entry-level workers increase their earnings over time.

Life Science

Occupational Demand

A total of 8,667 new jobs at life science firms and hospital research labs are expected from new development projects in Boston. The vast majority of these jobs are in occupations that require a bachelor's degree or higher. A recent report by TEConomy Partners, LLC for the Massachusetts Biotechnology Educational Foundation found that 11% of life science industry jobs in Massachusetts don't require a bachelor's degree[45]. Based on this figure, 953 jobs would be accessible to Boston residents without a college degree. Interviews with training providers indicated that the 11% figure covers statewide employment that includes manufacturing jobs and thus may be too high for firms in Boston lab buildings, that will focus on research and development. Based on the state occupational distribution for the life science research and development industry, there will be 690 engineering/lab/research technician jobs among the 8,667 industry jobs. These technician jobs had average 2021 median annual earnings of $54,873. While the skills for these technician jobs can be developed through specialized training programs and do not require a bachelor's degree, some employers do require a four-year college degree for technician jobs. Based on these data, the estimated life science industry demand for entry-level and middle-skill jobs that do not require a bachelor's degree is 820. This translates into 410 and 328 jobs for Boston residents based on 50% and 40% resident employment, respectively.

Training Supply

Current training capacity for life science industry jobs is modest with limited participation by Boston residents and employers. The existing training programs targeted to the life science occupations and firms are:

- Three non-profit programs at Just-A-Start, Lab Central, Jewish Vocational Services (JVS). The JVS program prepares people for additional education at Quincy College rather than for employment;
- Two apprenticeship programs at Massachusetts Biotechnology Education Foundation- one for Biomanufacturing Technician and a second for Clinical Research Associate;
- Certificate and associate degrees at four community colleges-Ben Franklin Institute of Technology (BFIT), Bunker Hill Community College (BHCC), Quincy College (QC) and Roxbury Community College (RCC); and
- Boston Public Schools biotechnology vocational education program.

Collectively, these programs graduate 225 trainees with 74 estimated to be placed into employment. However, data from training providers indicate that Boston residents represent a small share of participants—18% for the Mass Biotechnology Education Foundation and 8% of the Quincy College graduates. Moreover, some programs do not place many graduates with Boston firms. Consequently, the current life science training system is estimated have 10% of its graduates as Boston residents placed in jobs at Boston firms—7 per year and 70 over the ten-year

[45]TEConomy Partners, LLC, *2022 Massachusetts Life Sciences Employment Outlook,* June 2022

period. Training capacity is likely to grow over the next decade with multiple providers planning program expansions to add to the range of occupations covered and open new training facilities, including several in Boston. These expansions are estimated to increase the annual number of Boston residents trained and placed in jobs to 27, yielding a ten-year high-supply estimate of 270 positions.

Combining occupational demand and the low training supply projection, there is a ten-year gap of 258 and 340 training seats for the 40% and 50% resident employment scenarios, respectively. Under the high training supply estimate, the gap is 124 seats under the 40% resident employment scenario and 208 seats for 50% resident employment.

Information Technology

Occupational Demand

Demand for workers in IT occupations is projected at 4,657-this includes jobs within IT-related industries and positions across other industries, many of which have some demand for IT workers. Approximately 21%, or 999 of these jobs are estimated to be accessible for workers without a bachelor's degree and include Network Support Specialists, User Support Specialists and Web Design, a portion of the Computer Programs and Software Developer positions. These IT occupations are especially good-paying positions with average median annual earnings of $91,011 in 2021($78,800 without programmers & software developers). Programmers and Software Developers, which constitute half of the projected IT jobs, typically require a bachelor's degree. However, there are a growing number of training programs providing an alternative pathway for these jobs and increased employer interest in skill-based rather than degree-based job requirements. Based on interviews with training providers and researchers, 10% of the Computer Programmer and Software Developer jobs are estimated to be accessible to workers with industry-based skills training without a college degree. These 999 jobs translate into 500 and 400 jobs for Boston residents based on 50% and 40% resident employment, respectively.

Training Supply

A large and diverse training system for IT occupations exists in Boston that includes:

- Twenty-four different certificate and associate degree programs at BHCC, Bay State College, BFIT, Quincy College and RCC[46]; and
- Over a dozen non-profit and for-profit providers, some training for multiple occupations and jobs, that use different program formats and lengths that include coding bootcamps, on-line courses, extended courses and long-term programs with apprenticeships.

Boston's Private Industry Council manages an IT/Tech collaborative of leading technology and IT professionals working to expand the talent supply pipeline and address issues employers experience in finding workers. The collaborative is undertaking initiatives to build awareness of IT and other tech careers in the high schools through internships and other programs, and works regionally to advance innovations in IT education, training, and internships for nontraditional,

[46] Incomplete data was available on the number of community college IT program graduates going into jobs versus pursuing further education and the following assumptions were made: 80% to employment for certificate programs and 35% to 50% for associate degrees, depending on the type of degree.

underserved populations. Through these efforts and plans at existing IT providers, the supply of IT training and graduates is likely to increase over the next ten years.

These programs currently graduate between 964 to 1139 annually with 159 to 206 estimated to be Boston residents entering employment. Based on 40% of these Boston graduates entering jobs at new development projects, the ten-year supply of graduates for jobs in new development projects is estimated at 390 to 620[47].

Combining occupational demand and the low training supply projection, there is ten-year gap of 10 and 100 training seats for the 40% and 50% resident employment scenarios, respectively. Under the high training supply estimate, there is enough capacity to address employer demand and no training supply gap would exist.

Health Care

Massachusetts has experienced a shortage of workers for many health care occupations for over a decade with some studies projecting that workforce shortages in the state could more than triple between 2017 and 2024.[48] The pandemic worsened this shortage as nurses and other workers left the industry and the pipeline of new workers was interrupted due to delays in education, clinical placements and licensing exams[49]. The shortage of health care workers in Boston was confirmed through interviews with a major health care system that reported continued difficulty finding workers and that the capacity of the existing education and training system does not meet existing demand. Health care training providers also indicated that employer demand for their graduates significantly exceeds the current number of graduates. Given this situation, the current training supply may only function to address the existing shortage of health care workers, with linkage funding needed for expand capacity to fill 100% of the occupational demand for entry-level and middle-skill health care jobs generated from new development. This assumption is used to estimate the training gap and costs under the low-supply scenario discussed below.

Occupational Demand

Projected development of new hospital clinical facilities together with expected medical offices and pharmacies in office and lab projects is expected to generate 4,277 new jobs, including 797 technicians and health care support occupations and 1,098 registered nurses. Hospitals largely hire registered nurses with a BSN degree for these jobs. However, with the current nursing shortage, there is the potential for hospitals to change this requirement and hire some applicants with an associate nursing degree (and perhaps assist them to complete their BSN over time). Therefore, the occupational demand analysis includes projecting that 10% of the demand for new RNs (110 jobs) will be accessible for workers with an associate degree. This results in the demand for 907 entry-level and middle-skills jobs from new development, which translates into 457 jobs for Boston residents with 50% resident employment and 363 under 40% resident employment.

[47] These estimates include an adjustment to deduct for training funded by the Neighborhood Jobs Trust with linkage fee revenue.
[48] The Project on Workforce, Covid-19 and the Changing Massachusetts Health Care Workforce, p.7
[49] The Project on Workforce, Covid-19 and the Changing Massachusetts Health Care Workforce, p.8, 13 and 15.

Earnings for health care occupations are mixed. The myriad technician occupations pay fairly well averaging $67,612 annually in 2021, close to the median WDA annual earnings. Registered Nurses in the Boston WDA had a median wage of just over $102,000. Health care support occupations, which include Nursing Assistants and Phlebotomists have significantly lower earnings with average median annual earning of $43,856 in 2021.

Another 548 medical office/administrative positions resulting from new development are addressed as part of office and administrative occupations.

Training Supply

Boston benefits from a large array of health care training programs, with considerable capacity in the local community colleges and non-profit agencies. Several large health care systems also have internal programs to support additional education and training among their workers to move up career ladders. Boston Healthcare Careers Consortium, comprised of healthcare organizations, educational institutions, labor organizations, the public workforce system and others from the City of Boston focuses on identifying and addressing barriers to an aligned and efficient education and training system. This regional partnership works to build career ladders within the health care industry and ensure that healthcare providers have the staff that they need to deliver the best care possible to patients in a culturally competent environment.

Skills training programs within the current system include:

- Extensive certificate and associate degree programs at 7 area community colleges, including Bay State College, BFIT, BHCC, Laboure College, QC, RCC, and the Urban College of Boston. The occupations addressed in these programs include EMT Technician, LPN, Nursing Aid, RN, Physical Therapy Assistant, Phlebotomist, Substance Abuse Counseling, Medical Assistant, Cardiovascular Technician, Electro-neurodiagnostic Technician, Radiology Technician, Sonograph/ultrasound Technician, and Surgical Technician
- Multiple non-profit and private providers providing training primarily geared toward health care support occupations, although some provide training for technician position, e.g., JVS has a Pharmacy Technician program.

The programs generated an estimated 183 annual graduates entering employment who are Boston residents[50]. As noted above, the low-supply estimate assumes this all of this supply goes to address the current shortage of health care workers with none filling jobs at new development. The high-supply estimate assumes 40% of this capacity goes to new development, supplying 72 workers per year or 720 over the ten-year period.

Combining occupation demand and the low training supply projection, there is ten-year gap of 363 and 457 training seats for the 40% and 50% resident employment scenarios, respectively. Under the high training supply estimate, there is enough capacity to address employer demand and no training supply gap would exist.

[50] These estimates include an adjustment to deduct for training funded by the Neighborhood Jobs Trust with linkage fee revenue.

Hospitality

Occupational Demand
Growth in restaurant and hotel employment from new development is projected to create 2,829 new largely entry-level jobs in Food Preparation and Serving and Building and Grounds Cleaning and Maintenance occupations, with 1,312 and 1,415 jobs for Boston residents at 40% and 50% resident hiring, respectively.

Hospitality jobs are among the lowest paying occupations in Boston with 2021 median annual earnings of $31,143 for Food Preparation and Serving occupations and $38,391 the median for Building and Grounds Cleaning and Maintenance occupations. However, earnings at unionized hotels are considerably higher, e.g., the starting hourly pay for a room attendant/housekeeper is $26.67—over $55,000 annually for a full-time position.

Training Supply
Training for hospitality jobs is provided through several BHCC certificate programs, a BPS career and technical education, JVS and other providers approved for ITA vouchers. Best Hospitality is a non-profit organization that trains workers for union hotel jobs in the Boston region[51]. The estimated existing annual supply of graduates from these programs that are Boston residents and go into employment is 37 and 370 over ten years, with 148 of these graduates (40%) projected to fill jobs in new development projects. Since the pandemic reduced recent employment and hiring in the hospitality industry and the level of training, a high-supply estimate was made that assumed a doubling of the annual number of ITA vouchers used for hospitality industry training and a 50% increase at the JVS program. Under this high-supply scenario, the ten-year supply of employed graduates who are Boston residents increases to 450 with 180 working at new developments.

Combining occupation demand and the low training supply projection, there is ten-year gap of 989 and 1,267 training seats for the 40% and 50% resident employment scenarios, respectively. Under the high training supply estimate, the training supply gap is 952 and 1,235 seats for the 40% and 50% resident employment level, respectively.

Administrative and Other Occupations

Occupational Demand
An additional 4,438 jobs in occupations not requiring a bachelor's degree are expected to be generated by new development projects over the next ten years. Office and administrative occupations account for 68% of these jobs inclusive of 2,488 non-medical and 547 medical office and administration positions. The remaining 1,342 jobs are in other occupations including sales, repair and maintenance, production and transportation/material moving. Estimated employment for Bostonians in these occupations is 1,751 and 2,189 for 40% and 50% resident employment, respectively.

Training Supply

[51] Since Boston residents trained by Best Hospitality are funded through the Neighborhood Jobs Trust and linkage funding, its graduates are not included in the figures for existing system supply.

Multiple programs provide training for these additional occupations, primarily for office and administrative positions, including at BHCC certificate programs, several non-profit agencies (JVS, Operation Able, the YMCA) and other providers approved for ITA vouchers. These programs currently supply an estimated 76 annual graduates who enter employment and are Boston residents, or 760 over ten years, with 300 (40%) assumed to be in jobs at new development projects. Under the high-supply estimate, with increases in annual ITAs and expansion at non-profit training providers, the ten year supply of Boston residents entering employment is 1,050 over ten years, of which 420 are expected to fill jobs at new development projects.

Median earnings within these occupational groups are well below the overall median for the Boston WDA. Production and Transportation/Materials Moving jobs have the lowest earnings, with the 2021 median annual pay at $37,939 and $38,415, respectively. Median annual earnings for Sales and Office/Administrative occupations are higher at over $48,000. Moreover, there are positions within these two occupational groups with considerably higher median annual pay. Examples include:

- Executive Secretaries/Administrative Assistants: $73,761;
- Legal Secretaries and Administrative Assistants: $67,631;
- Financial Clerks, All Other: $62,720;
- Brokerage Clerks: $61,525;
- Advertising Sales Agents: $61,518;
- Insurance Sales Agents: $78,811; and
- Sales Representatives, Wholesale and Manufacturing Products: $77,882.

Combining occupation demand and the low training supply projection, there is a ten-year gap of 1,451 and 1,899 training seats for the 40% and 50% resident employment scenarios, respectively. Under the high training supply estimate, the training supply gap is 1,331 and 1,769 seats for the 40% and 50% resident employment level, respectively.

Skills Training Fund Gap

Table 6-4 summarizes the skills training supply gap by industry/occupational area and the required funding amount to address these gaps under 40% resident employment. The total funding gap is $17.2 million under the high-supply scenario and $24.2 million under the low-supply estimate. The funding gap for 50% resident employment is $23.5 million under the high-supply estimate and $32 million with the low-supply estimate (see **Table 6-5)** The per participant training costs used to calculate the required funding levels, based on averages for existing programs, are shown in **Table 6-3.**

Table 6-3. Occupational Skills Training Costs

Training Industy/Occupation	Cost per Participant
Life Science	$19,000
Information Technology	$7,500
Health Care Technicians	$12,557
Health Care Support	$6,000
Hospitality	$5,800
Office/Administrative and Other Occupations	$7,000

Source: Karl F. Seidman Consulting Services

Table 6-4. Occupational Training Supply Gap and Costs by Industry Sector, 40% Resident Employment

Sector	Ten-Year Training Positions Needed	Existing Training Supply - Low	Existing Training Supply - High*	Gap: Low Supply	Gap: High Supply	Funding Gap at Low Supply	Funding Gap at High Supply
Life Science	328	70	204	258	124	$4,902,000	$2,356,000
Information Technology	400	390	630	10	0	$75,000	$0
Health Care	363	0	720	363	0	$3,346,920	$0
Hotel/Restaurants	1,132	148	180	984	952	$5,707,200	$5,521,600
Office/Admin/Other	1,751	300	420	1,451	1,331	$10,157,000	$9,317,000
Total	3,974	908	1,567	3,066	2,407	$24,188,120	$17,194,600
*Total excludes IT & health care supply in excess of needed training							

Source: Karl F. Seidman Consulting Services

Table 6-5. Occupational Training Supply Gap and Costs by Industry Sector, 50% Resident Employment

Sector	Ten-Year Training Positions Needed	Existing Training Supply - Low	Existing Training Supply - High*	Gap: Low Supply	Gap: High Supply	Funding Gap at Low Supply	Funding Gap at High Supply
Life Science	410	70	204	340	206	$6,460,000	$3,914,000
Information Technology	500	390	630	110	0	$825,000	$0
Health Care	457	0	720	457	0	$4,116,500	$0
Hotel/Restaurants	1,415	148	180	1,267	1,235	$7,348,600	$7,163,000
Office/Admin/Other	2,189	300	420	1,889	1,769	$13,223,000	$12,383,000
Total	4,971	908	1,761	4,063	3,210	$31,973,100	$23,460,000
*Total excludes IT & health care supply in excess of needed training							

Source: Karl F. Seidman Consulting Services

Additional Employment and Training Services

ESOL and ABE Education

Part of the Boston labor force faces language and educational barriers to skills training and to accessing the job opportunities generated by new development. Funding and delivering these services is closely aligned with the goals for the jobs linkage policy and the Neighborhood Jobs Trust. The need for ESOL education services was based on the percentage of unemployed who do not speak English well based on data from the 2016 to 2020 5-year American Community Survey, which is 11.4%. This percentage was applied to the 4,971 needed training positions to yield an estimate of 567 ESOL seats. The cost to provide this level of ESOL education is $1,927,800, based on a cost of $3,400 per participant[52].

Two estimates were prepared for the cost of needed Adult Basic Education services. The low estimate assumes 15.3% of trainees (761) will lack a high school diploma, based on the share of Boston's unemployed workers without a high school education from the 2016-2020 American Community Survey. A high estimate is based on 21.5% of trainees (1,069) needing ABE services, assuming that one-quarter of trainees with a high school diploma or its equivalent will lack high school level competency and thus will need educational services to reach this skill level. Based on a $3,500 average cost per participant, the required funding for ABE services is $2,663,500 and $3,741,500 for the low and high estimate, respectively.

Skills Upgrading and Training Stipends

As noted above, many of the projected jobs, particularly in entry-level positions, at new development projects pay wages well below the citywide median annual earnings of $68,973 and below the estimated Suffolk County living wage of $74,069 for a four-person household with two working adults[53]. To address this situation, the Neighborhood Jobs Trust can fund skills upgrading and career advancement training for workers after they are employed at new development projects. Based on Massachusetts' industry occupational distributions, there are 2,421 entry-level jobs not requiring a college degree for the 40% Boston resident employment scenario and 3,030 under the 50% resident scenario. The estimated cost to provide skills upgrading training for these employed workers is $4.3 million and $5.4 million, respectively, based a cost per worker of $1,788[54].

Participation in education and skills training programs entails a loss of income for trainees for the time required to attend training. Some programs, particularly in the health care field, have a required number of workplace externships to obtain certification that are typically uncompensated. This loss of income is a major barrier to obtaining skills training, particularly for the low-income and moderate-income workers targeted by the jobs linkage policy, who critically need this income to cover the living expense during training. The estimated cost to provide a single training stipend is $4,412 based on an average training program period of 271 hours for non-apprenticeship training

[52] This costs for ESOL and ABE services are based on the average cost per participant in FY2023 as funded by the Massachusetts Department of Elementary and Secondary Education (DESE), rounded to the nearest hundred dollars.
[53] From the MIT Living Wage Calculator (https://livingwage.mit.edu/counties/25025).
[54] This cost estimate is the average cost for incumbent worker skills training funded by the Massachusetts Commonwealth Corporation's Workforce Training Fund in FY2021.

programs[55] and an hourly rate of $16.28—Boston's current living wage standard for vendors. Since most life science training programs and some IT training programs already pay a stipend, the cost estimate for stipends excludes all life science training seats and 20% of IT training seats to avoid double counting stipend costs for these programs. **Table 6-6** summarizes stipend cost estimates under the different scenarios, which range from $10.1 million to $16.3 million.

Providing stipends to trainings can have unintended consequences when the stipend income results in increased tax liabilities and/or loss of social safety net benefits if the trainees income with the stipend exceeds program income limits. The City of Boston will need to evaluate and consider these potential impacts before deciding on policies related to funding stipends through linkage and the Neighborhood Jobs Trust, including whether either existing program regulations or new regulatory changes can exclude training stipend income from income limits.

Table 6-6. Estimated Cost for Training Stipends under Different Scenarios

Training Supply Scenario	40% Resident Employment	50% resident employment
	Number of Stipends	
High supply training scenario	2,283	3,004
Low supply training scenario	2,799	3,701
	Stipend Cost	
High supply training scenario	$10,072,596	$13,253,648
Low supply training scenario	$12,349,188	$16,328,812

Source: Karl F. Seidman Consulting Services

Total Job Training Funding Gap and Warranted Jobs Linkage Fee

The total funding gap and associated linkage fee to address the combined employment and training needs for entry-level and middle-skill jobs at the projected new development under the 40% resident employment scenario are summarized in **Table 6.7.** Excluding the cost for stipends, the gap is $25.2 million under the high training supply estimate and $33 million for the low training supply estimate. These translate into PSF linkage fees of $2.26 and $2.96 using a basis of 11,611,000 square (total projected development of 14,861,000 SF less 3,700,000 in exempt space[56]). When stipends are included the jobs linkage fee increases to $3.16 and $4.07 for the high training supply and low training supply scenarios, respectively.

[55] Apprenticeship programs were excluded as participants are typically paid during the non-classroom work portion of the program and the breakdown of hours for classroom vs. work portions of these programs was not available.
[56] The exemption amount assumes 37 development projects with an average gross floor area of 400,000 SF.

Table 6-7. Total Funding Gap and Jobs Linkage Fee, 40% Resident Employment

Type of Service	High Training Supply Estimate	Low Training Supply Estimate
Skills Training	$17,194,600	$24,188,120
ABE/ESOL	$3,668,200	$4,529,200
Career Advancement	$4,328,748	$4,328,748
Total	$25,191,548	$33,046,068
PSF Jobs Linkage Fee	$2.26	$2.96
Training Stipend	$10,072,596	$12,349,188
Total with Stipend	$35,264,144	$45,395,256
PSF Jobs Linkage Fee with Stipend	$3.16	$4.07
Current Exaction	$2.39	$2.39

Table 6-8 details the funding gap and linkage fee levels for the 50% resident employment scenario. Without stipends, the gap is $33.8 million under the high training supply estimate and $43.7 million for the low training supply estimate. These translate into PSF linkage fees of $3.00 and $3.86 using the basis of 11,611,000 square feet of projected new development subject to linkage fees. When stipends are included the jobs linkage fee increases to $4.19 and $5.32 for the high training supply and low training supply scenarios, respectively.

Table 6-8. Total Funding Gap and Jobs Linkage Fee, 50% Resident Employment

Type of Service	High Training Supply Estimate	Low Training Supply Estimate
Skills Training	$23,460,000	$31,973,100
ABE/ESOL	$4,591,300	$5,669,300
Career Advancement	$5,417,640	$5,417,640
Total	$33,818,940	$43,730,040
PSF Jobs Linkage Fee	$3.00	$3.86
Training Stipend	$13,474,248	$16,655,300
Total with Stipend	$47,293,188	$60,385,340
PSF Jobs Linkage Fee with Stipend	$4.19	$5.32
Current Exaction	$2.39	$2.39

VII. Review of Linkage Fee Policy Options

Cities across the country have implemented linkage policies to generate funding to address the impact of commercial development on affordable housing demand for over three decades—from several California cities to Denver and Seattle, and communities in Florida and New Jersey. Locally, Boston and Somerville have implemented housing and jobs linkage fees, and Cambridge has a housing linkage fee. Watertown and Chelsea also recently submitted home rule petitions to establish linkage fees, with Watertown's proposed fee dedicated to affordable housing and Chelsea's fee applicable to multiple purposes. This section reviews the linkage fees in nearby communities and several cities nationwide, considers several changes to Boston's current linkage policies, and assesses the impact of changes to the city's linkage fee rate on the financial returns and feasibility of future commercial development.

Linkage Fee Policies in Other Communities

Current linkage fee rates and policies for Boston, Cambridge, Somerville and several comparable national cities are summarized in **Table 7-1**. Housing linkage fees range from under $1.00 per SF for some uses in Denver, San Diego and San Jose to a high of $69.80 for some office projects in San Francisco. Locally, Boston's combined Housing and Jobs fee rate of $15.29 is below that of Cambridge ($33.34) and above Somerville ($13.98). Cambridge recently raised its fee to $33.34 and Somerville is currently undertaking a Nexus Study that may result in rate changes over the next several months. Nationally, Boston's rate is above that for Denver and San Diego but below the highest rates in San Jose ($15.79) and Seattle ($25.30). All four of these cities vary linkage fees by use, and all except San Diego also vary rates by location, so some projects in San Jose and Seattle face lower rates than in Boston. San Francisco has the highest rates by far, with lab projects between $31 and $39 and office projects over 50,000 SF paying almost $47 to just under $70 per SF.

Boston differs from other cities in having the highest project size threshold to trigger linkage payments (San Jose has a 100,000 SF threshold for projects in some districts) and the largest exemption, both at 100,000 SF. Providing an exemption for some amount of space is not common among the comparison cities—present only in Boston, Cambridge[57], Somerville and Seattle. A single full payment of linkage obligations is the most common payment schedule, typically prior to issuance of the building permit or certificate of occupancy. Boston and Somerville are the only cities that allow payment over multiple years. However, San Diego allows application for a two-year deferral and San Jose provides a 20% discount for early payment prior to the final building inspection date. All comparison cities, except San Jose, provide for annual inflation adjustment tied to the CPI or other index.

[57] Cambridge recently added a 30,000 SF exemption for projects of 60,000 SF of less and for rebuilding of existing space without a change of use over a three-year period.

Table 7-1 . Linkage Fee Policies in Boston and Other Cities

City	Year Established	Exaction/Linkage Fee Rate (per SF)	Project Size Threshold (SF)	Exemption (SF)	Payment Schedule	Rate Adjustments	Other Policies
Boston	1983	Housing: $13.00	100,000	100,000	Housing: Downtown district: 5 payments at building permit date & 4 anniversary dates; elsewhere: 7 payments at COO date & 6 anniversary dates	Automatic annual adjustment based on a "combined index" of the CPI for Urban Consumers and CPI Housing Component. At other times as recommended by the BRA based on a consideration of economic trends, housing trends and other factors.	Housing creation option allows a developer to make all or a portion of their linkage obligation via a financial contribution to a specific income restricted housing project.
	1986	Jobs: $2.39			Jobs: two payments at building permit date & one-year anniversary		Job linkage obligation can be met through either cash payments or creation of a job training program with a cost at least equal to the required linkage fee contribution.
Cambridge	1988	Housing: $33.34	30,000	30,000 for projects with 60,000 SF or less & the rebuilding of existing space without a change of use	One payment at COO	Annual Adjustment (in October or November) based on Boston CPI Housing Index Recalculation after three years or longer.	
Somerville	1990	Housing: $11.23	30,000 for housing and jobs fees	30,000 for housing	Housing fee made in three payments at COO & next two anniversary dates. Jobs fee made in two payments at building permit & COO	Reevaluation every five years. Annual adjustment March 1 based on Boston CPI.	
	2017	Jobs: $2.75	15,000 for jobs	15,000 for jobs			
Denver, CO	2017	.96 to 3.65 depending on use (7/1/2022) and market area for some uses; annual scheduled increases to $2.50 to $9.00 in 2025.	None	None	One payment before building permit issuance	Annual adjustment based on change in CPI for Urban Consumers.	Applies to housing project with 9 or fewer units; lowest fees for industrial uses; highest for commercial, civic, public and institutional uses in high market area.
San Diego	1990	.80 to 2.12 PSF depending on use	None	None	One payment prior to building permit; can apply for 2 year deferral	No automatic inflation adjustments.	Exemptions for projects in Enterprise Zone, with certain 1st source hiring agreements & with primary uses that include manufacturing wholesale, and urgent care, hospitals, intermediate care & nursing homes.
San Francisco	1996	Fees vary by use, size and date of permit application. Highest fees are for office projects > 50,000 SF and range from $46.98 to $69.60. Lab fees range from $31.43 to 38.37.	Increase by 25,000 SF or more by any combination of entertainment, hotel, office, laboratory, retail, and/or Small Enterprise Workspace		Prior to certificate of occupancy	Annual adjustment per changes in the Annual Infrastructure Construction Cost Inflation Estimate prepared by City's Capital Planning Group.	Free-standing pharmacies <50.000 SF and grocery stores <75,000 SF are exempt.
San Jose	2020	Fees vary from 0 to $15.79 by use, location in one of four districts and timing of payment. Highest fee for downtown office use.	Office & Industrial R&D above 50,000 or 100,000 for some districts	None	By final building inspection date; 20% discount if paid before building permit	Annual adjustment per changes in the Engineering News Record (ENR) Construction Cost Index.	
Seattle	2015	Fees vary by detailed development zone within the downtown/SM-SLU/SM-U 85 area vs. outside, by commercial vs. residential use, & date vested in Land-use code. Commercial rates range from $9.76 to $25.30.	4,000 SF for commercial uses	4,000 SF; may vary by zone	Prior to master use permit or building permit	Annual CPI adjustment.	Applies to any project with rezoning that increases the maximum height or floor area ratio (FAR), or establishes a different zoning designation.

Source: Karl F. Seidman Consulting Services

Administrative and Policy Issues

Beyond updating the housing and jobs linkage fee rate, Boston may want to consider updating several administrative and policy issues related to these fees. The key issues reviewed in this section, are:

- Changing the current 100,000 SF project size threshold;
- Changing the current 100,000 SF exemption for determining the gross floor area for which the fee is applied;
- Changing the current multi-year payment schedule; and
- Altering the current single uniform fee rate by use and/or development district.

Size Threshold and Exemption.
Communities vary in the size threshold that triggers the application of housing contributions or linkage fees. As noted above, Boston has the highest threshold at 100,000 SF compared to Cambridge and Somerville. Denver and San Diego have no minimum size threshold for the application of commercial linkage fees and collect them from projects independent of size.
Boston's larger threshold reflects the larger size of development projects in the city, which average over 400,000 SF over the past decade, compared to average project sizes close to 270,000 in Cambridge and 200,000 SF in Somerville.

One option is reducing the linkage fee threshold to 50,000 SF to be consistent with the trigger for large project review under Article 80 of the Zoning Code. Based on BPDA data, there were 37 projects completed between 2011 and April 2022. with uses subject to linkage fees between 50,000 and 100,000 SF totaling 2.8 million SF of new development. This equals 22% of the completed development for projects over 100,000 SF subject to linkage over the period total development. Any increase in linkage revenues from lowering the threshold would be less than 22% since it will depend on the change in the exemption level, which will reduce the actual SF subject to linkage for the smaller projects and increase the linkage fee base and revenue for larger projects. One consideration in reducing the project threshold is the impact that imposing linkage fees would have on project economics and feasibility. Although linkage fees constitute a small share of development costs and typically do not impact feasibility, smaller projects face more challenging economics as they have less space and rental income to recoup fixed costs for land and other fixed expenses that do not vary with project size. Smaller projects also tend to be located in neighborhoods outside Boston's high rent districts, and thus rely on lower SF rents to achieve feasibility. Twenty-one, or 57%, of the 37 projects between 50,000 and 100,000 SF were located in Boston neighborhoods outside the city's major development districts including Allston (3), Brighton (3), Dorchester (2), East Boston, Hyde Park, Mattapan (3), Mission Hill, Roxbury (3), and the South End (4).

Boston currently exempts the first 100,000 SF of a project from the base used to determine linkage fees. The exemption reduces a project's linkage payments but increases the fee level needed to raise a given amount of linkage funding. There is not a strong policy case for having an exemption since the exempted space generates employment that affects the demand for affordable housing and job training. The exemption does serve to shift the overall cost of linkage payments from

smaller to larger projects, which may help enhance project returns and feasibility for projects close to the 100,000 SF threshold.

Payment Timing Schedule.
Boston's current multi-year payment schedule adds complexity and cost to linkage fee administration. Jobs linkage is paid in two installments and housing payments are made in five or seven installments depending on whether a project is located inside or outside the designated Downtown District. The first payment date also differs between jobs linkage and housing linkage in the Downtown District (building permit date) and housing linkage outside the Downtown District (certificate of occupancy date). Multiple payments create administrative complexity since additional record-keeping, invoicing and collection efforts are needed to track and collect payments over multiple years. The extended payment periods also slow the receipt of linkage revenue and the City's ability to deploy funds for affordable housing and job training.

There is a financial benefit to developers in extending the payments over time but this benefit does not have much impact on developer returns and is not realized by all developers. To compare the financial value of the extended payment period, the present value of payments over five-year and seven-year periods were compared to a single payment using a discount rate of 6.5% based on a $20 fee increase and average project of 400,000 SF. This increase made as a single payment is $6 million. The present value with payments over five years is $5,310,958—a $689,042 reduction. Discounted over seven years, the present value is $5,006,583- a savings of $993,417. When these saving are applied to the total development costs to calculate their impact on a developer's return on cost, the impact is very small—increasing returns by less than 2 basis points, or 2/100ths of a percentage point (see **Table 7-2**).

Table 7-2. Impact of Multi-Year Linkage Payments on Developer Return on Cost

Development Project	Single Payment	5 Year Payment	7 Year Payment
Office Development at $1000 PSF	6.384%	6.395%	6.400%
Lab Development at $1200 PSF	7.361%	7.372%	7.376%

Variation of Housing and Employment Impacts by Use.
Boston may want to consider varying linkage payments by use for two reasons: (1) differential impacts on the demand for affordable housing and job opportunities for low- and moderate-income workers; and (2) differences in project economics and financial returns by primary use. Three primary factors influence how affordable housing and job impacts vary by use: (1) the density of employees in the occupied space; (2) the share of employees with earnings at the low-, moderate- and middle-income levels; and (3) the share of jobs in occupations not requiring a college degree. The first two factors impact the need for affordable housing and housing linkage fees while the first and third factors shape the job opportunities and training needs for low- and moderate-income workers and thus, the jobs linkage fee. **Table 7-3** summarizes how these factors vary across the six projected uses for future development in Boston

Restaurants have the greatest impacts related to affordable housing and jobs linkage since they have the highest employee density, the largest share of jobs that pay annual wages below a middle-income level and almost all (97%) of restaurant jobs do not require a college degree. Hotels have a low impact due to their very low employee density. While hotels have a high share of jobs below

the middle-income level and that do not require a college degree, the fact that they create so few jobs per 1,000 SF of development mitigates their overall impact. Office uses have the second highest employee density but also the second lowest share of jobs paying below middle-income wages and not requiring a college degree—both reducing the impact of their relatively high density. Lab, institutional, and retail/personal services use have similar employee densities, but lab uses have a lower impact on the demand for affordable housing with the lowest share of jobs paying below the middle-income level. Lab use, with only 11% of job opportunities not requiring a bachelor's degree and low employee density also have a low impact in terms of generating jobs that do not require a college degree but also have a low supply of skills training for these jobs, which requires more linkage funding to address the training supply gap.

Table 7-3. Factors Affecting the Impact on Housing Demand by Use

Use	Employees per 1,000 SF	Percent of Jobs with Annual Wages at Low, Moderate and Middle-Incomes	Percent of Jobs Not Requiring a Bachelor's Degree
Lab	2.22	69%	11%
Office+	3.33	80%	27%
Hotel	.5	92%	90%
Institutional+	2.13	89%	35%
Restaurant	8	97%	97%
Retail/Personal Services+	2.12	95%	69%

Source: Karl F. Seidman Consulting Services
+ Weighted average for industries within use category *Estimated base on occupational group

As shown in the section below on the impact of fee increases on project economics, there are large differences in the financial returns between lab, office and hotel development projects—the primary uses in for-profit commercial development projects in Boston. Lab projects generate the highest returns to developers, estimated at 6.4% to 7.5%, due to the strong demand and high rents for lab space. Office projects generate lower returns, estimated at 5.4% to 6.5%, with projects at the high end of development costs not financially feasible based on required developer returns. Hotel projects are generally not feasible as they generate too little net income under current market condition to repay debt and support investment. Thus, based on financial feasibility considerations, a higher linkage fee is warranted for lab projects.

Based on impact and the financial capacity to pay higher fees, there is a case for varying the linkage fees by use. However, transitioning from a single fee level to varying linkage fees by use will add administrative complexity and require thinking through the associated definitions and policies. For example, how will mixed-use buildings be treated? Many life science firms combine office and lab uses, which can be interspersed in the same floor, making it difficult to calculate floor area for each use. This might be dealt with by setting the fee based on the primary use. Another issue is that a building's intended or actual use may change over the development process, e.g., a building might be approved and built for lab use but actually leased to office tenants based on market conditions and tenant interest. Similarly, actual uses for ground floor space in mixed-use commercial building may differ from initial planes and often change over time. Boston could

address this issue by basing the linkage fee on the initial use. However, this might create inequitable results between buildings with long-term stable use and those for which uses change more often.

Variation of Contribution Rates by District

Market demand and rent levels vary by neighborhood in Boston, which impacts the financial return on development across different parts of the city. **Table 7-4** shows average asking office rents in several Boston neighborhoods during the 2nd quarter of 2022. There is considerable variation in rents with the highest rent locations 60% to 75% above the lower rent districts. Although these figures may overstate the differences as they likely reflect differences in building quality and age, rent differences by neighborhoods for comparable buildings exist. Since the capacity to support additional costs is related to the rental income that a project can generate, there is a case for varying housing and employment contributions for lower and higher rent development districts. Several cities including Denver, San Jose and Seattle use this approach, varying their affordable housing impact fees by development zone. On the other hand, property acquisition costs are impacted by expected rents and, therefore, likely are lower for lower rent neighborhoods, helping to offset feasibility challenges from lower rents. Varying fees by district or neighborhood would add administrative and policy complexity to linkage fees, particularly around determining appropriate district boundaries and fee variations that accurately reflect differences in projected financial returns.

Table 7-4. Office Rents by Boston Neighborhood, 2022 Second Quarter

Neighborhood	Average Office Asking Rent
Central Business District	$77.08
Back Bay	$74.25
Seaport	$71.30
Fenway/Kenmore	$85.00
North Station/Waterfront	$77.49
Midtown	$48.35
South Station	$55.20
Charlestown/East Boston	$49.91
Dorchester/South Boston	$48.69
Allston/Brigton/Longwood	$51.43

Source: CBRE Downtown Boston Office Report, Q2 2022

Impact on Linkage Fee Increases on Development Economics

An important consideration in establishing the housing and job linkage fees is its potential impact on attracting future development and tenants. An increase in linkage fees will increase development costs. Developers can offset this additional cost by either paying less for their development site, reducing other development costs or collecting higher rents from tenants. When developers are unable to offset the added costs, e.g., if they acquired their site before the linkage fee was increased or market conditions prevent them from increasing rents, the higher costs will reduce the return on investment for the developer and its investment partners. Since the impact of a new linkage fee on the economics of development is not certain and can vary under different

circumstances, this section analyzes three ways in which a linkage fee may affect Boston's competitive position for future development:

1. The cost of the linkage fee is passed on to tenants as higher rents. If the rent increase is large, then it may affect Boston's competitiveness in attracting businesses to new development projects.
2. The linkage fee cost is fully paid by developers without any rent increase or offsetting reduction in acquisition or other development costs. With higher development costs and the same rental income, developers will experience a reduction in their financial return for the project. Many developers have a return threshold that a project must meet to be deemed financially feasible and to be undertaken. If the added cost of the linkage fee significantly reduces the financial return, developers may forego undertaking a project in Boston and pursue opportunities in other communities. A developer's return on cost[58], a common financial return measure that developers use to assess project feasibility, is used for this analysis to assess the potential impact of linkage fee increase options for lab, office and hotel development projects.
3. The linkage fee cost is fully paid by the project's equity investors without the added cost either passed on as a rent increase, offset by lower acquisition and/or other development costs, or funded with an increase in debt financing. Developers need to raise equity financing to cover the portion of project costs that cannot be financed with debt. If the full cost of the linkage fee must be financed by equity[59], it will reduce the equity investors' return on investment since they must provide more capital but the project's income will not increase. If the cost of the linkage significantly reduces their investment return, then equity investors may choose not to invest in Boston projects. The inability to raise sufficient equity investment may prevent some developers from being able to undertake projects and reduce future development and investment in Boston.

Potential Impact on Rents

Table 7.5 shows the dollar and percentage impact on Boston lab and office rents for linkage fee increases ranging from $5 to the maximum warranted increase of $70.13[60]. The maximum fee, when fully passed on to tenants, would increase annual rent by $7.01 per SF—a 6.5% to 8.8% increase depending on property type and location. Potential rent increases are modest at $1 and 1.3% or less under a $5 or $10 linkage fee increase and slightly higher at $2 or up to 2.5% with a $20 increase. With the exception of the maximum fee increase, these potential rent increases are small when compared to the large growth in lab rents during recent years and current rates of inflation.

[58] Return on cost is the ratio of a project's net income to its total development costs.

[59] This result is likely since without an increase in a project's rent and net cash flow, lenders are unlikely to increase the amount of debt they will provide.

[60] This is based on increasing the housing fee to $80.20 and the jobs fee to $5.32

Table 7-5. Impact of Linkage Fee Options on Boston Rents

Linkage Fee Level	Potential Impact on Annual Per Square Foot Rent*	Percent of Boston Class A Office Rent	Percent of Seaport Class A Lab Rent	Percent of Longwood/Fenway Class A Lab Rent
$5 per square foot	$0.50	0.6%	0.5%	0.5%
$10 per square foot	$1.00	1.3%	1.0%	0.9%
$20 per square foot	$2.00	2.5%	1.9%	1.9%
$70.13 per square foot	$7.01	8.8%	6.7%	6.5%
*Fee cost amortized over a 10 year lease				

Source: Karl F. Seidman Consulting Services

To assess the impact of these potential rent increases on Boston's competition for tenants, **Table 7-6** compares lab rents on Boston's two largest lab development areas with key competing locations: East and West Cambridge, the 128-West market area (which includes Waltham and Lexington) and Watertown. Boston's lab rents are higher than all the competing areas, and exceed East Cambridge, with which it has a lower differential of $17 to $20 dollars PSF. Since Boston provides a lower cost alternative to East Cambridge, it is important to maintain this rent differential. A linkage fee increase in the area of $20 or less, even if fully passed on to tenants, would allow Boston rents to remain close to $15 PSF below those in East Cambridge.

Table 7-6. Class A Lab Rents in Boston and Key Competing Market Areas

Location	Class A Lab Asking Rent	Differential from Seaport	Differential from Longwood/Fenway
Boston Seaport	$105		
Boston-Longwood/Fenway	$108		
East Cambridge	$125	$20	$17
West Cambridge	$95	-$10	-$13
128-MassPike	$85	-$20	-$23
Watertown	$100	-$5	-$8

Source: CRESA Greater Boston Life Science 2022 Market Insight Report & CBRE Boston Metro Lab Report 4Q21

Similar to the lab market, Boston Class A office rents exceed those in all competing markets except East Cambridge and Mid-Cambridge (see **Table 7-7**). Boston is a unique location with important competitive advantages including extensive public transportation options, rich amenities for employees and proximity to a wealth of business and professional services. These advantages make Boston less likely to compete with other locations based on price and less sensitive to increases in rent differentials, particularly for tenants seeking high quality Class A space found in new developments. Given Boston's competitive position, any rent increase passed on to tenants from linkage fee increases of $20 or less is unlikely to impact the city's competitiveness in attracting and retaining office tenants. The maximum linkage fee increase of $70.13, %, if fully passed on to tenants as a rent increase, would erase Boston's rental differential with Mid-Cambridge and increase its rent premium over West Cambridge by 35% and over the 128/Mass Pike area by 205, and thus has a greater potential to impact tenant location decisions.

Table 7-7. Class A Office Rents in Boston and Key Competing Market Areas

Location	Class A Office Asking Rent	Differential from Boston
Boston	$80	
East Cambridge	$106	$26
Mid-Cambridge	$85	$5
West Cambridge	$60	-$20
128 Mass Pike	$44	-$36

Source: JLL Boston Office Insight Q2 2022

Impact of Developer Returns

Tables 7-8 and Table 7-9 show the estimated impact of linkage fee increases, ranging from $5 to $70.13 on development costs and developer returns for lab and office development projects, respectively. This analysis is based on an average size project of 400,000 SF of gross floor area and under high- cost and low-cost development scenarios. Based on interviews with ten developers, most return- on-cost investment thresholds are in the 6 to 7% range.

Under the maximum $70.13 fee increase, development costs increase by $21.039 million. This added cost reduces the return on cost for the lab project from 6.39% to 6.16%--a decline of 23 basis points[61] for the high cost scenario and from 7.43% to 7.14% (a 31 basis point decline) for the low cost scenario. This level of increase is unlikely to prevent lab projects at the lower development cost level from going forward but could make some projects with high development costs of $1400 PSF infeasible, since they are currently at the low end of return thresholds without a fee increase. For office developments, only projects at $1000 PSF meet developers' return thresholds and are feasible. A $70.13 fee increase would reduce the return on cost for this project by 32 basis points from 6.48% to 6.16%, potentially making some projects infeasible.

Fee increases in the $5 to $20 range have modest impacts on developer returns, reducing them between 2 and 10 basis points. This level of change in developer returns is unlikely to make a project infeasible and prevent its development—a developer willing to undertake a project with a 6.4% or 7.5% return is likely to still view the project as viable at a 6.3% or 7.4% return.

[61] A basis point is 1/100th of a percentage point.

Table 7-8. Estimated Impact of Linkage Fee Increase Options on Lab Development Costs and Developer Returns

Lab Development at $1400 PSF	No Fee Increase	$5 Fee Increase	$10 Fee Increase	$20 Fee Increase	$70.13 Fee Increase
Total Development Costs	$560,000,000	$561,500,000	$563,000,000	$566,000,000	$581,039,000
Estimated Gross Rental income	$37,350,000	$37,350,000	$37,350,000	$37,350,000	$37,350,000
Vacancy	$1,575,000	$1,575,000	$1,575,000	$1,575,000	$1,575,000
Net Rental Income	$35,775,000	$35,775,000	$35,775,000	$35,775,000	$35,775,000
Return on Cost	6.39%	6.37%	6.35%	6.32%	6.16%
Differential		**-0.017%**	**-0.034%**	**-0.068%**	**-0.231%**
Lab Development at $1200 PSF					
Total Development Costs	$480,000,000	$481,500,000	$483,000,000	$486,000,000	$501,039,000
Estimated Gross Rental income	$37,350,000	$37,350,000	$37,350,000	$37,350,000	$37,350,000
Vacancy	$1,575,000	$1,575,000	$1,575,000	$1,575,000	$1,575,000
Net Rental Income	$35,775,000	$35,775,000	$35,775,000	$35,775,000	$35,775,000
Return on Cost	7.45%	7.43%	7.41%	7.36%	7.14%
Differential		**-0.023%**	**-0.046%**	**-0.092%**	**-0.313%**

Source: Karl F. Seidman Consulting Services

Table 7-9. Estimated Impact of Linkage Fee Increase Options on Office Development Costs and Developer Returns

Office Development at $1200 PSF	No Fee Increase	$5 Fee Increase	$10 Fee Increase	$20 Fee Increase	$70.13 Fee Increase
Total Development Costs	$480,000,000	$481,500,000	$483,000,000	$486,000,000	$501,039,000
Estimated Gross Rental income	$28,800,000	$28,800,000	$28,800,000	$28,800,000	$28,800,000
Vacancy	$2,880,000	$2,880,000	$2,880,000	$2,880,000	$2,880,000
Net Rental Income	$25,920,000	$25,920,000	$25,920,000	$25,920,000	$25,920,000
Return on Cost	5.40%	5.38%	5.37%	5.33%	5.17%
Differential		**-0.017%**	**-0.034%**	**-0.067%**	**-0.227%**
Office Development at $1000 PSF					
Total Development Costs	$400,000,000	$401,500,000	$403,000,000	$406,000,000	$421,039,000
Estimated Gross Rental income	$28,800,000	$28,800,000	$28,800,000	$28,800,000	$28,800,000
Vacancy	$2,880,000	$2,880,000	$2,880,000	$2,880,000	$2,880,000
Net Rental Income	$25,920,000	$25,920,000	$25,920,000	$25,920,000	$25,920,000
Return on Cost	6.48%	6.456%	6.43%	6.38%	6.16%
Differential		**-0.024%**	**-0.048%**	**-0.096%**	**-0.324%**

Source: Karl F. Seidman Consulting Services

Table 7-10 shows the estimated impact of linkage fee increases from $5 to $70.13 on development costs and developer returns for a hotel development under average occupancy and room rates and operating costs in the current market. This analysis is based on an average size hotel project with 200,000 SF of gross floor area with an occupancy rate, room rental rate and operating cost under current market conditions. It is for a hotel without meeting, conference and catering facilities and revenue. In the current market environment, this type of hotel project is not viable, as the net income provides a return on cost below 1% and is too low to cover debt service costs and attract investor equity. Occupancy rates and room rates will need to increase considerably for most hotel projects to be financially feasible. In this situation, market conditions, not linkage fees, are the critical barrier to new hotel development. Nonetheless, the added development costs under all the fee increase scenarios reduces the projected return on cost, although the impact is small. Returns

drop from 0.919% with no fee increase to 0.917% (.2 basis points) with a $5 increase and to 0.888% (3.1 basis points) under a $70.13 increase.

Table 7-10. Estimated Impact of Linkage Fee Increase Options on Hotel Development Costs and Developer Returns

Hotel Development at 1000/SF	No Fee Increase	$5 Fee Increase	$10 Fee Increase	$20 Fee Increase	$70.13 Fee Increase
TDC	$200,000,000	$200,500,000	$201,000,000	$202,000,000	$207,013,000
Total Revenue*	$19,152,152	$19,152,152	$19,152,152	$19,152,152	$19,152,152
Total Operating Expenses+	-$17,313,546	-$17,313,546	-$17,313,546	-$17,313,546	-$17,313,546
Net Income before Debt Service	$1,838,607	$1,838,607	$1,838,607	$1,838,607	$1,838,607
Return on Cost	0.919%	0.917%	0.915%	0.910%	0.888%
Differential		**-0.002%**	**-0.005%**	**-0.009%**	**-0.031%**
* Room revenue at $130 REVPAR plus other revenue at 5% of room revenue					
+ Department costs at 45% of revenue, other operating costs @26% ,franchise costs @3%, taxes, insurance & reserves @16%					

Source: Karl F. Seidman Consulting Services

Impact on Investor Returns

Table 7-11 and Table 7-12 summarize the potential impact of linkage fee options on the financial returns for equity investors for the lab and office projects scenarios presented above that meet developer return thresholds. This analysis assumes that equity investors finance 35% of total development costs without the linkage fee and then finance 100% of the additional development costs due to the linkage fee increases, and that their required return is 20%. Developers reported a range of required returns for equity investors from 12% at the low end to 20% at the high end. The higher 20% return is used for the analysis since fee increases will have a larger impact for investors with the higher threshold—thus providing the scenario with the greatest impact on investor returns from a given fee increase.

The annual percentage return on equity is reduced due to the added investment capital needed to fund linkage fee costs. At the maximum fee increase of $70.13/SF, investment returns for lab projects decrease from 20% to 18.06% at the higher development cost level ($1400/SF) and to 17.77% for the lower cost scenario (17.77%). For office development at $1000/SF, investor returns drop from 20% to 17.39% with a $70.13 fee increase. These impacts are large enough to deter investment from some equity investors and make it more difficult for developers to raise needed capital to undertake projects. The impact is considerably less with lower fee increases between $5 and $20 options. For lab projects, the reductions in investor returns range from a low of 15 basis points to a high of 69 basis points. For office development, a $5 fee increase is estimated to reduce investor returns by 21 basis points, which grows to an 82 basis point increase with a $20 increase. Whether these impacts are large enough to deter equity investment in Boston projects will depend on how strictly investors stick to their return threshold and the availability of alternative investments that will meet the 20% return requirement. With linkage fee increases up to $20, investors would still be within 70 basis points of their investment target and earning over 19%.

Table 7-11. Estimated Impact of Linkage Fee Increase Options on Equity Investor Returns for Laboratory Projects

Lab Projet at $1400 PSF	No Fee Increase	$5 Fee Increase	$10 Fee Increase	$20 Fee Increase	$70.13 Fee Increase
Total Development Cost	$560,000,000	$561,500,000	$563,000,000	$566,000,000	$581,039,000
Equity Investment	$196,000,000	$197,500,000	$199,000,000	$202,000,000	$217,039,000
Original Equity Return at 20%	$39,200,000	$39,200,000	$39,200,000	$39,200,000	$39,200,000
Adjusted Rate of Return with Fee		19.85%	19.70%	19.41%	18.06%
Differential		**-0.15%**	**-0.30%**	**-0.59%**	**-1.94%**
Lab Project at $1200 PSF					
Total Development Cost	$480,000,000	$481,500,000	$483,000,000	$486,000,000	$501,039,000
Equity Investment	$168,000,000	$169,500,000	$171,000,000	$174,000,000	$189,039,000
Original Equity Return at 20%	$33,600,000	$33,600,000	$33,600,000	$33,600,000	$33,600,000
Adjusted Rate of Return with Fee		19.82%	19.65%	19.31%	17.77%
Differential		**-0.18%**	**-0.35%**	**-0.69%**	**-2.23%**

Source: Karl F. Seidman Consulting Services

Table 7-12. Estimated Impact of Linkage Fee Increase Options on Equity Investor Returns for Office Development

Office Project at $1000 PSF	No Fee Increase	$5 Fee Increase	$10 Fee Increase	$20 Fee Increase	$70.13 Fee Increase
Total Development Cost	$400,000,000	$401,500,000	$403,000,000	$406,000,000	$421,039,000
Equity Investment	$140,000,000	$141,500,000	$143,000,000	$146,000,000	$161,039,000
Original Equity Return at 20%	$16,800,000	$16,800,000	$16,800,000	$16,800,000	$16,800,000
Adjusted Rate of Return with Fee		19.79%	19.58%	19.18%	17.39%
Differential		**-0.21%**	**-0.42%**	**-0.82%**	**-2.61%**

When weighed across all three potential impacts, adopting a combined housing and jobs linkage fee between $10 and $20 is unlikely to make Boston an uncompetitive location either for new laboratory development or for attracting future tenants to new development projects. However, the weaker market conditions for office and hotel projects and the challenges to financial feasibility faced by these projects warrant a more cautious approach to fee increases for these development types.

VIII. Recommended Linkage Fee Policies

The analysis detailed in this report supports an increase in Boston's jobs and housing linkage fee rates. Projected new construction of 14.9 million square feet in Development Impact Projects over the next ten years is expected to generate almost 32,000 jobs. This employment growth will create demand for 4,003 new units of affordable housing and a need for expanded employment education and training services to secure access to these jobs for the city's low-income and moderate-income workers. An estimated financing gap of $895 million will exist to reach the $2.12 billion in total development costs necessary to build an additional 4,033 housing units. For workforce development services, a funding gap of $47.3 million to $60.4 million is needed to ensure resident access to 50% of the entry-level and middle-skill jobs generated by this development. The maximum warranted housing and jobs exactions to fill these financing gaps are $80.20 per square foot and $5.62 per square foot, respectively, under Boston's current linkage polices with a 100,000 square foot exemption. Several long-standing linkage policies and administrative practices also would benefit from updating to better reflect current market conditions and simplify processes.

The following recommendations advance two goals: (1) simplifying linkage fee policies and administration to generate linkage revenue more quickly, and bring Boston's policies more in line with other cities; and (2) addressing the need for increased linkage revenue to mitigate the impacts of future development while ensuring that Boston remains a competitive location for continued investment and economic development.

Administrative and Policy Changes

The following changes are recommended to simplify, update and improve Boston's linkage policies:

- **Change the payment schedule to a single payment at certificate of occupancy**. This will simplify fee collection and administration and will bring Boston's payment schedule in line with Cambridge. In addition to shortening and simplifying fee payment, it shifts the initial payment for all projects to when projects are completed and beginning to generate revenue, reducing their need to secure more costly pre-development financing for linkage fees. The shorter payment period is unlikely to impact project financial feasibility since many projects already reserve or escrow funds for the multi-year linkage payment upfront and the shorter payment period has a very small impact on developer returns, in the range of .7 to 2.5 basis points.
- **Eliminate the different fee payment schedule for projects in the Downtown District.** This change is aligned with the prior policy recommendation and eliminates an outdated distinction between a small Downtown District (that primarily corresponds to the financial district) and other development areas. The existing policy dates to when Boston's financial district was the city's strongest and highest rent office location and thus deemed able to pay linkage fees at a faster schedule. However, Boston now has several active non-residential development districts with rents comparable to the financial district.

- **Eliminate the 100,000 SF exemption**. Removing the exemption serves to better align linkage fee payments with a project's development impact since all of the development space in a project generates the housing and employment impacts that linkage fees are designed to mitigate.

Housing and Job Fee Recommendations

In setting new linkage fees, Boston should differentiate between life science lab development and other projects. Lab projects achieve higher returns and financial returns than other uses and therefore can afford to make a larger contribution to mitigating impacts. Since the recommended fees are well below the maximum warranted fees, the higher proposed fee for lab projects will still meet the legal standard of proportionality, in which fees must be proportional to what is needed to mitigate impacts. The proposed fees are based on doubling the total linkage fee rate for lab projects and a lesser 50% increase for projects with other primary uses, including office, hotel, retail and institutional use. Based on these considerations, the following linkage fee rates are recommended:

- **A new jobs linkage fee of $3.62**, which is an increase of $1.23. This is the fee level necessary to generate the funding at the mid-point of the estimated funding gap to advance 50% resident employment in entry and middle-skill jobs at new development projects, with elimination of the 100,000 SF exemption. If the exemption is not eliminated the comparable jobs fee level is $4.75
- **A new housing linkage fee of $26.78 for development projects with a primary lab use,** an increase of $13.78 which will double the total linkage fee from $15.39 to $30.78 with elimination of the 100,000 SF exemption. If the exemption is not eliminated the comparable housing fee level is $35.66.
- **A new housing linkage fee of $19.09 for development projects with a primary** hotel, office, retail or institutional use, an increase of $6.09, which will increase the total linkage fee to $23.09. If the exemption is not eliminated, the comparable housing fee level is $25.41.

A financial analysis of the impact of the proposed fee increases indicate that they are likely to have a modest impact on developer and equity investor returns:

- For lab development projects, a developer's return on cost would be lowered from 6.39% to 6.32% for a project with development costs of $1,400 PSF and from 7.45% to 7.36% for a building with development costs of $1,200 PSF. Equity investors would see an estimated decrease in their investment return from 20% to 19.39% and to 19.29% % for lab projects with development costs of 1,400 PSF and $1,200 PSF, respectively.
- For office development projects at $1,000 PSF, a developer's return on cost would be lowered from 6.48% to 6.43%. Equity investors would see an estimated decrease in their investment return from 20% to 19.57%.

The above recommendations and analyses were formulated for linkage fees alone. In setting the final fee rates, the City should consider additional fees or exactions that may be implemented and their combined impact on the economics of development and Boston's competitive position.

Boston's Life Science Workforce Development System

The research for this report highlighted that Boston will experience substantial growth in life science industry employment over the next decade but has an underdeveloped system to connect and train Boston workers for these jobs. Boston is working to create a consortium that will bring together employers, education and training providers, and workforce and support organizations to strengthen the training system and improve access to and pathways for jobs in life science and other STEM industries. Establishing this consortium and working with it to expand the capacity of the life science workforce development system to create a pipeline of low- and moderate-income Boston residents to gain jobs within this fast growing industry needs to be a city priority. It is critical to ensure that new funds raised through the jobs linkage fee can be effectively deployed to connect Boston workers to this increasingly important source of employment and income.

Appendix A: Definitions of Uses Included in Development Impact Project Definition[62]

Most recent state legislation (2020) states that "'exaction' uses (include) (1) office; (2) retail business or service; (3) institutional or educational; (4) hotel or motel, but not including an apartment hotel or lodging house; or (5) other uses as determined by the zoning commission.

Following are exaction uses per the Article 80 ordinance.

	Uses	Use Item Numbers
(a)	Office	39, 39A, 40, 41, 42
(b)	Retail Business;	30, 31, 32, 34, 34A, 35, 36,
	Service; Public	36A, 37, 37A, 38, 38A, 43, 44,
	Service Uses	45, 46, 47, 48, 49, 60, 60A, 61
(c)	Institutional;	16, 16A, 18, 19, 20, 20A, 21,
	Educational	22, 22A, 23, 24, 29
(d)	Hotel; Motel	15 (excluding apartment hotel)

Office

39- Office of accountant, architect, attorney, dentist, physician, or other professional person, not accessory to a main use
39A- Clinic not accessory to a main use
40- Real estate, insurance or other agency office
41- Office building, post office, bank (other than drive-in bank) or similar establishment
42- Office or display or sales space of a wholesale, jobbing or distributing house

Retail

30- Private club (including quarters of fraternal organizations) operated for members only
31- Public service pumping station; public service sub-station, automatic telephone exchange; telecommunications data distribution center; outdoor payphone
32- Telephone exchange (other than automatic)
34- Store primarily serving the local retail business needs of the residents of the neighborhood, but not constituting a business as described in Use Item No. 34A, including, but not limited to, store retailing one or more of the following: food, baked goods, groceries, packaged alcoholic beverages, drugs, tobacco products, clothing, dry goods, books, flowers, paint, hardware and minor household appliances

[62] Numbers refer to use items in Article 8 of Boston's Zoning Code

34A- A shop for the barter, rental or sale of printed matter, pictures or motion picture film, if such shop is not open to the public generally but only to one or more classes of the public excluding any minor by reason of age; or if such shop keeps a part of such stock segregated as available to only one or more classes of the public excluding any minor by reason of age; or shop for the barter, rental or sale of printed matter, pictures or motion picture film bearing a legend restricting it to adults only or to one or more classes of the public excluding any minor by reason of age
35- Department store, furniture store, general merchandise mart, or other store serving the general retail business needs of a major part of the city, including accessory storage
36- Indoor sale of motor vehicles

Service; Public

36A- Sale over the counter, not wholly incidental to a use listed under Use Item No. 34 or Use Item No. 37 or Use Item No. 50, of on-premises prepared food or drink for off-premises consumption or for on-premises consumption if, as so sold, such food or drink is ready for take-out

Eating Places and Entertainment

37- Lunch room, restaurant, cafeteria or other place for the service or sale of food or drink for on-premises consumption, provided that there is no dancing nor entertainment other than phonograph, radio and television, and that neither food nor drink is served to, or consumed by, persons while seated in motor vehicles
37A- The maintenance and operation of any amusement game machine in a private club, dormitory, fraternity or sorority house, or similar noncommercial establishment (other than as an accessory use described in Use Item No. 86a)
38- Place for sale and consumption of food and beverages (other than drive-in restaurant) providing dancing or entertainment or both; theater (including motion picture theater but not drive-in theater); concert hall; dance hall; skating rink; bowling alley; pool room; billiard parlor; other social, recreational or sports center conducted for profit; or any commercial establishment maintaining and operating any amusement game machine (other than as an accessory use described in Use Item No. 86b or 86c); provided that such establishment is customarily open to the public at large and does not exclude any minor by reason of age as a prevailing practice
38A- Any of the uses enumerated in Use Items 38 and 52 if such establishment is customarily not open to the public generally but only to one or more classes of the public excluding any minor by reason of age
43- Barber shop; beauty shop; shoe repair shop; self-service laundry; pick-up and delivery station of laundry or dry-cleaner; or similar use
44-Tailor shop; hand laundry; dry- cleaning shop

Service Uses

45- Laundry plant; dry-cleaning plant; rug cleaning plant
46-Caterer's establishment; photographer's studio; printing plant; taxidermist's shop; upholsterer's shop; carpenter's shop; electrician's shop; plumber's shop; radio and television repair shop

47- Funeral home; undertaker's establishment; mortuary
48- Research laboratory; radio or television studio
49- Animal hospital or clinic; kennel; pound
60- Repair garage; gasoline service station; car wash
60A, Sale and installation within a building of batteries, seat covers, tires and similar automotive parts and accessories
61-Rental agency, storing, servicing, and/or washing rental motor vehicles and trailers

Institutional

16- Elementary or secondary school attendance at which satisfies the requirements of the compulsory education laws of the Commonwealth of Massachusetts
16A-College or university granting degrees by authority of the Commonwealth of Massachusetts
18- Trade, professional or other school
19- Machine shop or other noisy activity accessory to a school, college or university
20- Library or museum, not conducted for profit and **not accessory** to a use listed under Use Item No. 16A, 18, 22, 23, or 24
20A-Library or museum not conducted for profit, and **accessory to** a use listed under Use Item No. 16A, 18, 22, 23, or 24, whether or not in the same lot
21-Place of worship; monastery; convent; parish house

Educational

22-Hospital or sanatorium not providing custodial care for drug addicts, alcoholics or mentally ill or mentally deficient persons; clinic or professional offices accessory to a hospital or sanatorium whether or not on the same lot
22A- Convalescent, nursing or rest home; home for the aged; orphanage; or similar institution not for correctional purposes
23-Any use listed under Use Item No. 22 or 22A providing custodial care for drug addicts, alcoholics or mentally ill or mentally deficient persons
24-Scientific research and teaching laboratories not conducted for profit and accessory to a use listed under Use Item No. 16, 16A, 18, 22, or 23, whether or not on the same lot, provided that all resulting cinders, dust, flashing, fumes, gases, odors, refuse matter, smoke and vapor are effectively confined to the lot or so disposed of as not to be a nuisance or hazard to health or safety; and provided also that no noise or vibration is perceptible without instruments more than fifty feet from the lot or any part of the lot
29-Adult education center building; community center building; settlement house

Hotel; Motel

15-Hotel; motel; apartment hotel

Appendix B: Tables Detailing Housing Subsidy Analysis

Table B-1. Illustrative Distribution of Affordable Rental Housing Units by Number of Bedrooms and Building Area

	Number of Units	Average Net Square Feet (SF) per Unit [1/]	Total Living Area
Studio	469	600	281,400
One Bedroom	222	800	177,600
Two Bedrooms	386	1,000	386,000
Three Bedrooms	333	1,200	399,600
Total Units	**1,410**	**883**	**1,244,600**
Net Square Feet as a Percent of Gross Square Feet [1/]			85.0%
Total Gross Square Feet (GSF) (Rounded)			**1,464,000**
Average Gross Square Feet Per Unit [1/]			***1,038***

1/ Based on affordable housing development projects which average 1,100 gross square feet per unit.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Table B-2. Affordable Ownership Housing Units by Number of Bedrooms and Building Area

	Number of Units	Average Net Square Feet (SF) per Unit [1/]	Total Living Area
Studio	721	600	432,600
One Bedroom	418	800	334,400
Two Bedrooms	962	1,000	962,000
Three Bedrooms	492	1,200	590,400
Total Units	**2,593**	**894**	**2,319,400**
Net Square Feet as a Percent of Gross Square Feet [1/]			85.0%
Total Gross Square Feet (GSF) (Rounded)			**2,729,000**
Average Gross Square Feet Per Unit [1/]			***1,052***

1/ Based on affordable housing development projects which average 1,100 gross square feet per unit.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Table B-3. Conversion of Ownership Unit Household Income by Persons to Household Income by Bedrooms

Household Size	Annual Income [1/]	Number of Households [2/]	Aggregate Income
Calculation of Aggregate Income			
Moderate Income Households			
1 Person	$65,747	3	$197,241
2 Persons	$83,373	8	666,984
3 Persons	$93,697	14	1,311,758
4 Persons	$105,084	59	6,199,982
Total	**$99,714**	**84**	**$8,375,965**
Middle Income Households			
1 Person	$105,015	959	$100,709,362
2 Persons	$112,230	875	98,201,141
3 Persons	$115,136	306	35,231,638
4 Persons	$123,624	369	45,617,164
Total	**$111,502**	**2,509**	**$279,759,305**

	Units by Number of Bedrooms				
	Studio	**One bedroom**	**Two bedroom**	**Three bedroom**	**All Units**
Distribution of Units by Number of Bedrooms					
1 Person	75%	25%	0%	0%	100%
2 Persons	0%	20%	80%	0%	100%
3 Persons	0%	0%	80%	20%	100%
4 Persons	0%	0%	0%	100%	100%
Moderate Income Households					
Distribution of Low-Income Aggregate Income by Unit Size					
1 Person	$147,931	$49,310	$0	$0	$197,241
2 Persons	0	133,397	533,587	0	666,984
3 Persons	0	0	1,049,406	262,352	1,311,758
4 Persons	0	0	0	6,199,982	6,199,982
Total	**$147,931**	**$182,707**	**$1,582,994**	**$6,462,334**	**$8,375,965**
Total Units by Size [2/]	**2**	**3**	**17**	**62**	**84**
Avg. Income per Unit by Size	***$73,965***	***$60,902***	***$93,117***	***$104,231***	***$99,714***
Middle Income Households					
Distribution of Moderate-Income Aggregate Income by Number of Bedrooms					
1 Person	$75,532,022	$25,177,341	$0	$0	$100,709,362
2 Persons	0	19,640,228	78,560,913	0	98,201,141
3 Persons	0	0	28,185,310	7,046,328	35,231,638
4 Persons	0	0	0	45,617,164	45,617,164
Total	**$75,532,022**	**$44,817,569**	**$106,746,223**	**$52,663,491**	**$279,759,305**
Total Units by Size [2/]	**719**	**415**	**945**	**430**	**2,509**
Avg. Income per Unit by Size	***$105,051***	***$107,994***	***$112,959***	***$122,473***	***$111,502***

1/ Source: Karl F. Seidman Consulting Services. Weighted average annual household income based on anticipated mix of occupations and average occupational wages for based on projected commercial development in Boston.

2/ See Table 5-3.

Source: City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Table B-4. Sales Price Analysis by Unit Size / Number of Bedrooms based on Estimated Monthly Housing Costs Set at 30% of Household Income

Assumptions	Low-Income	Moderate-Income	
Mortgage	4%	7%	Assumed Down payment
	96%	93%	Percent of Price covered by Mortgage
	5.64%	5.64%	Mortgage interest rate [1/]
	NA	0.72%	Private Mortgage Insurance [2/]
Real Estate Taxes	$10.88	per 1,000 of assessed values [3/]	
Residential Exemption	$3,305	reduction in annual taxes [3/]	
Condo Fees	$300.00	monthly per BPDA	

	Unit Size / Number of Bedrooms			
	Studio	One Bedroom	Two Bedroom	Three Bedroom
Extremely and Very Low-Income Households	Not applicable because Extremely and Very Low-Income housing units are assumed to be all rental units.			
Moderate Income Households				
Sales Price	$279,835	$220,942	$357,561	$400,715
Down payment	$11,193	$8,838	$14,302	$16,029
Monthly Payment Calculation				
Mortgage Payment	$1,549	$1,223	$1,979	$2,218
Real Estate Taxes	$0	$0	$49	$88
Condo Fees	$300	$300	$300	$300
Total Monthly Payment [4/]	**$1,849**	**$1,523**	**$2,328**	**$2,606**
Monthly Payment Target	$1,849	$1,523	$2,328	$2,606
Middle Income Household				
Sales Price	$396,012	$426,766	$446,546	$484,510
Down payment	$27,721	$29,874	$31,258	$33,916
Monthly Payment Calculation				
Mortgage Payment	$2,124	$2,288	$2,395	$2,598
PMI [5/]	$119	$0	$0	$0
Real Estate Taxes	$84	$112	$129	$164
Condo Fees	$300	$300	$300	$300
Total Monthly Payment [4/]	**$2,626**	**$2,700**	**$2,824**	**$3,062**
Monthly Payment Target	$2,626	$2,700	$2,824	$3,062

1/ Average 30 year fixed rate mortgage in Massachusetts on July 21, 2022. Source: Bankrate.com.
2/ Low and 62% of moderate income households (all the 2+ person households) qualify for the One Mortgage Program (http://www.mhp.net/homeownership/homebuyer/one_mortgage.php) that waives Private Mortgage Insurance (PMI) for first time homeowners through participating lenders. PMI costs "between $40 and $80 per
3/ Source: City of Boston.
4/ Assumes 30% of income.
5/ Half of moderate income households are assumed to pay PMI and the other half are assumed to have PMI waved under the One Mortgage Program.

Source: Massachusetts Housing Partnership; City of Boston; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Linkage Nexus Study

Final Report

to

Mayor's Office of Strategic Planning and Community Development

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Executive Summary

Somerville established a Housing linkage policy in 1990, codified under Section 15 of the Somerville Zoning Ordinance. Under the city linkage policy, as amended in 2013, non-residential development projects exceeding 30,000 gross square feet pay a linkage fee of $5.15 per square foot on the amount of space over 30,000 square feet. In August 2016, the State Legislature and Governor approved a home rule petition to allow Somerville to establish a jobs linkage fee to fund education and job training programs to prepare Somerville residents to secure new jobs created at new developments in the city. This report provides an updated nexus study to quantify the impact of future non-residential development on the demand for affordable housing and need for employment and training services in Somerville and the linkage fee rates to mitigate these impacts. It also recommends linkage fee rates, policies and administrative practices.

Housing Demand. Based on projected new development of 2.21 million square feet over the next ten years and the likely mix of tenant businesses, 8,899 new jobs are estimated to be generated in Somerville by this development. Information on the occupations and earnings of these new employees was combined with data on the distribution of households by size and number of workers and the likely percentage of these new workers who will move to the city to estimate their impact on the demand for new housing units by income level. This analysis projected the need for 591 new housing units over the next ten years, including 133 very low-income units, 182 low-income units and 276 moderate-income units[1].

Development Costs and Financing Gap. A separate analysis of the development costs and financing gap was conducted based on 110 ownership units and 482 rental units[2]. Development costs were estimated from recent comparable affordable housing projects built in Somerville. For rental projects, the financing gap was calculated as the difference between total development costs and the amount of debt and equity that could be supported by the housing cash flow using affordable rents at 30% of household income and comparable operating costs. For ownership projects, the financing gap was the difference between total development costs and the affordable purchase price based on home mortgage payments, insurance and property taxes at 30% of household income and a 5% down payment. The results of this analysis are:

- Total development costs of $248.03 million; and total financing gap of $162.48 million with a gap of $56.95 million for the very low-income units, $52.39 million for the low-income units and $52.14 million for the moderate-income units; and

- The linkage fee rate on non-residential development projects needed to provide the full $162.48 million financing gap is $86.43 per square foot.

[1] A very low-income unit is for a household with income less than 50% of the Boston region's area median income, a low-income unit is for a household between 50 and 80%, and a moderate-income unit is for a household between 81% and 110% of area median income.

[2] This mix is based on all of the very low-income units developed as rental units, 90% of low- income units built as rental and 10% ownership, and moderate-income units divided into 33% ownership housing and 67% rental housing units. Total units were increased by one unit to 592 due to the rounding of fractional units that occurred from the distribution of housing demand among rental and ownership units and households of different sizes.

Since affordable housing development leverages other federal and state funding, linkage fees only need to address a portion of the financing gap. In recent years, Somerville's Affordable Housing Trust fund has supplied 22.8% of the financing gap for affordable housing projects, while all city funds supplied 31.7% of the gap. The housing linkage fee levels that would fill these proportions of the financing gap are $19.73 and $27.36 per square foot, respectively.

Training Needs and the Financing Gap. Somerville's non-residential development over the next ten years is expected to create 4,434 jobs in low-skill and middle-skill occupations that are the most accessible to low-income and moderate-income workers. Using the 30% resident employment goal that Somerville applied to Assembly Square development projects, the jobs linkage fee would support training for Somerville residents to fill 1,330 of these jobs, at an estimated cost of $6.055 million. An additional $1.62 to $1.89 million is needed to provide English language, adult basic education services, and career advancement services so that Somerville residents have the educational level and competencies required for training programs and can advance from entry-level to better paying jobs once employed. After adjusting for training provided by the vocational education system and other programs, the net financing gap to be addressed by the jobs linkage fee is $4.58 to $5.05 million. A maximum jobs linkage rate of $2.44 to 2.69 per square foot is needed to fund this educational and job training funding gap.

Impact on Competitiveness. An important consideration in adjusting Somerville's linkage fees is the rate's potential impact on attracting new development and tenants. This is particularly important since the maximum combined rate of $89.12 per square foot is seventeen times the current rate of $5.15, more than six times the rate in Cambridge ($13.50), and almost nine times Boston $10.01 linkage fees. If the maximum rate is fully passed on to tenants as higher rents, it represents a 21% increase in Somerville's Class A office rent. This would leave rent differentials of almost $10 with Boston's Financial District and over $26 with Kendall Square, but erase the city's advantage over the Alewife section of Cambridge and make Somerville less competitive with suburban locations by more than doubling its rent premium over Waltham and inner suburbs. If developers cannot pass on the fee increase to their commercial tenants, they will need to increase their required equity investment and reduce their rate of return. Based on the maximum exaction increase of $83.97 per square foot being fully paid with developer equity, the annual return on investment is estimated to decrease by 41% for a 200,000 square feet building; this impact on returns is likely to reduce investment in Somerville's office development.

For two alternative scenarios,in which combined linkage fees are set at $22.17 (the housing linkage fee at $19.73 and the jobs linkage fee at $3.44) and $11.00 (the housing linkage fee at $8.50 and the jobs linkage fee at $2.50) and the increase in other city exactions ($7.74) are also considered, the impact on rents and returns is greatly reduced. Rents would increase by 6.1% and 3.4%, respectively, if the full fee increase is passed on to tenants. Investment returns would drop by .61 to 1.36 percentage points, respectively, if the full fee cost was paid by increases in developer equity.

Recommendations. Since adoption of the maximum determined contribution rate is likely to impair Somerville's regional competitiveness, and because its parity in linkage fees with Boston

and Cambridge is important as the city seeks to expand its role as an employment center, it is recommended that Somerville establish combined linkage fees in the range of $10.00 to $12.50. At this fee level, the housing linkage fee should be between $8.00 and $10.00 per square foot and the jobs linkage fee between $2.00 and $2.50. The recommended policy for deploying jobs linkage fees is a hybrid approach in which fees collected from a project would first be reserved for—and efforts made to create job training and education services linked to—employers and jobs at the project. When "project-linked" job training is not feasible, the fees would go into the Municipal Job Creation and Retention Trust's general fund and used for citywide programs selected through a competitive request for proposal process.

Recommended Housing and Jobs Linkage Fee Rates

Fee Type	Recommended Linkage Fee Rate
Jobs Fee Rate	$2.00 to $2.50
Housing Fee Rate	$8.00 to $10.00
Combined Rate	$10.00 to $12.50

Source: Karl F. Seidman Consulting Services

Several changes to Somerville's current linkage fee policies are recommended to simplify policies and their administration, and accelerate fee collection:

- Shorten the housing linkage fee payment schedule to three payments made at the building Certificate of Occupancy date; one year after C of O and two years after C of O;
- Use of a single payment at the building permit date for the jobs linkage fee to provide the upfront payment needed to fund job training in advance of building occupancy and employment;
- Consolidate the payment schedule for each annual payment after C of O to January 15 (for initial C of O between January 1 and June 30) and July 15 (for initial C of O between July 1 and December 31) to simplify book keeping and administration of fee collection;
- Continue the current policy of reevaluating and updating linkage fees based on a nexus analysis every five years; and
- Establish an annual inflation rate adjustment based on the Boston CPI or alternative index.

Introduction

The City of Somerville established a Housing linkage policy in 1990, codified under Section 15 of the Somerville Zoning Ordinance. Under the city linkage policy, as amended in 2013, non-residential development projects exceeding 30,000 gross square feet pay a linkage fee of $5.15 per square foot on the amount of space exceeding 30,000 square feet. Developers can pay the linkage fee either in one installment or over five years through equal annual payments. Linkage fees are paid to the Somerville Affordable Housing Trust Fund, which allocates the funds to supply housing for low-income and moderate-income households in Somerville.

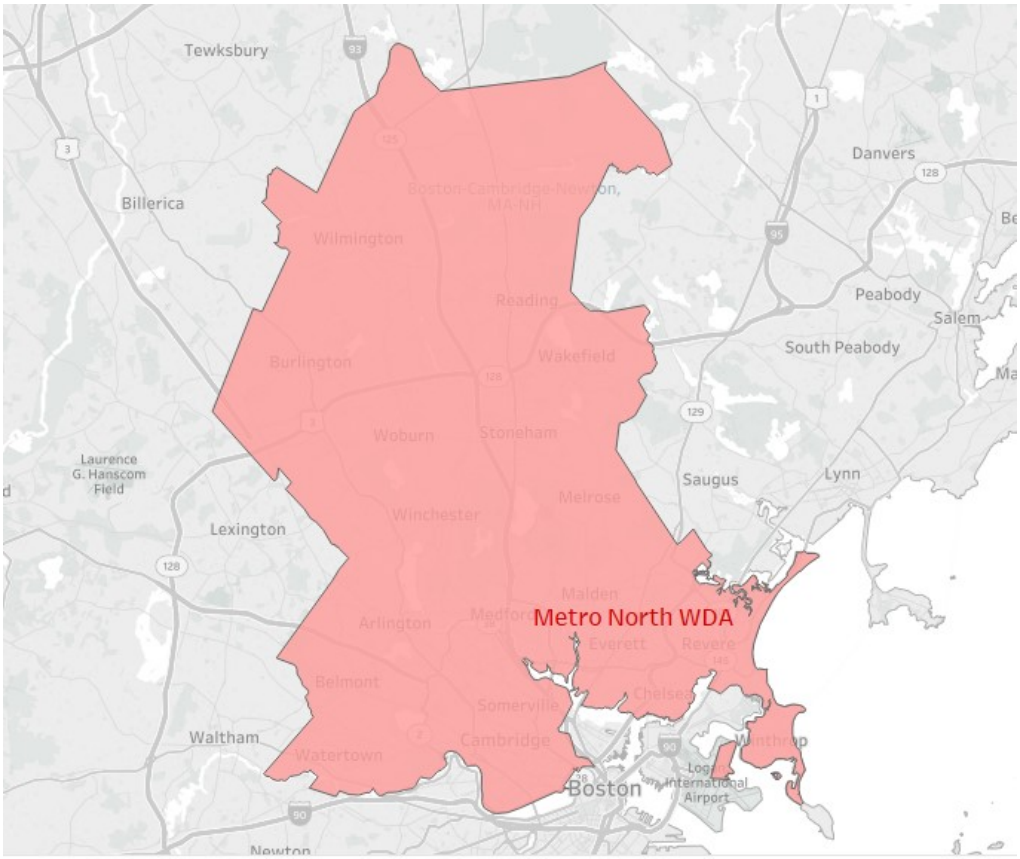
Based on the recommendations from a 2013 study, Somerville passed a Home Rule Petition submitted to the Massachusetts legislature to allow Somerville to establish a jobs linkage fee to be levied on non-residential development projects. The jobs linkage fee would fund education and job training programs to prepare Somerville residents to secure new jobs created at new commercial developments in the city. In August of 2016, the State Legislature and Governor approved the Home Rule Petition, giving the City the authority to create the Somerville Municipal Job Creation and Retention Trust and fund it through a linkage fee.

The City of Somerville selected Karl F. Seidman Consulting Services and ConsultEcon, Inc. to complete a new nexus study to update and review policies for its current housing linkage fee and recommend the appropriate rate for the newly authorized job linkage fee along with policies to implement this fee. Since the prior 2013 Nexus study, important changes have occurred in Somerville's economy and real estate market that impact the type of new development, the associated jobs created in Somerville, and their income levels and workforce needs. Housing market conditions also have changed, with increased housing development costs, rents and prices and changes to the financing environment for affordable housing development. These housing market conditions affect the funding needed to build affordable housing to address the impacts of new development and the associated housing linkage fees. This report details the analysis undertaken to assess the impact of economic and market conditions on Somerville's future development and associated employment training and affordable housing needs to ensure that Somerville sets appropriate linkage fee levels and effectively implements the new jobs linkage fee.

Somerville Economic and Development Trends and Future Development

Somerville's future development and associated impacts will be shaped by the nature of economic growth in the city and region. This section summarizes the city's economic composition and recent growth trends, and how these trends have translated into new real estate development and leasing activity. Since Somerville's development is influenced by surrounding cities, this analysis includes trends for the Metro North Workforce Development Area[3] (WDA), an area in the Boston region used for workforce development planning that includes Somerville, shown in Map 1. Similarly, real estate market conditions and trends in surrounding cities are also considered.

Map 1. Metro North Workforce Development Area

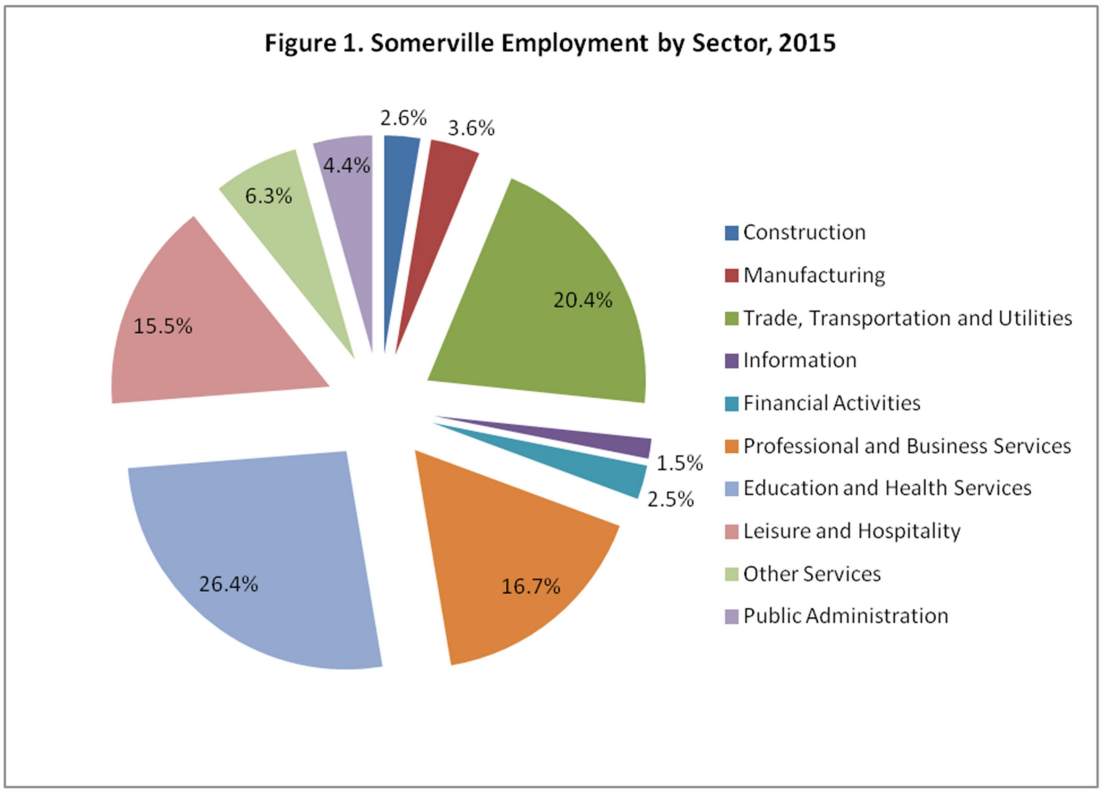


Source: http://lmi2.detma.org/lmi/map_box.asp

[3] This area includes the following 20 communities**:** Arlington, Belmont, Burlington, Cambridge, Chelsea, Everett**,** Malden, Medford, Melrose, North Reading, Reading, Revere, Somerville, Stoneham, Wakefield, Watertown, Wilmington, Winchester, Winthrop, and Woburn.

Existing Employment Base

As shown in Figure 1, Somerville's employment[4] located within the city in 2015 (the last full year for which city employment data is available) was concentrated in four sectors[5]: Education and Health Services, Trade Transportation and Utilities, Professional and Business Services and Leisure and Hospitality, which together provided 79% of the city's 26,188 jobs. Other sectors are much smaller, contributing from 1.5% (Information) to 6.3% (Other Services) of total jobs.



Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

Employment is further concentrated within these sectors (see Table 1), reflecting Somerville's emergence as a center for retail and dining with sizable health care, education, and service activities. Retail stores employed 3,630 workers in 2015 and accounted for 68% of the Trade, Transportation and Utilities sector and 14% of all Somerville jobs. Restaurants and drinking

[4] Employment in this report refers to jobs located within Somerville or other indicated areas. Employment data is from the ES-202 data series (also known as the Quarterly Census of Employment and Wagers), which covers all jobs subject to unemployment insurance system. Part-time and full-time employment is included for all people working one or more days in each of 13 weeks during a calendar year, or are paid wages of $1,500 or more in any calendar quarter. Not included are members of the armed forces, self-employed workers, proprietors, domestic workers, unpaid family workers, and railroad workers covered by the railroad unemployment insurance system. Labor force or work force refers to non-institutionalized civilian residents 16 or older within the area who are employed or unemployed and looking for work.

[5] See Appendix A for the definitions of economic sectors. Several similar sectors were combined to simplify the presentation of data on the 19 non-agricultural sectors. These combinations are explained in Appendix A.

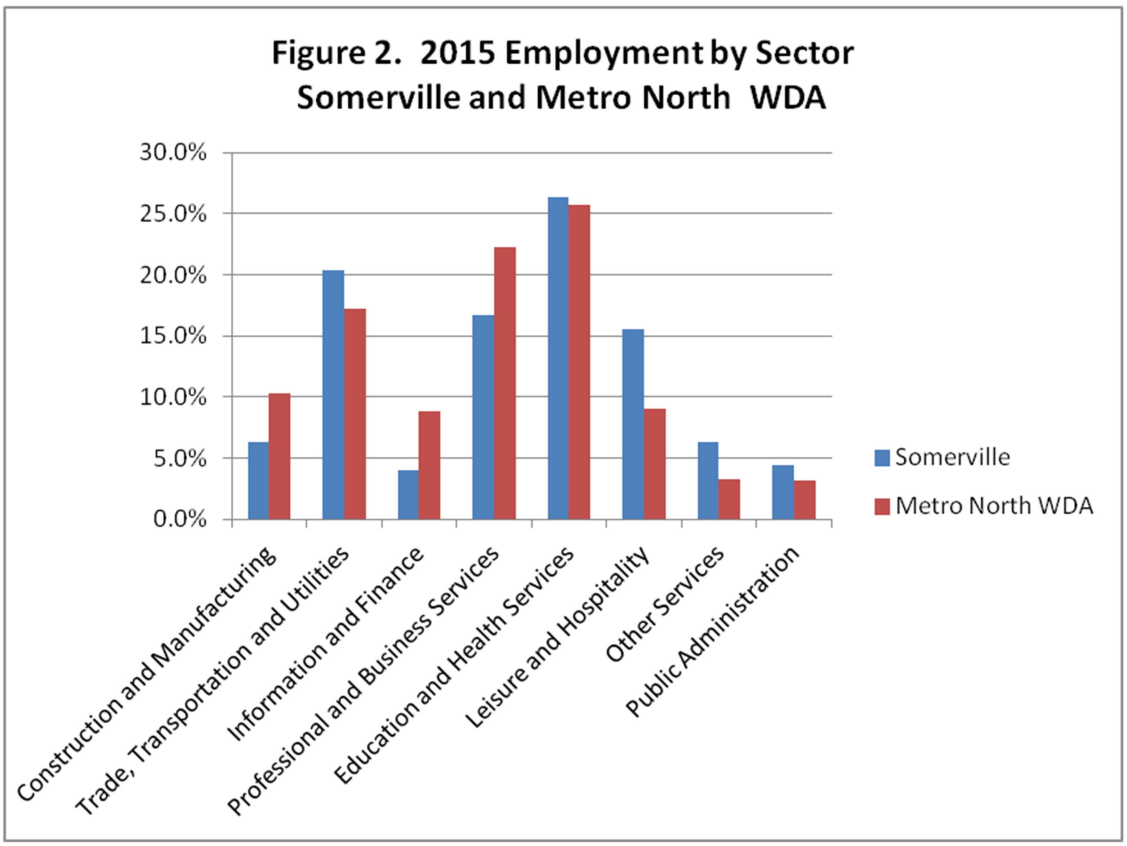
places were almost as large with 3,446 workers, which constituted 75% of the Leisure and Hospitality Sector and 11.6% of total city employment. Education and Health Services jobs were more evenly distributed across the five main industries, with Ambulatory Care and Hospitals the largest components at 2,489 and 1,791 jobs, respectively. Professional and Business Services include many specialized industries, most of which employ 116 to 330 people in Somerville. The major exception is Administrative and Support Services, which employed over 2,200 workers in 2015. Architecture, Engineering and Design Services and Computer Systems Design were also relatively large with 441 and 567 employees, respectively.

Table 1. Industry Mix for Somerville's Largest Sectors, 2015

Sector and Industry	2015 Payroll Jobs	Percent of Sector Total
Trade, Transportation and Utilities	5,333	
Wholesale Trade	445	8.3%
Retail Trade	3,630	68.1%
Transportation and Warehousing	1,078	20.2%
Utilities	180	3.4%
Education and Health Care	6.912	
Educational Services	1,317	19.0%
Ambulatory Health Care Services	2,489	36.0%
Hospitals	1,791	25.9%
Nursing and Residential Care Facilities	322	4.7%
Social Assistance	993	14.4%
Professional and Business Services	4,370	
Legal Services, Accounting and Bookkeeping	130	3.0%
Architectural, Engineering and Design Services	441	10.1%
Computer Systems Design and Related Services	567	13.0%
Management and Technical Consulting Services	117	2.7%
Scientific Research and Development Services	148	3.4%
Advertising and Related Services	116	2.6%
Other Professional and Technical Services	135	3.1%
Management of Companies and Enterprises	143	3.3%
Administrative and Support Services	2,244	51.3%
Waste Management and Remediation Services	330	7.6%
Leisure and Hospitality	4,061	
Arts, Entertainment, and Recreation	486	12.0%
Accommodation	128	3.1%
Food Services and Drinking Places	3,446	84.9%

Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

When compared to the Metro North WDA, Somerville has a much larger share of employment in the Leisure and Hospitality sector and slightly higher concentrations in Trade, Transportation and Utilities and Education and Health Services. However the Metro North region has higher employment shares for Construction and Manufacturing, Information and Finance and Professional and Business Services.

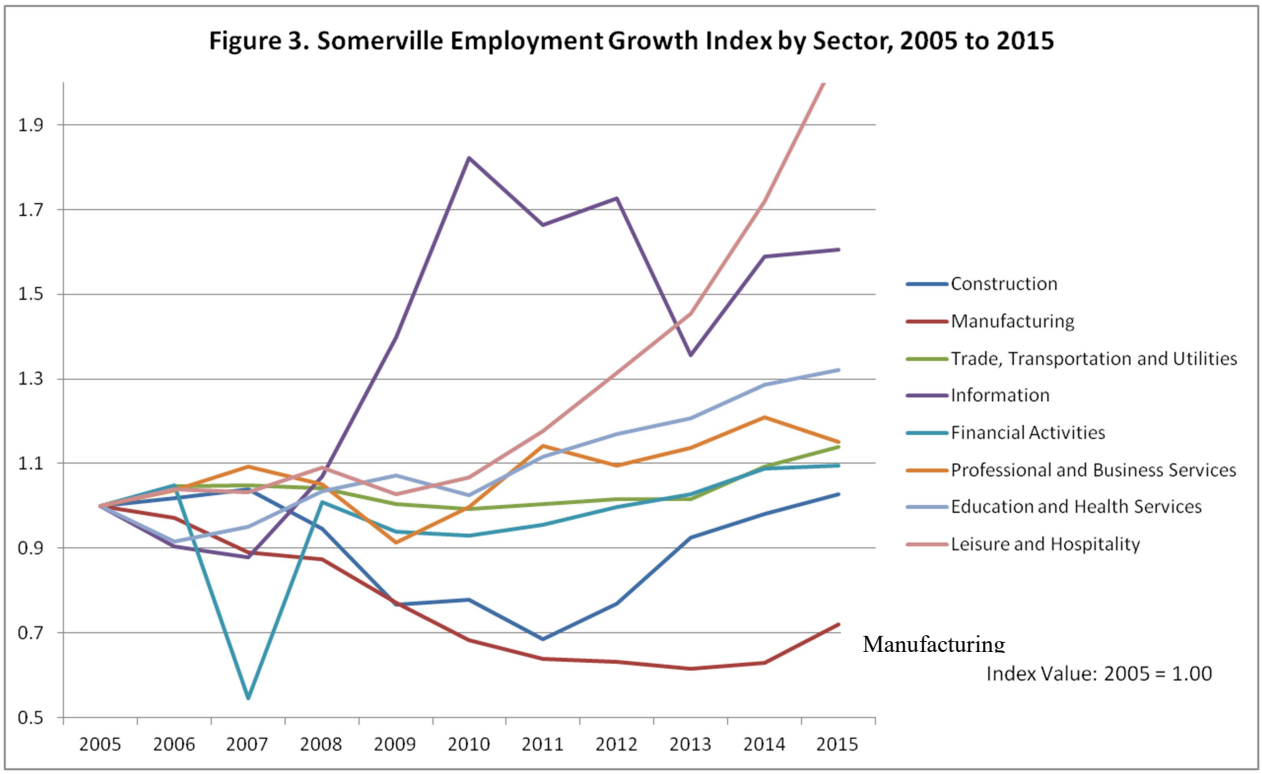


Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

Employment Trends and Growth Industries

Somerville's economy had strong job growth from 2005 to 2015, significantly exceeding the growth rate for the Metro North WDA region, and adding employment across multiple sectors and industries. Somerville added 5,150 total jobs between 2005 and 2015, with payroll employment expanding from 21,038 to 26,188, a 24.5% increase. Between December 2007 and August 2009[6], during the great recession, Somerville had a net loss of 1,691 jobs but the city's economy has rebounded very well since 2010. Between 2010 and 2015, total payroll employment grew by 4,913 jobs, averaging almost 1,000 net new jobs per year—an average annual growth rate of 4.2%. In contrast, total payroll employment for the Metro North WDA grew 12.2% from 2005 to 2015, and during the post-recessionary period, the WDA region grew at one-half the rate of Somerville, or 2% average annual employment growth.

[6] The official end of the recession was June 2009 but the low point of Somerville's employment was August 2009.

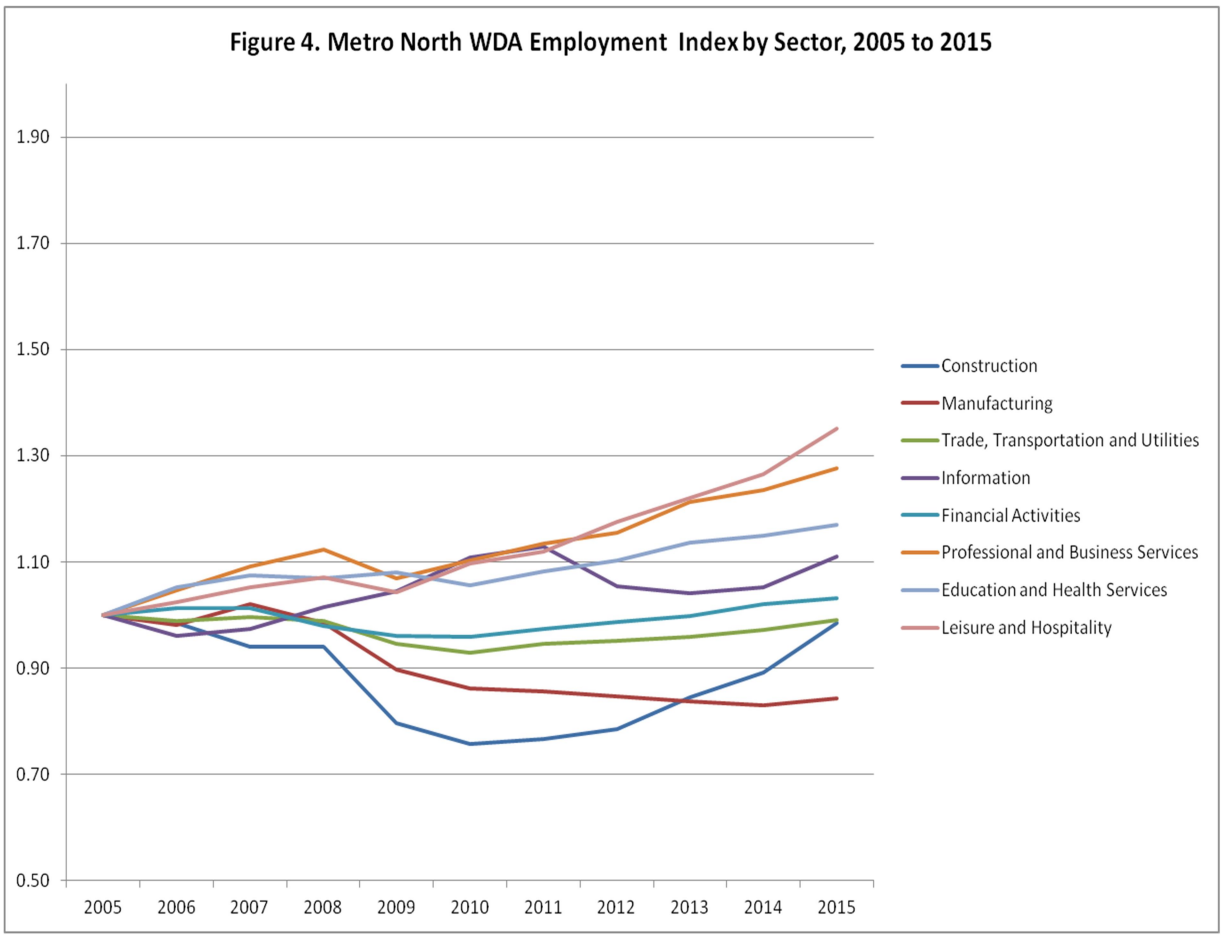


Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

Somerville and the Metro North WDA's recent employment growth provide a good indicator for the likely sector and industry composition of future development. An employment index that tracks job growth relative to 2005 by major sector from 2005 to 2015 is presented for Somerville in Figure 3 and the Metro North WDA in Figure 4. In comparing trends for these areas, it is important to recognize that Somerville has a much smaller employment base that constitutes 6.4% of total jobs in the Metro North region.

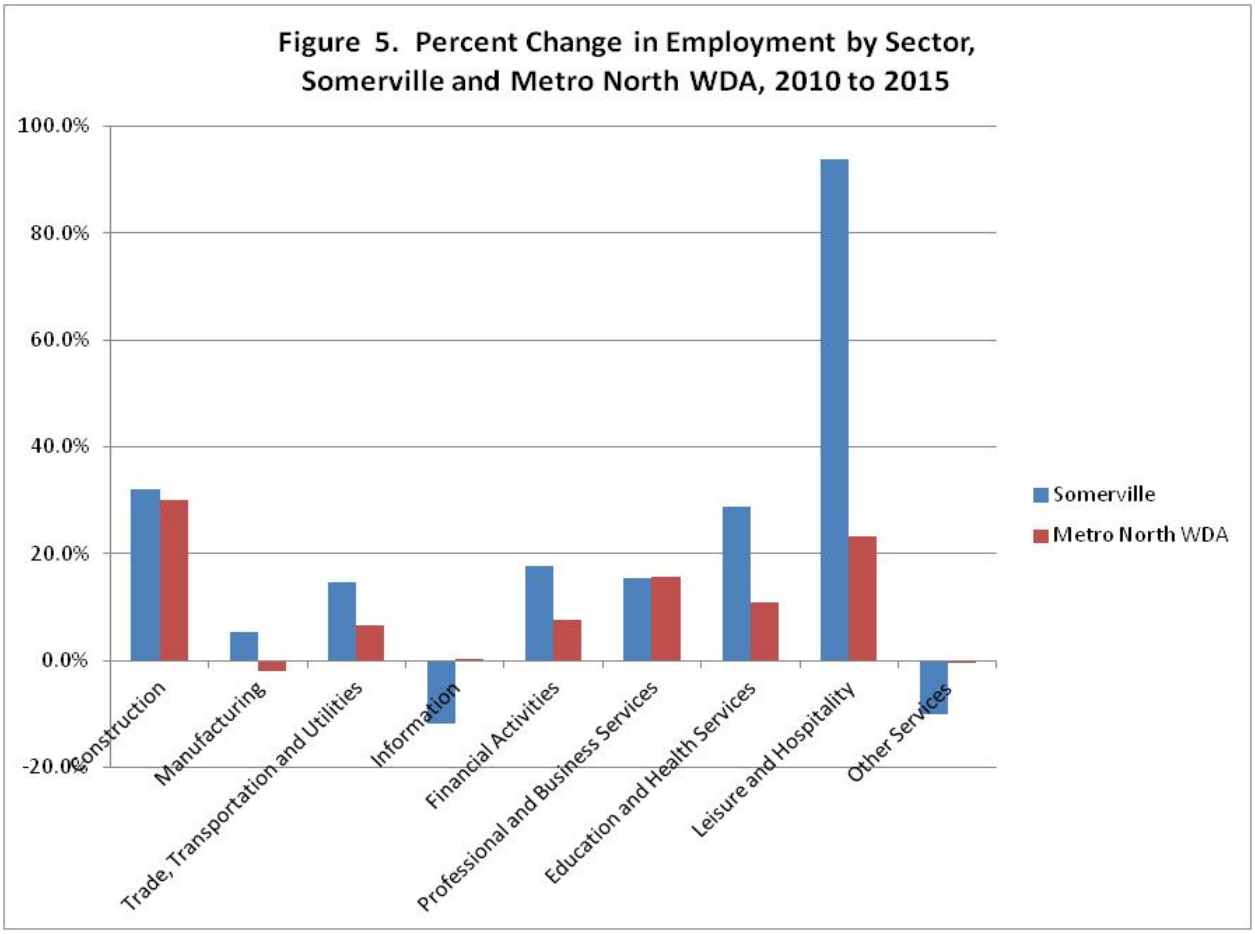
Both areas had steady job growth for Leisure and Hospitality and Education and Health Services, with Somerville growing at a faster rate. This was especially notable for Leisure and Hospitality in which Somerville's employment doubled from 2005 to 2015 compared to 35% growth for the WDA. The Metro North WDA had stronger employment growth for Professional and Business Services, increasing by 28% over the period compared to a 15% increase in Somerville. Manufacturing declined in both areas, although more steeply in Somerville, and the city's construction employment was very cyclical dropping by close to 30% before rebounding in 2011.

Employment changes were more erratic for Somerville in several sectors, most notably Information and Professional and Business Services. This is not surprising since Somerville has a much smaller economic base that is 1/15 that of the Metro North region and thus any given shift in employment, such as the loss of a medium sized employer or major expansion or addition of a new firm, will have a much greater relative impact on the city.



Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

Growth patterns shifted during the post-recession period from 2010 to 2015, as shown in Figure 5. Somerville had higher percentage employment growth in most sectors with the differences most pronounced for Leisure and Hospitality and Education and Health Services. Growth rates were almost equal for Professional and Business Services, a marked improvement from 2005 to 2010 when Somerville was flat but the WDA grew by 10%.



Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

Since sector data combines patterns across many component industries, more detailed industry level data was examined to identify the industries with the largest job gains from 2005 to 2015. Table 2 presents absolute job growth from 2005 to 2015 for expanding Somerville industries that had the largest employment increases and added at least 100 jobs during this period. Fifteen industries meet this criterion and combined to add 5,244 jobs. Restaurants, Health Care and Retail were key sources of growth over this period. Restaurants and Other Eating Places accounted for one-third (33.8%) of these new jobs. Three health-related industries (Ambulatory Health Services[7], Hospitals, and Individual and Family Services) combined to generate 1,569 new jobs, or 30% of the growth, among the 15 fastest growing industries. Five retail store types together expanded to add 842 jobs. Technology-based industries lagged these other sectors but

[7] Offices and clinics for medical practitioners.

were still important sources of growth, with Computer Systems Design and Related Services generating 439 new jobs and Scientific Research and Development adding 100 jobs.

Table 2. Somerville Industries with Largest Job Growth, 2005 to 2015[8]

Industry	Job Growth	Percent of Total for 15 Industries
Restaurants and Other Eating Places	1,773	33.8%
Ambulatory Health Care Services	1,038	19.8%
Computer Systems Design	439	8.4%
Individual and Family Services	362	6.9%
Clothing and Clothing Accessories Stores	312	5.9%
Hospitals	169	3.2%
Office Supply, Stationery & Gift Stores	155	3.0%
Dry Cleaning and Laundry	152	2.9%
Educational Services	150	2.9%
Food and Beverage Stores	144	2.7%
General Merchandise Stores	126	2.4%
Offices of Real Estate Agents and Brokers	119	2.3%
Furniture and Home Furnishings Stores	105	2.0%
Amusement, Gambling and Recreation	100	1.9%
Scientific Research and Development	100	1.9%
Total	5,244	100.0%

Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

There was considerable overlap in the industries driving job growth for the Metro North region. Sixteen industries added at least 1,000 jobs in Metro North from 2005 to 2015. Eight of these were also on Somerville's list of the largest sources of new jobs, including Restaurants, Computer Systems Design, all three of the health care industries, Educational services and grocery stores. However, technology-based industries were more significant job generators for Metro North than for Somerville, accounting for 32% of job growth among the top sixteen industries, compared to 10% for Somerville. On the other hand, restaurants, retail, and health care industries were less important sources of job growth for the region than for Somerville. Finally, the Metro North WDA benefited from growth in several industries that did not add many jobs in Somerville, including insurance, Other Professional and Technical Services, and Administrative and Support Services.

[8] These figures do not include the 4,500 new jobs at Partners Health Care's headquarters in Assembly Square which was occupied in the summer of 2016.

Table 3. Industries in the Metro North WDA Region with Largest Job Growth, 2005 to 2015

Industry	Job Growth	Percent of Total for 16 Industries
Computer Systems Design	8,119	14.6%
Restaurants and Other Eating Places	7,946	14.3%
Scientific Research and Development	6,103	11.0%
Employment Services	4,818	8.7%
Administrative and Support Services	4,679	8.4%
Ambulatory Health Care Services	4,235	7.6%
Individual and Family Services	4,167	7.5%
Grocery Stores	2,695	4.9%
Elementary and Secondary Schools	2,647	4.8%
Software Publishers	2,237	4.0%
Hospitals	2,166	3.9%
Data Processing and Related Services	1,258	2.3%
Other Professional and Technical Services	1243	2.2%
Insurance Carriers	1060	1.9%
Insurance Agencies, Brokerages and Support	1043	1.9%
Other Schools and Instruction	1084	2.0%
Total	55,500	100.0%

Source: Massachusetts Department of Labor and Workforce Development ES-202 Data Series

Somerville Development Trends

Somerville has build-out capacity and plans to support new retail and commercial development. The SomerVision comprehensive plan calls for developing 10.5 million square feet of new development over the next 20 years to house 30,000 new jobs. The bulk of this new development is envisioned through utilizing buildable land in five targeted transformation areas: Assembly Square, Inner Belt, Brickbottom, Boynton Yards and Union Square. Assembly Square and Union Square/Boynton Yards account for the vast majority of the planned new development. Assembly Square is well under development as a commercial and employment center with two new fully leased office buildings and the Assembly Row retail and entertainment center. An additional 2,683,000 square feet of retail, office and hotel development is planned but not yet permitted for Assembly Square. The Union Square Neighborhood Plan calls for a major employment center in Union Square catalyzed, in part, by expansion of the MBTA Green Line. At full development, the plan includes 4.2 million square feet of new commercial development, including office (3,592,000 SF), retail (546,000 SF) and arts/creative economy space (90,000 SF). Substantial new commercial development in Union Square is expected to occur with completion of the Green Line expansion and therefore is several years away from permitting and construction.

Considerable non-residential development has taken place in Somerville in recent years, fueled by strong regional economic growth. Table 4 summarizes Somerville's non-residential development projects over 30,000 square feet (i.e., projects subject to current housing linkage

fees) completed from 2010 to 2016 along with projects under construction and those that are permitted but have not yet begun construction. Almost two million square feet of non-residential development has been built in Somerville over this period with another 573,000 square feet under construction and permitted.

Table 4. Somerville Development Projects
2010 to 2016 Development Completed, under Construction and Planned

Development Use	Completed	Under Construction	Permitted Preconstruction
Retail Square Feet	447,307	100,802	29,974
Office/Commercial Square Feet	1,016,346	78,534	17,652
Hotel Square Feet	0	112,000	0
Other Uses	425,886	38,311	195,229
Total	1,889,539	329,647	242,855

Source: Somerville OSPCD

Market Demand and Expected Absorption

Housing demand and the need for job training will result from Somerville's success in attracting business growth within the Boston region. Based on interviews with developers and brokers, Somerville is competing for tenant businesses with Cambridge, parts of the Boston office market and nearby suburbs along I-95/Route 128. Thus, future commercial development in Somerville is linked to demand in these real estate markets. Historic absorption data for these market areas are an important indicator for the level of planned and permitted development that is likely to be built. Costar, a private database of commercial buildings and leasing activity, was the source of this information. Table 5 summarizes the supply and absorption of office space for Somerville and these competing markets. Two periods are used for space absorption: (1) the ten year period from 2007 through the first quarter of 2017; and (2) the more recent five-year period from 2012 to 2016. The latter period reflects recent trends and sustained growth without a recession. The increase in the total supply of space is reported just for the ten year period from 2007 to the present.

Table 5. Class A Office Market Real Estate Supply and Absorption, Somerville and Competing Markets

	Total Change in Supply, 2007-Present	Average Annual Change in Supply, 2012-Present	Supply, 2017	Vacant SF 2017	Vacant % 2017	Average Annual Net Absorption, 2007 to 2017	Average Annual Net Absorption, 2012 to 2016	2017 Average Base Rent
Somerville	1,049,257	95,387	2,828,203	52,637	1.9%	117,772	46,170	$31.15
Arlington Lexington	382,276	34,343	5,173,820	518,437	10.0%	66,757	90,538	$19.64
Malden Medford	289,721	4,240	3,564,607	444,203	12.5%	10,824	20,756	$15.51
Cambridge	4,618,345	654,117	31,325,954	763,678	2.4%	540,348	916,070	$40.67
Boston, 4 Submarkets*	5,283,730	743,746	77,460,056	6,745,188	8.7%	445,450	1,027,377	$39.34
Total, All Market Areas	11,623,329	1,531,833	120,352,640	8,524,143	7.1%	1,181,151	2,100,912	$37.94
Somerville Share	9.0%	6.2%	2.3%	0.6%		10.0%	2.2%	82.1%

*Back Bay, Charlestown/East Boston, Financial District, Seaport, Source: Costar Database
Absorption figures for 2017 covers the first quarter only

Based on this data from Costar, the supply of office space in these five market areas grew by 11.6 million square feet since 2007. Somerville added just over 1 million square feet or 9% of the increase. Cambridge and the Boston submarkets accounted for 85% of the growth, adding 9.9 million square feet. Annual net absorption of new office space in this geography averaged 1.81 million square feet from 2007 to the present, as follows:

- Somerville accounted for 117,717 square feet or 10% of net absorption, which was one-fifth and one-quarter of the space absorbed in Cambridge and Boston, respectively;
- From 2012 through 2016, net absorption has been much higher, averaging 2.1 million square feet, 92% of which occurred in Cambridge and Boston;
- Somerville's net absorption was boosted by Partners HealthCare's new building in Assembly Square. In the 2010 to 2016 period, without this project, Somerville's share of average net absorption was 2.2%
- Neighboring suburban markets are attracting far less development and absorption of space than the urban markets. The Malden/Medford and Arlington/Lexington areas added 672,000 square feet of space since 2007, most of which was built before 2010. Annual net absorption averaged slightly below 78,000 square feet since 2007 and almost 111,000 from 2012 to 2016.

Vacant space is moderate at 7% of total supply but is especially tight in Somerville and Cambridge. This indicates that new development will be needed to accommodate business needs if the region's steady economic growth continues. The low vacancy rate and recent levels of absorption in Cambridge also increase the opportunity for Somerville to attract tenants who might have difficulty securing space in Cambridge.

Somerville is well positioned to increase its absorption of new Class A office and lab space over the next decade. The strong demand for space among major pharmaceutical and technology companies may crowd out small and mid-sized East Cambridge businesses. Furthermore, Kendall Square rents are now the highest in the region and are likely to cause more tenants to seek less costly alternatives when their current leases expire. Assembly Square is now a developed urban alternative to Boston and Cambridge with the addition of an Orange Line station and the dining, shopping and entertainment amenities at Assembly Row. With completion of the Green Line expansion, Union Square, which is already developed with urban amenities, has the potential to become another Somerville alternative to Cambridge and Boston for a range of industries.

Somerville has also seen significant new retail development in the past decade, led by the Assembly Row project. According to City of Somerville records, almost 500,000 square feet of new retail development has been built since 2010, with the vast majority of this development in the Assembly Square area and 90% occurring in larger buildings over 30,000 square feet.

Interviews with brokers and developers confirm that Somerville can be a competitive location for a range of businesses but is currently constrained by the lack of available space. Assembly Square has successfully leased space to several early stage life science companies that were priced out of Cambridge along with the new Partners HealthCare building. It has attracted interest to its planned new office building among information technology, life science and financial service firms from Boston, Cambridge and suburban locations. However, developers and brokers note that Somerville needs to provide a sizable rent discount to Cambridge and Boston's Seaport and Financial districts to be competitive.

A growing area of demand is among small early stage product-focused technology firms that are leaving incubators and laboratories. These firms are seeking smaller amounts (several thousand square feet) of multiuse space that includes offices, production space, and a research area. In some cases, they are reclaiming and converting former car repair, retail, and smaller industrial buildings. Consequently, these firms are unlikely to occupy new office buildings and when they occupy converted existing buildings, they are likely to fall below the 30,000 square foot threshold for linkage fees.

With large amounts of new development approved in Cambridge and Boston, Somerville will still face considerable competition for tenants to fill future development projects. Despite the intensive development that has already occurred in East Cambridge, the city has permitted 4.5 million square feet of new office and laboratory space, including 1.8 million square feet at Northpoint and 1.75 million square feet in four projects in Kendall Square[9]. Redevelopment of the Volpe Center site in Kendall Square may add another large block of commercial space. As of mid-2016, Boston had over 12.1 million square feet of development permitted but not yet built, with close to half of this space for non-institutional office development.

[9] Cambridge Development Log, October to December 2016

Projected New Office, Retail and Hotel Development

Based on a growing local economy with strong demand for commercial space and Somerville's improving market position, Somerville is projected to build 1.68 million square feet of new office space over the next decade. This amount reflects combined net absorption of office space within Boston, Cambridge, and Somerville and nearby suburbs at the recent rate of 2.1 million square feet per year with Somerville gaining 10% of this regional demand. Allowing for two to three years of little or no development due to a recession, Somerville would absorb an average of 210,000 square feet over eight years for a total of 1.68 million square feet[10]. An additional 420,000 square feet of retail space is also projected at 20% of new office development. This ratio is below the 40% ratio of retail/office that was built from 2010 to 2016 and closer to the 15% retail/office proportion in the Union Square Neighborhood Plan. Given the amount of retail and restaurant space already built in Assembly Square, the next wave of development in this area is likely to have a lower proportion of retail space, closer to that planned for Union Square. An increment above 20% is projected to account for some mid-size retail projects outside the main employment center, such as a supermarket. Somerville is also projected to add another hotel project with 110,000 square feet, comparable to the current hotel project in Assembly Square.

The components of projected new development in Somerville over the next decade, as summarized in Table 6, include:

- 1.68 million square feet of office space;
- 420,000 square feet of retail and restaurant space; and
- 110,000 square feet of new hotel development.

Table 6. Summary of Expected Development, 10 Year Period

Type of Use	Projected Square Feet of New Development
Office Development	1,680,000
Retail and Restaurant	420,000
Hotel	110,000
Total	2,210,000

Source: Karl F. Seidman Consulting Services

Expected Tenant Businesses

To determine the likely jobs and earnings from this new development, the industries likely to occupy newly built space must be projected. Since new development in Somerville is competing for tenants with Boston, Cambridge and surrounding suburbs, new tenants are likely to reflect the diversity of growth industries within the region, not only Somerville, and thus have a larger share of information technology, financial and professional services and research and development industries than the city's current economic base. Moreover, since housing and job linkage fees

[10] Cambridge Development Log, October to December 2016.

are tied to new development**,** the projections used for this analysis focus on new business and employment growth, which will also differ from Somerville and the region's overall net job growth. Somerville has experienced a decline in some parts of the economy, such as construction, manufacturing, and financial services, which offsets growth in other sectors to yield overall net employment changes. Since the growing sectors require different facilities, have different workforce needs and provide the basis for new development, it is Somerville's growth industries that occupy new large development growth projects and the resulting employment that will generate new housing and labor demand and constitute the nexus for the housing and job linkage fees to address this demand.

Based on Somerville's market position and trends in the Metro North regional economy, the distribution of tenants for the estimated 1.68 million square feet of new office development over the next decade is expected to be:

- Research and Development Services 20%
- Computer Systems Design and Related Services 20%
- Software Publishers 10%
- Data Processing and Related Services 5%
- Ambulatory Health Services 10%
- Individual and Family Services 5%
- Other Professional and Technical Services 5%
- Advertising and Related Services 5%
- Architecture and Engineering Services 5%
- Management of Companies and Enterprises 5%
- Employment Services 5%
- Insurance 5%

The first three are fast growing industries that are likely to continue expanding, support demand for new space and be willing to pay the higher rents associated with new development. Consequently, they are projected to account for 50% of new office space. The balance of absorption is divided among 9 industries, all of which have been growing in Somerville or the region and most of which have an existing base in the city. Although Ambulatory Health Care (health practitioners' offices) accounted for over 25% of the job growth among the city's high growth industries in the past decade, they are now expected to be a smaller share of occupants for new large office development as they are more likely to be spread across the city and less likely to occupy new buildings with higher rents. Furthermore, many Individual and Family Services tenants are small firms and non-profit organizations that are not able to afford the high rents in newly constructed large office buildings.

Retail Tenants

Based on the fast growth in restaurants and diverse growth across various types of retail stores, the projected growth in retail space is concentrated in restaurants (40% of space) with the balance occupied by growing retail sectors that include food and beverage stores, pharmacies and

miscellaneous stores (e.g., florists, gift stores, office supply stores, etc.) along with day care centers, bank branches and real estate offices. A sizable share of retail space (15%) is projected for arts, entertainment, and recreation related businesses, reflecting the Union Square Plan for a 5% requirement for creative space and the role these types of businesses have played in both the Davis Square and Assembly Square development.

Table 7 summarizes the projected development by use, tenant type and employment over the next ten years. Employment projections are based on square feet per employee on parameters used for the Union Square Neighborhood Plan along with industry wide data for restaurants.
The projected job growth in this report may differ from figures in the SomerVision plan because the SomerVison Plan addresses a longer time period, includes job growth from development projects under 30,000 square feet and also includes new jobs from growth of existing firms. These projections in Table 7 will be used to estimate the occupations and wage levels for new employees working in the expected new buildings and the associated impact on housing and workforce training needs.

Table 7. Projected New Development and Employment by Use and Industry, 2018 to 2027

Use/Tenant Type	Projected Square Feet	Square Feet per Employee	Estimated New Employment
Office Tenants			
Computer Systems Design and Related Services	336,000	200	1,680
Insurance	84,000	200	420
Research and Development Services	336,000	440	764
Employment Services	84,000	200	420
Software Publishers	168,000	200	840
Data Processing and Related Services	84,000	200	420
Doctor's Offices	168,000	200	840
Advertising and Related Services	84,000	200	420
Individual and Family Services	84,000	200	420
Architecture and Engineering Services	84,000	200	420
Other Professional and Technical Services	84,000	200	420
Management of Companies and Enterprises	84,000	200	420
Retail and Ground Floor Tenants			
Food and Beverage Stores	63,000	500	126
Pharmacy	21,000	500	42
General Merchandise	21,000	500	42
Clothing Stores	21,000	500	42
Arts, Entertainment and Recreation	63,000	500	126
Day Care Center	21,000	350	60
Bank Branches	21,000	350	60
Real Estate Offices	21,000	350	60
Restaurants	168,000	225	747
Hotel	110,000	1,000	110
Total	2,210,000		8,899

Source: Karl F. Seidman Consulting Services

Somerville Housing Market Conditions

This section summarizes current housing market conditions in Somerville to inform analysis and recommendations for the city's affordable housing linkage policies.

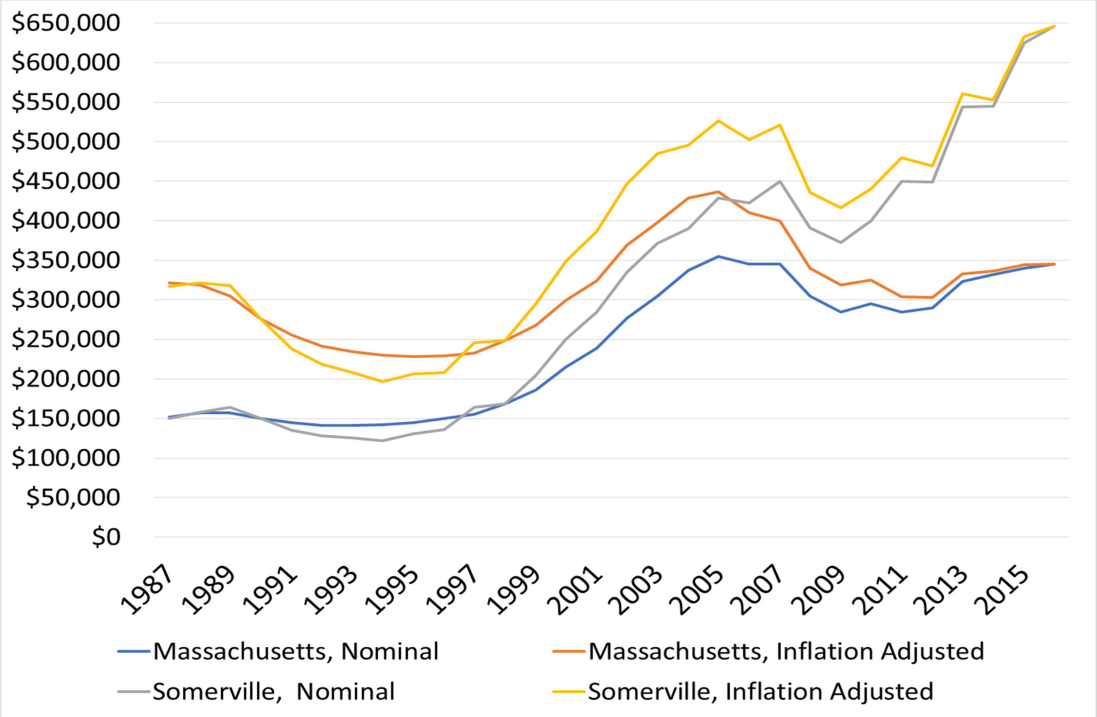
Housing Conditions in Somerville[11]

The City of Somerville is experiencing a sustained and severe affordable housing shortage, because demand for affordable units is outstripping the supply of housing affordable to low and moderate-income households.

Ownership Housing

There has been a sustained run up in housing prices for condos and single-family homes in Somerville, as shown by data in Figure 6 and in Figure 7. The median price in 2016 of a single-family home was over $646,000 and the median price of a condo was $580,000.

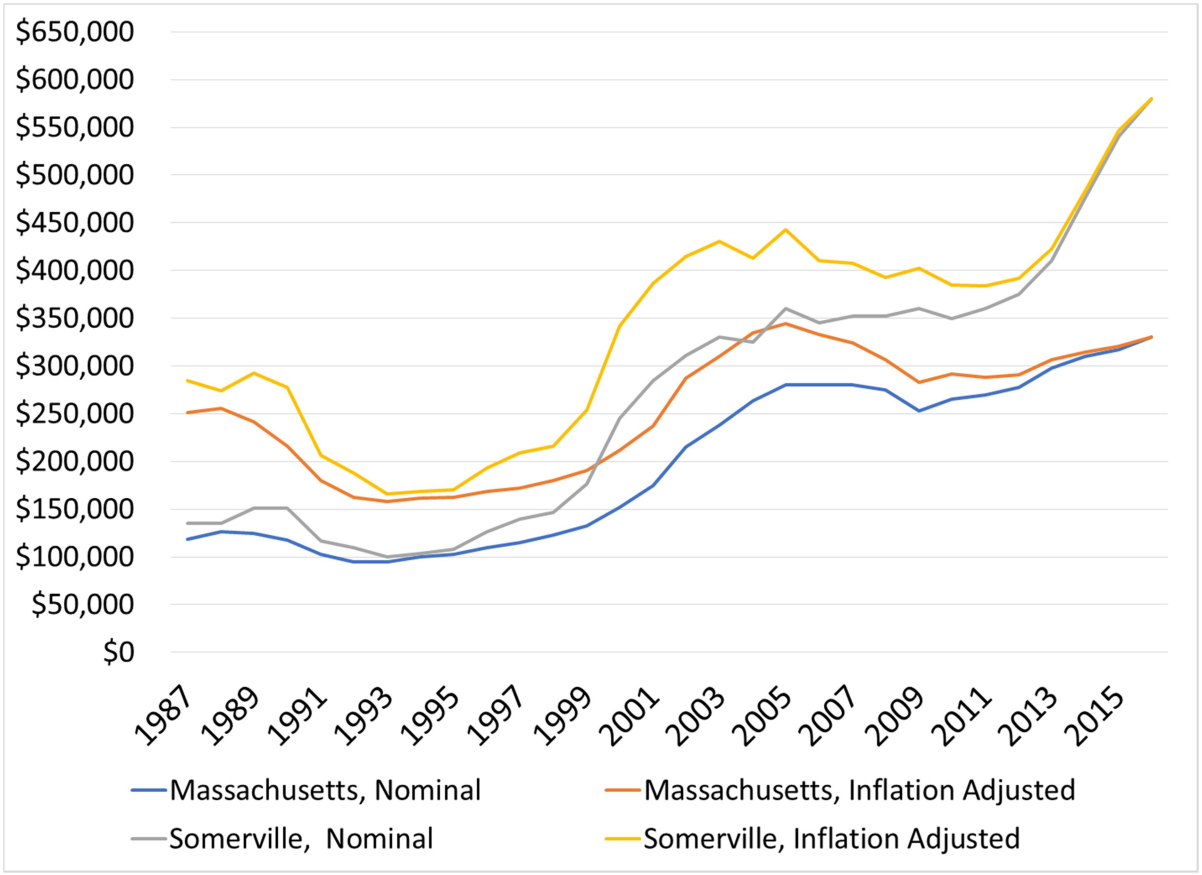
Figure 6. Trend in Median Sales Price of Single-family Units, Somerville and Massachusetts, in Nominal Value and 2017 Value of the Dollar



Source: Warren Group and ConsultEcon, Inc.

[11] Detailed statistical data on Somerville's population, household, housing stock, and housing market conditions appear in Appendix B.

Figure 7. Trend in Median Sales Price of Condo Units, Somerville and Massachusetts, in Nominal Value and 2017 Value of the Dollar



Source: Warren Group and ConsultEcon, Inc.

Rental Housing

In addition to ownership housing prices that have far outpaced the growth in prices statewide, Somerville and surrounding areas have had a relatively low rental vacancy rate in recent years. As reported by the U.S. Census Bureau in the 2000 and 2010 censuses, the rental vacancy rate in Somerville increased from 1.6% in 2000 to 3.6% in 2010. Despite this increase, the rental vacancy rate is low when compared to the rates across the Boston region and the Commonwealth of Massachusetts as a whole. In 2010 the rental vacancy rates were 5.9% in the Boston region and 6.5% in the Commonwealth; early estimates for 2015 indicate that the rental vacancy rate is decreasing, to 3.3% in the Boston region and to 3.5% in the Commonwealth as a whole. Somerville continues to have low availability of affordable rental units. These trends continue to be a factor in the availability and cost of housing in Somerville.

Data from the Census Bureau also indicates that the median gross monthly rental payment among Somerville renting households has increased 30.6% from $1,299 in 2010 to $1,696 in

2015.[12] Assuming 30 percent of income used for housing costs, the average rent in 2015 was affordable to households earning $67,840 or more annually. By comparison, the general rate of inflation nationally, as indicated by the Consumer Price Index (CPI), is much more modest. Between 2010 and 2015, CPI increased from 218.1 to 237.0, an 8.7% increase, which would indicate that Somerville households are devoting an increasing share of their financial resources to housing.

Asking rents for current rental housing are shown by data in Table 8. Average asking rents for all listings was just over $3,000 per month. The majority of listings were in 2- and 3- bedroom apartments. Two-bedroom apartments leased for an average of $2,700 or $2.69 per square foot. Three-bedroom apartments averaged $3,000 per month or $2.54 per square foot. Smaller apartments earned a higher per square foot cost; studios rented at $4.42 per square foot, while one-bedrooms rented at $3.36 per square foot.

Table 8. Asking Rents by Unit Size in the City of Somerville, May 4, 2017

Unit Size	Number of Listings	Average Asking Rent	Average Square Feet 1/	Average Rent Per Square Foot 1/
Studio	4	$2,293	526	$4.42
1 Bedroom	33	$2,424	789	$3.36
2 Bedrooms	70	$2,700	1,017	$2.69
3 Bedrooms	67	$3,011	1,221	$2.54
4 Bedrooms	41	$3,956	1,686	$2.45
5 Bedrooms	3	$4,242	2,157	$1.85
6 Bedrooms	2	$5,700	2,154	$2.51
All Listings	**220**	**$3,028**	**1,123**	**$2.77**

1/ Square footage available for 142 listings or 65% of the total listings.

Source: Realtor.com and ConsultEcon, Inc.

Housing Costs as a Percent of Household Income

Due to the high cost of housing, many Somerville households devote a large portion of their incomes to housing. As shown by data in Table 9, 32.7% of all occupied housing units in Somerville in 2015 were "cost burdened," which means the household was paying more than 30 percent of its income on housing costs. Housing is typically considered affordable if housing costs are no more than 30 percent of household incomes. In Somerville, both renters and homeowners are cost burdened. In 2015, about 32.6% of renters were cost-burdened, compared to 32.8% of homeowners. This is an improvement compared to 2010, when nearly half (47.2%) of renters were cost burdened and 40.2% of renters were cost burdened. The Somerville share of households paying over 30 percent of their income for housing was estimated at 32.6%, a great

[12] This 2015 figure is based on the Census Bureau's American Community Survey 1-year (2015) estimate and reflects average tenant rent payments not including any rental subsidies.

improvement over 2010, when the estimate was 45.6%, and overall slightly lower than the ratio for the Boston MSA and Massachusetts, both at between 36 and 37%.

Table 9. Housing Costs as a Percentage of Household Income in the Past 12 Months by Tenure in the City of Somerville, 2010 and 2015

	Somerville, 2010		Somerville, 2015		Boston MSA, 2015		Massachusetts, 2015	
Percent of Income	Occupied Housing Units	% of Total	Occupied Housing Units	% of Total	Occupied Housing Units	% of Total	Occupied Housing Units	% of Total
Owner-Occupied								
Less than 20 Percent	3,095	29.8%	4,634	44.9%	494,470	45.3%	732,018	46.3%
20 to 29.9 Percent	3,126	30.1%	2,307	22.3%	277,385	25.4%	390,622	24.7%
30 Percent or More	4,175	40.2%	3,383	32.8%	319,048	29.2%	457,313	28.9%
Total	**10,395**	**100.0%**	**10,324**	**100.0%**	**1,090,903**	**100.0%**	**1,579,953**	**100.0%**
Renter-Occupied								
Zero, negative, or no cash rent	584	2.7%	1,009	4.7%	36,663	5.3%	59,780	6.1%
Less than 20 Percent	4,784	22.0%	6,462	30.0%	159,795	23.1%	225,400	23.0%
20 to 29.9 Percent	5,952	27.4%	7,021	32.6%	161,870	23.4%	223,440	22.8%
30 Percent or More	10,390	47.9%	7,021	32.6%	333,424	48.2%	471,379	48.1%
Total	**21,710**	**100.0%**	**21,513**	**100.0%**	**691,752**	**100.0%**	**979,998**	**100.0%**
Total								
Zero, negative, or no cash rent	584	1.8%	1,009	3.2%	36,663	2.1%	59,780	2.3%
Less than 20 Percent	7,878	24.5%	11,097	34.9%	654,264	36.7%	957,418	37.4%
20 to 29 Percent	9,078	28.3%	9,328	29.3%	439,255	24.6%	614,061	24.0%
30 Percent or More	14,564	45.4%	10,403	32.7%	652,472	36.6%	928,692	36.3%
Total	**32,105**	**100.0%**	**31,837**	**100.0%**	**1,782,655**	**100.0%**	**2,559,951**	**100.0%**
Households by Income Level Paying 30 Percent or More in Housing Costs								
Less than $20,000	4,559	14.2%	2,515	7.9%	181,831	10.2%	289,274	11.3%
$20,000 to $34,999	3,596	11.2%	1,783	5.6%	140,830	7.9%	215,036	8.4%
$35,000 to $49,999	3,371	10.5%	1,433	4.5%	105,177	5.9%	145,917	5.7%
$50,000 to $74,999	2,119	6.6%	2,515	7.9%	117,655	6.6%	153,597	6.0%
$75,000 or more	995	3.1%	2,133	6.7%	105,177	5.9%	122,878	4.8%
Total	**14,640**	**45.6%**	**10,379**	**32.6%**	**650,669**	**36.5%**	**926,702**	**36.2%**

Note: Income levels are not adjusted for inflation.

Source: U.S. Census American Community Survey, 2010, 1-Year Estimates; U.S. Census American Community Survey, 2015, 1-Year Estimates; and ConsultEcon, Inc.

Data in Table 10 shows the distribution of households by the percentage of income that was spent on rent in 2010 and 2015. In 2010, the largest household cohort was that paying 50 percent or more on rent. In 2015, this proportion decreased slightly, such that the largest cohorts were those paying between 15 and 20 percent of their income on rent. The cohort paying 50 percent or more of their income on rent decreased to only 15.2% of households. This is unlike the situation in the Boston region and in Massachusetts as a whole, where over 23% of households paid 50 percent or more on rent.

Table 10. Households by Percent of Income Spent on Rent, 2010 and 2015
City of Somerville

	Somerville, 2010		Somerville, 2015		Boston MSA, 2015		Massachusetts, 2015	
Percent of Income	Renting Households	% of Total	Renting Households	% of Total	Renting Households	% of Total	Renting Households	% of Total
Less than 10.0 percent	666	3.1%	1,413	6.6%	25,208	3.6%	35,632	3.6%
10.0 to 14.9 percent	1,843	8.7%	1,198	5.6%	52,981	7.7%	76,302	7.8%
15.0 to 19.9 percent	2,667	12.5%	3,833	17.8%	81,309	11.8%	113,151	11.5%
20.0 to 24.9 percent	3,405	16.0%	3,686	17.1%	85,601	12.4%	117,026	11.9%
25.0 to 29.9 percent	2,693	12.7%	3,343	15.5%	76,632	11.1%	106,053	10.8%
30.0 to 34.9 percent	2,070	9.7%	1,353	6.3%	71,428	10.3%	97,349	9.9%
35.0 to 39.9 percent	1,062	5.0%	1,059	4.9%	42,425	6.1%	60,544	6.2%
40.0 to 49.9 percent	1,854	8.7%	1,346	6.3%	55,642	8.0%	79,227	8.1%
50.0 percent or more	4,546	21.4%	3,267	15.2%	163,740	23.7%	234,295	23.9%
Not computed	466	2.2%	1,015	4.7%	36,786	5.3%	60,419	6.2%
Total	**21,272**	**100.0%**	**21,513**	**100.0%**	**691,752**	**100.0%**	**979,998**	**100.0%**

Source: U.S. Census Bureau, Decennial Census and 2015 American Community Survey; and ConsultEcon, Inc.

Total Residential Housing

According to the Census housing data, Somerville had 32,477 housing units available in 2000. There was a net gain of 1,243 housing units between 2000 and 2010, with a 3.8% increase in available housing to 33,720 units. Though the total number of housing units increased modestly, the number of vacant housing units increased over 75%, from 922 units to 1,615 units. The vacant units may have been vacant for sale or for rent at the time the survey was conducted. Between 2010 and 2015, homeowner and rental vacancy rates have decreased and more of Somerville's housing units are occupied. The total estimated housing stock decreased slightly to 33,322, based on ACS 5-year estimates of total housing units. Given the margin of error of 807 units, the time period of the survey, and trend in market demand, the number of housing units in Somerville may have increased slightly between 2010 and 2015.

Summary of Somerville Housing Conditions

Somerville's population is growing, housing is in high demand, and household composition is changing. Between 2010 and 2015, Somerville's population surged while its households became slightly larger and more affluent. Data indicate that Somerville's housing supply has not kept up with population growth during this period (although the ACS data used in this analysis may not adequately reflect the addition of new housing units in Somerville). ACS data indicate low vacancy rates for homeownership and rental housing. Recent sales prices for single-family and condominiums and current asking rents for available units are high and growing higher, although real estate brokers have noticed some leveling off in sales prices between 2016 and 2017. With increases in household income, the proportion of households that were cost burdened in Somerville was lower in 2015 than in 2010. This may indicate that new market rate housing is attracting households better able to afford Somerville's high prices, and that low- and moderate-income households are leaving the city.

National Housing Market Trends

Somerville's market experience is reflected in national and regional trends. According to *The State of the Nation's Housing, 2016*, the national housing market continues to rebound from the economic downturn, largely due to strength in the rental sector. Rental vacancy rates have fallen steadily since 2010, with rents increasing at twice the rate of inflation. Multi-family rental construction accounted for more than 30% of all housing starts, substantially more than the long term average. Capitalization rates for multi-family housing are lower than at the height of the housing boom a decade ago, reflecting the strength of the rental market and the low interest rate environment that has investors looking for a good return on their investment. However, most of the units constructed are at the upper end of the market, which is similar to the situation in Somerville. The strength of the rental market has contributed to an increase in the number of renters that are cost burdened—those households that are paying more than 30% of their income on rent—especially among low-income and very low-income households.

Housing prices for owner-occupied homes continue to increase but have not yet returned to previous levels before the economic downturn except in a few leading markets, like the Boston region. New home sales and new ownership housing construction are at historically low levels and low homeownership vacancy rates are contributing to increases in prices, despite an overall decline in the homeownership rate nationally. The homeownership rate has declined due to a number of demographic and economic factors including the slowing of new household formation as people are delaying marriage and child birth, high levels of foreclosures, low levels of income growth, higher lending standards, and increasing student debt burdens. As the economic recovery continues to support employment and income growth, it is anticipated that household formation will increase and once again provide support for higher levels of homeownership.

Regional Housing Market

According to *Greater Boston Housing Report Card, 2016,* Greater Boston's housing market is strained under a growing population of millennials, retirees, and low-income immigrants. The region[13] has a housing supply mismatch that is unable to accommodate the changing demand for housing from the region's population. The core cities in the region, such as Somerville, Cambridge and Boston, have an undersupply of multi-family housing that is desirable among the younger millennials, born between 1980 and 2000, and aging baby boomers, born between 1946 and 1964. Millennials have indicated a strong desire to locate in dense, walkable neighborhoods.[14] According to *Greater Boston Housing Report Card, 2016,* Boston's suburbs conversely have a reported oversupply of single-family homes that appeal to families with children because the "baby bust" generation, born between 1965 and 1980, is not large enough to absorb existing homes put on the market by aging baby boomers and the new homes being built, while Millennials, burdened with student debt, are unable to afford those single-family homes.

[13] The region here is defined as Suffolk, Essex, Middlesex, Norfolk and Plymouth Counties.

[14] Lachman, M. Leanne, and Deborah L. Brett. *Gen Y and Housing: What They Want and Where They Want It.* Washington, D.C.: Urban Land Institute, 2015.

Greater Boston's housing prices continue to increase, but with uneven changes across its communities. Sales in many traditionally desirable and high-priced communities are slowing while sales are increasing in more affordable communities, suggesting that there are limits to sustainable price increases due to affordability issues. Single-family home prices are flattening in many communities while the prices for condominiums are surging, reflecting the uneven and evolving demand for different types of housing.

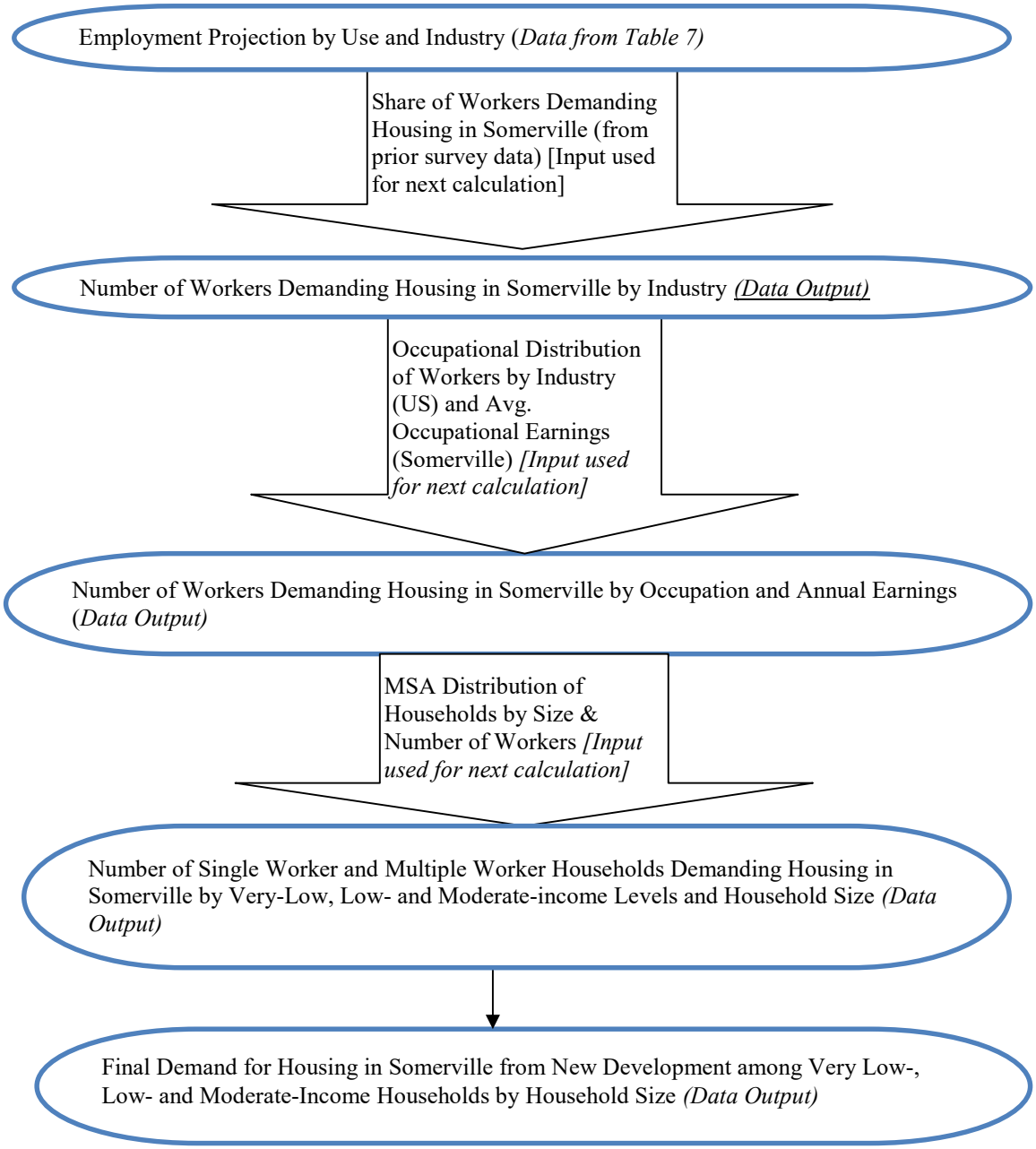
The *Greater Boston Housing Report Card, 2016* refers to and reinforces 2015 analysis of the "housing cost conundrum" that exists because the Boston region's supply of housing has not kept up with housing demand that has been driven by the increase in jobs in the region. Household growth in the region would have likely been higher had the amount of housing produced kept up with demand. The report suggests that supply has lagged because the cost of developing housing is too high to provide housing suitable for the region's working and middle-income households. Another large contributor to the high costs is restrictive zoning controls at the local level. Housing costs are so high that it is "virtually impossible for supply to match demand and therefore the vicious cycle of price appreciation and rent escalation in Greater Boston is fundamentally unmanageable under current economic and political conditions."[15] This indicates that the City of Somerville is not alone in experiencing the high cost of housing production. Therefore, seeking out solutions at a state and regional level that encourage housing production, including affordable units, outside of the city and lowering development costs overall will contribute to easing the pressure on housing demand and production in the city of Somerville.

[15] Barry Bluestone et al., *The Greater Boston Housing Report Card 2015: The Housing Cost Conundrum*, Prepared by the Kitty and Michael Dukakis Center for Urban and Regional Policy, Northeastern University, Prepared for the Boston Foundation, Page 8.

Impact of Large Scale Development on Affordable Housing Demand

Using the 10-year development scenario and employment projections summarized in Table 7 of Section 2, this section forecasts the demand for affordable housing in Somerville that will result from this development. Since several data sources and assumptions were used to prepare the forecast, a full explanation of the methodology is provided along with the results. Figure 8 provides an overview of the analytical steps and data sources for the housing demand projections.

Figure 8. Methodology and Data Sources for Housing Demand Analysis



Since demand for affordable housing is tied to household income, the first step in the analysis projects the distribution of the forecasted new jobs by employee earnings. To do this, the number of new jobs was distributed to 22 occupational categories for each of the 22 industries expected to occupy new development in Somerville. The distribution was calculated using 2014 national data for each industry's occupational distribution. Earnings were then estimated for these occupations based on the median annual earnings for the respective occupation in May 2016 for the Metro North Workforce Development Area adjusted for inflation to reflect March 2017 value of the dollar[16]. These calculations yield the projected number of new jobs at different annual earning levels by industry.

Since new employees will, for different reasons, desire to live in other communities as well as Somerville, it is necessary to determine the share that will demand housing in Somerville. To estimate the percentage of new employees who will demand housing within the city, the study adapted results from a 2014 survey of Somerville workers on the extent to which they moved to Somerville as a result of obtaining a job in the city. The survey results indicated that 17.5% of Somerville office workers and 6.8% of retail and restaurant workers either moved to the city or sought housing in Somerville but did not move there due to high housing costs. These percentages were multiplied by the gross number of new jobs by occupational distribution in each industry to estimate the number of new workers who will demand housing in Somerville.

The occupational distribution in each industry was then applied to the number of workers in that industry who are expected to seek Somerville housing to estimate their earnings distribution. Table 11 summarizes the resulting earning distribution, focusing on those workers in low- and moderate-income categories, assuming a single worker, 2-person household. While these figures show the earning distribution among projected new jobs in new commercial development, they do not reflect the number of households that will demand housing in each income category for two reasons: (1) many households will be larger and thus a higher income threshold will determine if they are very low-income, low-income or moderate-income; and (2) households with two workers will have higher total incomes that reflect the earnings of both workers and may not be eligible for affordable housing under current income limits.

[16] The Urban Wage Earner CPI was used for this inflation adjustment.

Table 11. Distribution of Annual Earnings for Expected Jobs among New Employees Demanding Housing in Somerville from New Development by Use and Earnings Level

Tenant Use/Industry	Gross New Jobs	Number of Workers Demanding Somerville Housing	Number of Workers with Earnings below 50% of AMI (Very Low-income) 1/	Number of Workers with Earnings 50 to 80% of AMI (Low-income) 1/	Number of Workers with Earnings 80% to 110% of AMI (Moderate-income) 1/	Total Workers with Earnings Below 110% AMI 1/
Office-Other	3,060	540	145	143	127	415
Office—IT Related	2,940	515	42	68	63	173
Hospitals and Medical Offices	840	147	26	50	65	141
Research and Development (Hospitals and Private Firms)	764	134	8	15	56	79
Restaurants	747	51	50	0	0	50
Retail, Amusements and Personal Services	438	31	23	4	4	31
Hotel	110	7	5	1	0	6
Total	**8,899**	**1,425**	**299**	**281**	**315**	**895**

1/ Income level for annual earnings from one employee in a two person household, the most prevelant household size in Somerville.

Source: Karl F. Seidman Consulting Services and ConsultEcon, Inc.

The next step to project demand for affordable housing units among the 1,425 employees who are expected to seek housing in Somerville requires adjusting for the number of wage-earners and the size of these workers' households. The distribution of households by number of earners and household size is based on the most recent (2011 to 2015) American Community Survey data for the Boston Metropolitan Statistical Area Workers in each occupation seeking housing in Somerville were first divided into one-, two-, three- and four or more-person households based on the region's household size distribution[17]. Then each household size group was divided into one-, two- and three-worker households, using the American Community Survey percentages. The results of this analysis are presented in Table 12 and were used to calculate the final affordable housing demand presented in Table 13, as detailed below.

Table 12. Household Size by Number of Wage-Earners, Boston Metropolitan Statistical Area

Workers per Household	Worker Households by Size: 1 Person	2 Persons	3 Persons	4 or More Persons
1 worker	100.0%	42.0%	32.8%	28.0%
2 worker	0.0%	58.0%	47.5%	46.4%
3 or more workers	0.0%	0.0%	19.7%	25.6%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2011-2015 American Community Survey 5-Year Estimates; and ConsultEcon, Inc.

[17] From the 2011 to 2015 ACS, the ratios for Somerville are: 28.1% one-person, 32.5% two-person, 16.2% three-person and 22.8% four-or-more-persons.

Demand from Single-Earner Households

For single earner households, the average wage for the occupation was used to estimate their household income and determine if they fell below the very low-income, low-income and moderate-income thresholds for their respective household size. Among the single earner households who are expected to demand Somerville housing, 133 are estimated to be very low-income (less than 50% of area median income); 182 are projected to be low-income (between 50% and 80% of area median income); and, 177 are estimated to be moderate-income (80% to 110% of area median income) for a total demand of 492 affordable housing units.

Demand from Multiple-Earner Households

Projecting affordable housing demand among multiple-earner households required estimating the additional household earnings from other wage earners in the household. Since data regarding the distribution of incomes within multi-worker households is not available, this analysis assumes that the second worker's earnings equaled the median wage for all occupations in Somerville, which was $55,134 in March 2017 value of the dollar. When the distribution of number of workers is used, this resulted in an additional 99 dual worker households due to new development that will demand housing in Somerville, all in the moderate-income category. Note that in this analysis no three-worker households fall within the very low-, low- or moderate-income ranges.

Across all household sizes and income groups, the total number of affordable housing units needed to meet the demand generated by new commercial development is estimated at 591 units. Data in Table 13 summarizes the total projected demand for new housing by household size and among low-income, moderate-income and middle-income households. Data in Table 14 shows the income limits by household size.

Table 13. New Affordable Housing Demand in Somerville from New Large Developments by Income Type and Household Size, 2017 to 2026

	Households by Size						
Income Levels	1 Person	2 Persons	3 Persons	4 or More Persons	Total Households	1-Worker Households	2-Worker Households
Very Low Income	41	41	15	36	133	133	0
Low Income	120	39	18	5	182	182	0
Moderate Income	55	61	57	103	276	177	99
Total	**216**	**141**	**90**	**144**	**591**	**492**	**99**

Source: Karl F. Seidman Consulting Services and ConsultEcon, Inc.

Table 14. Somerville Income Limits for Very-Low-Income, Low-Income and Moderate-Income Households by Household Size

Income Level	Description	1 person	2 person	3 person	4 person
Very Low Income	less than 50% of median	$34,350	$39,250	$44,150	$49,050
Low Income	50% to 80% of median	$51,150	$58,450	$65,750	$73,050
Moderate Income	81% to 110% of median	$75,850	$86,700	$97,550	$108,350

Source: U.S. Department of Housing and Urban Development; City of Somerville.

Financing Gap Required to Mitigate Impact of Large Scale Development

This section builds upon the framework established in the affordable housing demand analysis to project the total financing gap required to mitigate the projected increased demand for affordable housing generated by the 10-year forecast of new commercial development in Somerville. Housing affordability is a function of household income and the cost of available rental and for-sale housing units in a given real estate market. The City of Somerville and the entire Boston region suffer from a well-known and demonstrated lack of sufficient affordable housing. This section calculates the financing gap required to create new affordable housing that satisfies the demand for it from new workers in new commercial development by comparing the total development cost of new affordable housing units to the housing rents/prices that can be supported by very-low, low, and moderate-income households. The basis for imposing a linkage fee on new commercial development is that there is a nexus between job-creating commercial development and the increased demand for affordable housing.

Methodology

Following is a summary of data and analyses used in calculating the projected total per square foot financing gap required from new commercial development to support development of new affordable housing for workers. The financing gap would be for very low-, low-, and moderate-income households whose jobs would be located in Somerville's new commercial development projected over the next 10 years.

The analyses establish that affordable rents and affordable sales prices do not currently support development of affordable housing, due to high development costs. Therefore, a financing gap exists that must be filled to stimulate affordable housing development. These analyses estimate the amount of this financing gap to be filled by the linkage fee collected from new commercial development projects in Somerville. The estimated total required financing gap is the difference between the total development costs of producing new affordable housing units and the capitalized value of affordable rent and unit sale proceeds. The required financing gap is presented as a per square foot cost for projected commercial development.

The previous section projected demand for new housing among 591 very low-, low-, and moderate-income households ranging in size from one-person to four-or more-persons. This section determines the projected financing gap required to construct housing that will satisfy projected ten-year affordable housing demand generated by worker households in new development commercial buildings, using a modified demand estimate of 592.[18] Following is a review of the methodology used to calculate the total financing gap required:

Estimate the number of very-low-income, low-income and moderate-income households that would be generated by the new development. Specify demand by number of persons in the household, number of bedrooms, and by tenure (i.e. renter-occupied units and owner-occupied units).

Estimate the total development costs of affordable units to satisfy the demand created based on unit costs of recently completed or currently under construction new affordable housing developments.

Estimate the potential capitalized revenue due to annual rents and sales proceeds of affordable units segmented by very-low-income, low-income and moderate-income households. Calculate the difference between the total development costs and the capitalized revenue that is internally generated by renters and owners. This amount is the total financing gap required to produce the targeted new affordable units created by demand from new workers in new commercial developments.

Divide the total financing gap amount by the total commercial square feet subject to calculate the linkage fee, based on the current policy for exempt square feet. This is the fee level required to generate the full financing gap needed to produce the new affordable units created by demand from new workers in new commercial developments.

The majority of state and federal funding programs for affordable housing are targeted to low-income households. Federal and state tax credits prioritize creation of units for households below 60% Area Median Income (AMI). Therefore, because of the targeting of available funding sources, it is likely that much of the new affordable housing created in Somerville will be targeted to these income levels. As the following analysis shows, the amount of the financing gap required to create housing for very-low-income, low-income and moderate-income households is substantial. Yet moderate-income households are also increasingly finding housing to be unaffordable in Somerville's housing market. Focusing on very low-income, low-income, and moderate-income households will expand access to a broader range of funding sources to address the financing gap and enhance development feasibility.

[18] Due to the division of the 591 units among multiple categories of household size, rental units and ownership units, fractional units can result. Rounding is used to insure the analysis occurs for whole numbers of units, rather than partial housing units. Due to rounding results after the distribution of the 591 units across household size and rental versus ownership units, the total number of units demanded increased by one to 592 to maintain consistency and clarity of analysis by only using rounded whole numbers of rental and ownership units. The total number of units is one unit higher than the housing unit demand presented earlier.

The following key assumptions were made to calculate the required housing financing gap.

Mix of Rental and Ownership Units

New affordable housing has primarily been supplied through rental housing, due to the available financing from federal and state sources. This analysis assumes that the affordable housing to be demanded will be a mix of rental and ownership units. The estimated financing gap in this analysis assumes that:

- 33% of units for moderate-income households will be ownership units and the remaining 67% will be rental;
- 10% of units for low-income households will be ownership units and the remaining 90% will be rental; and
- All of the units for very low-income households will be rental units.

Data in Table 15 show the distribution of rental and home ownership housing units by size and income level.

Table 15. New Affordable Housing Demand in Somerville by Rental and Ownership Units

	Households by Size					
	One Person	Two Person	Three Person	Four Person	Total	Percent to Total
Distribution of Units						
Very Low Income	41	41	15	36	133	23%
Low Income	120	39	18	5	182	31%
Moderate Income	55	61	57	103	276	47%
Total Units	**216**	**141**	**90**	**144**	**591**	**100%**
Percent of Households Demanding Rental Housing [1/]						
Very Low Income	100%	100%	100%	100%		
Low Income	90%	90%	90%	90%		
Moderate Income	67%	67%	67%	67%		
Number of Rental Units [2/]						
Very Low Income	41	41	15	36	133	28%
Low Income	108	35	16	5	164	34%
Moderate Income	37	41	38	69	185	38%
Total	**186**	**117**	**69**	**110**	**482**	**100%**
Percent of Households Demanding Ownership Housing [1/]						
Very Low Income	0%	0%	0%	0%		
Low Income	10%	10%	10%	10%		
Moderate Income	33%	33%	33%	33%		
Number of Ownership Units [2/]						
Very Low Income	0	0	0	0	0	0%
Low Income	12	4	2	1	19	17%
Moderate Income	18	20	19	34	91	83%
Total	**30**	**24**	**21**	**35**	**110**	**100%**
Units by Tenure (rounded)						
Rental	186	117	69	110	482	81%
Ownership	30	24	21	35	110	19%
Total [2/]	**216**	**141**	**90**	**145**	**592**	**100%**

1/ Source: City of Somerville.

2/ Rounding affects totals and the total number of units demanded is increased by one in this table to maintain consistency and clarity of analysis focused on whole numbers of rental and ownership units. The total number of units is one unit higher than the housing unit demand presented prior.

Note: Rounding may affect totals.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Unit Distribution for New Affordable Housing

The distribution of households by number of persons and income levels was derived previously. The household sizes range from one-person to four-or-more-persons. One-person households are assumed to be 100% one-bedroom units. Two-person households are allocated as 20% to one-bedroom units and 80% to two-bedroom units. Three-person households are allocated 5% one-bedroom units, 80% to two-bedroom units and 15% to three-bedroom units. Four-person or larger households are allocated to three-bedroom units. For the purposes of this analysis, the allocation of households by units by number of bedrooms is assumed to be the same for rental units and ownership units. Data in Table 16 show the estimated distribution of rental housing units by size and income levels (very low-income, low-income and moderate-income). Data in Table 17 show the mix of ownership units, including low-income and moderate-income households.

Table 16. Rental Units by Number of Persons and Number of Bedrooms for Low-Income and Moderate-Income Households

	Households by Size				
	One Person	Two Person	Three Person	Four Person	Total
Number of Rental Units (rounded)					
Very Low Income	41	41	15	36	133
Low Income	108	35	16	5	164
Moderate Income	37	41	38	69	185
Total	**186**	**117**	**69**	**110**	**482**
Distribution of Units by Number of Bedrooms [1/]					
One Bedroom	100%	20%	5%	0%	44%
Two Bedrooms	0%	80%	80%	0%	31%
Three Bedrooms	0%	0%	15%	100%	25%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Distribution of Very Low Income Rental Units					
One Bedroom	41	8	1	0	50
Two Bedrooms	0	33	12	0	45
Three Bedrooms	0	0	2	36	38
Total	**41**	**41**	**15**	**36**	**133**
Distribution of Low Income Rental Units					
One Bedroom	108	7	1	0	116
Two Bedrooms	0	28	13	0	41
Three Bedrooms	0	0	2	5	7
Total	**108**	**35**	**16**	**5**	**164**
Distribution of Moderate Income Rental Units					
One Bedroom	37	8	2	0	47
Two Bedrooms	0	33	30	0	63
Three Bedrooms	0	0	6	69	75
Total	**37**	**41**	**38**	**69**	**185**
Total Rental Units by Number of Bedrooms					
One Bedroom	186	23	4	0	213
Two Bedrooms	0	94	55	0	149
Three Bedrooms	0	0	10	110	120
Total Rental	**186**	**117**	**69**	**110**	**482**

Note: Rounding may affect totals.

1/ Source: City of Somerville.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Table 17. Ownership Units by Number of Persons and Number of Bedrooms for Low-Income and Moderate-Income Households

	Households by Size				
	One Person	Two Person	Three Person	Four Person	Total
Number of Ownership Units (rounded)					
Very Low Income	0	0	0	0	0
Low Income	12	4	2	1	19
Moderate Income	18	20	19	34	91
Total	**30**	**24**	**21**	**35**	**110**
Distribution of Units by Number of Bedrooms [1/]					
One Bedroom	100%	20%	5%	0%	33%
Two Bedrooms	0%	80%	80%	0%	33%
Three Bedrooms	0%	0%	15%	100%	35%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Distribution of Low Income Ownership Units					
One Bedroom	12	1	0	0	13
Two Bedrooms	0	3	2	0	5
Three Bedrooms	0	0	0	1	1
Total	**12**	**4**	**2**	**1**	**19**
Distribution of Moderate Income Ownership Units					
One Bedroom	18	4	1	0	23
Two Bedrooms	0	16	15	0	31
Three Bedrooms	0	0	3	34	37
Total	**18**	**20**	**19**	**34**	**91**
Total Ownership Units by Number of Bedrooms					
One Bedroom	30	5	1	0	36
Two Bedrooms	0	19	17	0	36
Three Bedrooms	0	0	3	35	38
Total Ownership	**30**	**24**	**21**	**35**	**110**

Note: Rounding may affect totals.

1/ Source: City of Somerville.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Recent Unit Costs

Somerville's Affordable Housing Trust Fund (AHTF) has supported two affordable rental housing projects: Saint Polycarp Village Phase III, opened in 2014, and 181 Washington, opening in 2017. The total AHTF contribution to both projects was $295,000, approximately 1 percent of the total development costs. Both projects are owned and managed by the Somerville Community Corporation. Saint Polycarp Village Phase III, with 31 units of new construction, cost $360,000 per unit (adjusted for inflation) and 181 Washington, with 35 units of new construction and 2,400 square feet of retail space, cost $436,000. Over three years, the per-unit cost of producing new affordable housing units in Somerville increased 21%. On both projects, the distribution of costs by type was roughly the same, averaging 61% of total development costs (TDC) for construction costs, 19% for soft costs, 10% for acquisition costs, and 10% for developer fees, developer overhead, and capitalized reserves.

Development costs for new housing are high, driven by increasing construction costs and increasing acquisition costs. Interviews with housing developers active in Somerville and the Boston area report construction costs ranging from $200 per square foot (SF) to $260 per SF for stick frame construction over podium, which is predominant and in scale with Somerville's urban design and density. One construction cost estimate for a proposed affordable housing project in Somerville was $281 per SF. Higher density high-rise developments are reportedly costing $305 per SF. Construction costs are reportedly high due to the higher costs of construction labor, of which there is a shortage in the Boston area due to the amount of development activity.

Acquisition costs for land and buildings in Somerville are also very high. The average acquisition cost per unit was $40,000 per unit for the two affordable housing projects in Somerville. Market rate developers are reporting unit acquisition costs exceeding $100,000 per unit for new construction. High acquisition costs and high construction costs combine to make the overall cost of producing new housing in Somerville very high. However, market rate development in the city is sustained because of the high price of housing. Average prices for condominiums in Somerville exceeded $600,000 per unit in 2016.

The Massachusetts Department of Housing and Community Development advised in 2017 that the cost of a unit of affordable rental housing produced with Low-income Housing Tax Credits in the urban areas of the Boston area, such as Somerville, should not exceed $399,000 per unit. Recent trends in the housing market in Somerville indicate that if construction and acquisition costs remain as high as they are in the future, the City of Somerville and its affordable housing developers will have a difficult time producing newly constructed affordable housing units.

Development Project Costs

The average costs of housing development projects supplied by the City of Somerville and the costs based on developer interviews are used as the basis for calculating the costs of new affordable housing in Somerville over the next ten years. It is likely, however, that housing development costs will vary considerably according to the particulars of individual projects and

may change over time. If development activity slows in the Boston area and housing prices decline in Somerville, the cost of construction may come down, thereby lowering the potential cost of affordable housing. However, according to the City of Somerville, there are few large city-owned land parcels that can support the development of hundreds of housing units, so the cost of land and building acquisition may be higher in the future thus increasing the cost to provide affordable housing.

Rental Housing

Data in Table 18 summarize total development costs (TDC) of developing affordable rental units in Somerville.

Table 18. Calculation of Total Development Costs of Affordable Rental Housing Units in Somerville over a 10-Year Period in 2017 Dollars

Project and Cost Assumptions		
Number of Units	482	
Average Unit Size GSF [1/]	1,068.5	
Total Project GSF	515,000	
Cost Assumptions [2/]		
Soft Costs, including Design, Permitting, Overhead, Profit, and Contingency, as a Percent of Construction Cost	40.0%	
Construction Cost and Construction Contingency per SF	$250	
Land/Acquisition per Unit Costs	$40,000	
Development Costs	**Amount**	**Percent to Total**
Soft Costs, including Design, Permitting, Overhead, and Developer's Fee, and Project Contingency	$51,500,000	25.8%
Construction Cost and Construction Contingency	128,750,000	64.5%
Land/Acquisition	19,280,000	9.7%
Total Development Costs (TDC)	**$199,530,000**	**100.0%**
TDC per Unit	***$413,963***	
TDC per GSF	***$387***	

1/ See Table A-1 in Appendix for mix of units by size.

2/ Development cost assumptions are based on recent experience of selected housing projects in Somerville, and interviews with housing developers. Due to the variation in the size of the units demanded, construction costs are based on project size in square foot costs, with a percentage increase for soft costs and per unit acquisition costs for land and buildings.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Ownership Housing

Data in Table 19 summarize TDC of developing affordable ownership units in Somerville. The development cost factors used for ownership housing are the same as rental housing due to the lack of ownership projects included in the available housing data supplied by the City. Further, the cost of rental housing on a per square foot basis is considered representative of the costs for multi-family ownership housing. Total development costs per unit are higher for ownership units than for rental units because they are expected to house large households on average and thus have a larger average unit size.

Table 19. Calculation of Total Development Costs of Affordable Ownership Housing Units in Somerville over a 10-Year Period in 2017 Dollars

Project Assumptions		
Number of Units	110	
Average Unit Size GSF [1/]	1,145.5	
Total Project GSF	126,000	
Cost Assumptions [2/]		
Soft Costs, including Design, Permitting, Overhead, Profit, and Contingency, as a Percent of Construction Cost	40.0%	
Construction Cost and Construction Contingency per SF	$250	
Land/Acquisition per Unit Costs	$40,000	
Development Costs	**Amount**	**Percent to Total**
Soft Costs, including Design, Permitting, Overhead, and Developer's Fee, and Project Contingency	$12,600,000	26.0%
Construction Cost and Construction Contingency	31,500,000	64.9%
Land/Acquisition	4,400,000	9.1%
Total Development Costs (TDC)	**$48,500,000**	**100.0%**
TDC per Unit	***$440,909***	
TDC per GSF	***$385***	

1/ See Table A-2 in Appendix for mix of units by size.
2/ Development cost assumptions are based on average costs for recent experience of selected housing projects in Somerville. Due to the variation in the size of the units demanded, construction costs are based on project size in square foot costs, with percentage increase for soft costs and per unit acquisition costs for land and buildings.
Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Rental Housing Development Project Revenue

An important step in calculating the financing gap required to create new affordable housing units is to define the development project's revenue that will be used to support the development and operations of new affordable housing. This analysis assumes that the new rental housing will solely be supported by rental income from tenant households and ownership housing will be supported by the sales of affordable units. Affordable rents and sales prices are based on household income. In prior sections of this report, annual occupational wages were the input for establishing the household income and resulting demand for affordable housing by very-low, low, moderate-income households of new workers in new commercial development in Somerville. The weighted average gross income for each income level, as shown by the data in Table 20, is the basis for calculating affordable rents and sales prices that in turn support the development of affordable housing.

Table 20. Weighted Average Income by Income Group and Household Size, Households of Workers in Projected Commercial Development in 2017 Dollars

	Households by Number of Persons			
	One Person	Two Person	Three Person	Four Person
Distribution of Weighted Average Income				
Very Low Income	$28,677	$32,429	$32,456	$37,724
Low Income	$41,553	$45,295	$47,193	$57,766
Moderate Income	$70,390	$77,344	$87,454	$90,733

Source: Bureau of Labor Statistics, Karl F. Seidman Consulting Services; and, ConsultEcon, Inc.

The financing gap for new affordable rental housing is calculated first, followed by the calculation of the required financing gap for affordable ownership housing.

Affordable Rent Levels

The affordable rents for rental units are based on the estimated annual income of workers in the new commercial developments in Somerville. Construction costs for the rental affordable housing units projected in this analysis are supported by rental revenue from tenants with additional funding sources used to fill the gap between rental revenue and the cost of developing the housing. In general, the federal department of Housing and Urban Development (HUD) is a source of much of the funding for affordable housing. HUD defines housing costs as affordable to a household when the total cost of shelter consumes no more than 30% of gross (total) income. For this analysis, households are assumed to pay 30% of household income in rent. Data in Table 21 detail the assumed income levels of households to derive the total gross rental revenue for the units, based on the distribution of households by size and income. Total annual gross rental revenue for the units is estimated at $8.0 million.

Table 21. Annual Rental Revenue by Household Income and Size of Household in 2017 Dollars

Household Size	Annual Income [1/]	Applicable Monthly Rent [2/]	Number of Households	Total Annual Rent
Very Low Income Households				
1 Person	$28,677	$717	41	$352,764
2 Persons	$32,429	$811	41	$399,012
3 Persons	$32,456	$811	15	$145,980
4 Persons	$37,724	$943	36	$407,376
Low Income				
1 Person	$41,553	$1,039	108	$1,346,544
2 Persons	$45,295	$1,132	35	$475,440
3 Persons	$47,193	$1,180	16	$226,560
4 Persons	$57,766	$1,444	5	$86,640
Moderate Income Households				
1 Person	$70,390	$1,760	37	$781,440
2 Persons	$77,344	$1,934	41	$951,528
3 Persons	$87,454	$2,186	38	$996,816
4 Persons	$90,733	$2,268	69	$1,877,904
Total Households / Housing Units			**482**	
Total Annual Rent				**$8,048,004**

Aggregate Annual Rent by Income Level	Number of Units	Total Annual Rent (Rounded)	Percent of Total Rent	Average Monthly Rent
Very Low Income	133	$1,305,132	16.2%	$818
Low Income	164	$2,135,184	26.5%	$1,085
Moderate Income	185	$4,607,688	57.3%	$2,076
Total	**482**	**$8,048,004**	**100.0%**	**$1,391**

1/ Weighted average annual earnings based on anticipated mix of occupations and wages in new non-residential development in Somerville.

2/ Assumed at 30% of monthly income. Rents are rounded to nearest $1.

Note: Rounding may affect totals.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

To calculate the rental revenue available to support the total development costs described above, the gross rents must be adjusted to reflect lost revenue due to periodic vacancies and the operating costs of maintaining and managing housing. As shown by data in Table 22, vacancy is assumed at 3% of gross rental revenue. Operating costs typically include such items as building management, janitorial services, trash removal, building maintenance, landscaping, and marketing and other administrative costs. For this analysis, the full cost of utilities is also included. Based on data from the Massachusetts Housing Partnership, total annual operating costs were calculated as $10,000 per unit. Net rental income after deducting vacancy and operating costs is estimated at $3.0 million.

Table 22. Summary of Financing Gap for Affordable Housing Rental Units in 2017 Dollars

			By Household Type		
		All Units	Very Low Income	Low Income	Moderate Income
Potential Development Costs					
Number of Units		482	133	164	185
Percent to Total			*27.6%*	*34.0%*	*38.4%*
TDC per Unit		$413,963	$428,218	$344,915	$464,924
TDC per GSF		$387	$387	$387	$387
Total Gross Square Footage (GSF)		515,000	147,000	146,000	222,000
Total Development Costs (TDC) (Rounded)		**$199,530,000**	**$56,953,000**	**$56,566,000**	**$86,011,000**
Net Rental Income	**Unit Factor**	**Amount**	**Amount**	**Amount**	**Amount**
Gross Annual Rent		$8,048,004	$1,305,132	$2,135,184	$4,607,688
Less Vacancies [1/]	3% of Gross Rent	($241,440)	($39,154)	($64,056)	($138,231)
Less Total Operating Costs [2/]	$10,000 per Unit	($4,820,000)	($1,330,000)	($1,640,000)	($1,850,000)
Net Operating Income (NOI)		**$2,986,564**	**$0**	**$431,128**	**$2,619,457**
Mortgage / Supportable Debt Calculation		**Amount**	**Amount**	**Amount**	**Amount**
Net Operating Income (NOI)		$2,986,564	$0	$431,128	$2,619,457
Debt Coverage Ratio [3/]		1.1	1.1	1.1	1.1
Available for Debt Service		$2,715,058	$0	$391,935	$2,381,325
Mortgage Constant [3/]		6.260%	6.260%	6.260%	6.260%
Permanent Mortgage / Supportable Debt (Rounded)		**$43,373,000**	**$0**	**$6,261,000**	**$38,042,000**
Supportable Equity Calculation		**Amount**	**Amount**	**Amount**	**Amount**
Required Return on Equity		8.0%	8.0%	8.0%	8.0%
Revenue Available for Return to Equity		$271,506	$0	$39,193	$238,132
Supportable Equity Investment (Rounded)		**$3,394,000**	**$0**	**$490,000**	**$2,977,000**
Financing Gap Calculation		**Amount**	**Amount**	**Amount**	**Amount**
Total Development Costs		$199,530,000	$56,953,000	$56,566,000	$86,011,000
Less Permanent Mortgage / Supportable Debt		($43,373,000)	$0	($6,261,000)	($38,042,000)
Less Supportable Equity		($3,394,000)	$0	($490,000)	($2,977,000)
Financing Gap (TDC-Mortgage-Equity)		**$152,763,000**	**$56,953,000**	**$49,815,000**	**$44,992,000**
Financing Gap as a Percent of TDC		*76.6%*	*100.0%*	*88.1%*	*52.3%*

1/ Source: City of Somerville staff input, informed by recent affordable housing project operating pro forma budgets.

2/ Source: Massachusetts Housing Partnership operating cost data for Boston Low Income Housing Tax Credit housing projects.

3/ Source: ConsultEcon calculation of mortgage constant based on an assumed 4.75% annual interest rate, based on current interest rates from the Massachusetts Housing Partnership.

Note: Rounding may affect totals.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Rental Affordability Gap & Required Financing Gap

The next step is to find the gap in project finance between the permanent mortgage and developer equity that the net rental income can support and the total development costs of the rental units. In general, the amount of loan that lenders will approve is based on the income stream from the project. In this case, the annual net income from rents is $3.0 million. However, lenders prefer to build into their mortgage calculations a cushion between projected net income from rents and the annual debt service needed to pay down the loan. The debt coverage ratio (ratio of net income to allowable debt) reduces the effective amount of net income that can be used to support a mortgage. This analysis assumes a debt coverage ratio of 1.1, based on permanent financing programs offered by the Massachusetts Housing Partnership. After adjusting the net income by the debt coverage ratio, the project has $2.7 million in annual net income with which to pay the debt service on a permanent mortgage.

The total allowable permanent loan is calculated by dividing the net income by the mortgage constant, based on a 6.260% mortgage constant, (assuming the available current Massachusetts Housing Partnership financing rates amortized over a 30 year period). The permanent loan that could be supported by the resident households is $43.4 million. The annual revenue not required for the mortgage is then available to support equity investment. Based on a required return of 8.0%, this revenue would support $3.4 million in equity investment. Given the total development costs of $200.0 million, the financing gap required to create 482 new affordable rental housing units is $152.8 million, approximately 77% of the total development cost (TDC). (It should be noted that 133 very low-income units do not produce sufficient annual rent to support costs of operating those units; hence, the financing gap is equivalent to the total development costs of producing very low-income units.)

Ownership Housing Development Project Revenue

The average sales price of affordable units sold in Somerville is the basis for estimating the sales proceeds available to support the creation of affordable ownership units in Somerville. As shown by analysis in Table 23, the "affordable" sales price is derived based on 30% of gross income spent on housing and estimates of housing costs, the same as rental housing. Housing costs for ownership units include mortgage payments based on assumed down payment on the home, private mortgage insurance, real estate taxes and condominium fees. It is assumed that very low-income units are all rental units, so estimates of sales prices based on very low- income earnings were not prepared.

Table 23. Aggregate Affordable Ownership Unit Sales by Household Income and Size of Unit in 2017 Dollars

Household Size	Annual Income [1/]	Monthly Housing Costs [2/]	Number of Households	Supportable Sales Price [3/]	Total Supportable Sales
Low Income					
One bedroom	$41,507	$1,038	13	$202,018	$2,626,234
Two bedrooms	$44,091	$1,102	5	$209,602	$1,048,010
Three bedrooms	$71,923	$1,798	1	$341,946	$341,946
Moderate Income Households					**$4,016,190**
One bedroom	$72,151	$1,804	23	$338,155	$7,777,565
Two bedrooms	$82,800	$2,070	31	$379,353	$11,759,943
Three bedrooms	$90,113	$2,253	37	$411,549	$15,227,313
Total Households / Housing Units			**110**		**$34,764,821**
Total Sales					**$38,781,011**

Aggregate Sales by Income Level	Number of Units	Total Sales	Percent of Total	Average Supportable Sales Price
Low Income	19	$4,016,190	10.4%	$211,378
Moderate Income	91	$34,764,821	89.6%	$382,031
Total	**110**	**$38,781,011**	**100.0%**	**$352,555**

1/ See Appendix Table A-3.

2/ Assumed at 30% of monthly income. Rounded to nearest $1.

3/ See sales price analysis in Appendix A-4. Rounded to nearest $1.

Note: Rounding may affect totals.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Ownership Housing Required Financing Gap

The affordability gap in project financing of ownership units is the difference between the TDC and the proceeds from the sale of the estimated required 110 ownership units. Based on the mix of units and the assumed sales prices, the total estimated sales proceeds are $38.8 million. Assuming TDC of $48.5 million, the estimated financing gap for 110 affordable home ownership units is $9.7 million, approximately 20% of the TDC. Data in Table 24 summarize the financing gap required for ownership units.

Table 24. Summary of Financing Gap Required for Affordable Ownership Housing, In 2017 Dollars

				By Household Type	
			All Units	Low Income	Moderate Income
Potential Development Costs					
Number of Units			110	19	91
Percent to Total				*17.3%*	*82.7%*
TDC per Unit			$440,909	$346,895	$460,538
TDC per GSF			$385	$385	$385
Total Gross Square Footage (GSF)			126,000	17,000	109,000
Total Development Costs (TDC) (Rounded)			**$48,500,000**	**$6,591,000**	**$41,909,000**
Aggregate Unit Sales Proceeds	**Units**	**Average Price**	**Sales Proceeds**	**Sales Proceeds**	**Sales Proceeds**
Low Income	19	$211,378	$4,016,190	$4,016,190	$0
Moderate Income	91	$382,031	$34,764,821	$0	$34,764,821
Total Sales Proceeds (Rounded)	**110**	**$352,555**	**$38,781,000**	**$4,016,000**	**$34,765,000**
Financing Gap Calculation			**Amount**	**Amount**	**Amount**
Total Development Costs			$48,500,000	$6,591,000	$41,909,000
Less Sales Proceeds			($38,781,000)	($4,016,000)	($34,765,000)
Financing Gap (TDC-Sales Proceeds)			**$9,719,000**	**$2,575,000**	**$7,144,000**
Financing Gap as a Percent of TDC			*20.0%*	*39.1%*	*17.0%*

Note: Rounding may affect totals.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Required to Satisfy Ten-Year Affordable Housing Demand

The total development costs for rental and ownership units in Somerville that satisfy the demand for new affordable housing due to workers in new commercial developments is $248.0 million. The total financing gap required for the rental and ownership units is $162.5 million, approximately 66% of the TDC. The total financing gap is then divided by the total estimated commercial development building area that is non-exempt from the linkage fee, as shown by data in Table 25. Of the total 2.2 million square feet of commercial space an estimated 330,000 square feet is not exempt, 15% of the projected total, based on current policy and an average project size of 200,000 square feet. Therefore, the total financing gap required is estimated at $86.43 per square foot of commercial development.

Table 25. Calculation of Financing Gap Required for New Affordable Rental and Ownership Units per Square Foot of Projected Commercial Development in 2017 Dollars

	All Units	Very Low Income	Low Income	Moderate Income
Total Development Cost	$248,030,000	$56,953,000	$63,157,000	$127,920,000
Total Financing Gap Required	$162,482,000	$56,953,000	$52,390,000	$52,136,000
Percent TDC that is the Financing Gap	65.5%	100.0%	83.0%	40.8%
Derivation of Commercial Square Footage Subject to Linkage Fee				
Total Commercial Square Footage	2,210,000	2,210,000	2,210,000	2,210,000
Square Footage Exempt from the Linkage Fee under Current Policy [1/]	330,000	330,000	330,000	330,000
Commercial Square Footage Subject to the Linkage Fee	1,880,000	1,880,000	1,880,000	1,880,000
Financing Gap per Square Foot of New Commercial Development [2/]	**$86.43**	**$30.29**	**$27.87**	**$27.73**

1/ Per the City of Somerville Linkage Policy, the first 30,000 SF of commercial building area is exempt from the linkage fee. It is assumed that commercial projects in the future average approximately 200,000 GSF, for a total of 11 projects. Across all projects, 330,000 SF is assumed to be exempt from the linkage fee, per the current ordinance.

2/ Total Financing Gap divided by the total commercial square footage Subject to the Linkage Fee.

Note: Rounding may affect totals.

Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

Modified Financing Gap Required Based on Other Funding Sources

This analysis calculates the full cost of the financing gap due to the housing demand generated by workers of households in projected commercial developments in the City of Somerville. Somerville has relatively high affordable housing development costs, given the scarcity of vacant land, and high costs. The purpose of affordable housing is to limit the rental or mortgage payments of low-income households to 30% of income, which is considered "affordable"; this creates a limited revenue stream to finance development costs. Therefore, the City and developers are challenged to find additional sources of funding to fill the gap between the rents and sales proceeds that very-low, low, and moderate-income families can afford and the development financing that would be incurred by affordable housing developers. Since most affordable housing developers layer multiple funding sources to support the construction of new housing units, the linkage fee will work in conjunction with other financing sources to fill the $162.5 million financing gap.

Linkage Fee Level Scenarios

Data in Table 26 show linkage fee level scenarios including scenarios that model various percentages of the full financing gap required, by applying the current housing linkage fee and the recent ratio of AHTF and total City funds to total funds needed to fill the full financing gap. Increasing AHTF's share of the required financing gap to leverage more state funds and counteract the decline in federal funds may be required in order to produce the level of affordable housing required to satisfy the new demand from commercial development. Funds from the Commonwealth of Massachusetts have been relatively stable, while federal funds have been declining over time. There is a new Federal Program, the National Housing Trust, which is funded from Fannie Mae and Freddie Mac profits that is targeted to very low-income households, but it does not represent a large fund -- all of Massachusetts received $3 million in the most recent year. AHTF funding is an important component of the City's affordable housing production and has a substantial impact because the Commonwealth requires the City to provide matching funding as a way of investing in its own affordable housing projects. Without City generated sources like AHTF, the City would not have the primary sources of funding to leverage state funds effectively.

Table 26. Linkage fee Scenarios for the City of Somerville

	Linkage Fee Scenarios, Percent to Total / Full Financing Gap	Linkage Fee Amounts, per Square Foot
Total Financing Gap per Square Foot of Commercial Development for 592 Affordable Housing Units		$86.43
Illustrative Percentages of Financing Gap that would be Supported by Linkage Fees		
Current Linkage Fee	6.0%	$5.15
Current City AHTF Share of Existing Affordable Housing Funds to Fill the Financing Gap [1/]	22.8%	$19.73
Current Total City Share of Existing Affordable Housing Funds to Fill the Financing Gap [1/]	31.7%	$27.36
Full Financing Gap	100.0%	$86.43

1/ The factors used in this analysis are based on eight 100% affordable housing projects recently funded partially by the City of Somerville. In these projects, the City's AHTF accounted for 22.8% of financing gap funds and total City sources accounted for 31.7% of financing gap funds.
Source: City of Somerville; Karl F. Seidman Consulting Services; and ConsultEcon, Inc.

New Development, Resident Employment and Jobs Linkage Fee

New development projects in Somerville will create new jobs with the potential to benefit Somerville residents, and especially improve employment and earnings for low-income residents. The job linkage fee is warranted to address specialized employment and training services that are needed to allow Somerville residents to gain access to employment opportunities and share in the benefits from new large scale development. Such services may be needed either if there is a lack of available Somerville workers with the specific occupational skills demanded by employers in new development or if workers have more general gaps in education, skills or experience that pose barriers to their employment. Occupational and job specific training services are warranted to address the first situation while basic education and job readiness programs address the latter need. Both services may be needed, and in many cases combined into an integrated skills training program, to ensure that Somerville's unemployed and low-income residents have equitable access to jobs created by new development.

A three-part methodology was used to analyze the need for employment and job training services to link Somerville residents to the jobs created by the expected new development. First, an analysis of the potential occupational supply gaps for jobs in projected development over the next ten years was completed. This analysis used the occupational composition of projected industries expected to occupy new projects to estimate the expected number of new jobs in different occupations. These data were then compared to the occupational composition of Somerville's workforce to identify occupations for which the supply of existing residents may be insufficient to meet this new demand. Information on the capacity of existing job training programs to supply new workers was then considered in estimating the occupational supply gap. Recent research and labor reports related to occupational supply gaps also were reviewed to provide further context and information on this aspect of needed workforce development services. Some studies focused on Massachusetts or the greater Somerville region but are still relevant since they address expected industries, occupations and labor force segments for Somerville. The second part of the analysis considers employment barriers faced by Somerville residents beyond occupational skills that can impact their access to employment across occupations, drawing on ACS data, interviews with workforce agencies and labor market reports. Finally, the analysis draws on the broader understanding of labor market trends, occupational supply needs, and the demand for education and training services gained from interviews with workforce development practitioners.

Labor Supply Gaps

Table 27 compares the expected number of jobs in major occupational categories to ACS data from 2011 to 2015 on the number of Somerville workers in these occupations. For three occupational groups, the number of new jobs is a very small share of the current workforce at less than 5%. Consequently, there is likely to be a good supply of Somerville residents within these occupations to address employer needs, although mismatches may exist based on unique employer needs or for occupations that are more specialized. In another five occupations, new employment in future large development projects falls between 5% and 10% of Somerville's workforce, which may make it more difficult to locate city residents for these jobs. Moreover,

47% of these jobs are in higher skill and high wage life, physical and social science, and legal occupations that are less likely to benefit low-income residents. For the remaining fourteen occupational groups, projected new jobs account for a large share of the current workforce, ranging from 10.4% (Art, Design and Media Occupations) to 48.8% (Computer and Math Occupations). Six of these occupational groups (Food Preparation and Serving Occupations, Health Care Support Occupations, Office and Administrative Support Occupations, Personal Care Occupations, Production Occupations, and Sales and Related Occupations) are sources of entry-level jobs for low-income and less educated workers and account for 45% of the jobs in these "tight demand" occupations. Although the remaining eight "tight demand" occupational groups are dominated by high skill jobs that require college or advanced degrees, some include technician and support occupations that are accessible with a two-year college degree or certificate program.

Table 27. Comparison of Expected Occupational Demand and Somerville Workforce by Major Occupational Groups

Occupational Group	Estimated New Jobs in Projected Development	Number of Somerville Residents in Occupation	New Jobs as Percentage of Somerville Workforce
Management Occupations	697	5,799	12.0%
Business and Financial Operations Occupations	730	3,370	21.7%
Computer and Mathematical Occupations	1,839	3,770	48.8%
Architecture and Engineering Occupations	413	2,004	20.6%
Life, Physical, and Social Science Occupations	249	2,595	9.6%
Community and Social Service Occupations	88	1,227	7.2%
Legal Occupations	33	621	5.3%
Education, Training, and Library Occupations	57	5,490	1.0%
Arts, Design, Entertainment, Sports, and Media Occupations	228	2,195	10.4%
Healthcare Practitioners and Technical Occupations	542	2,290	23.7%
Healthcare Support Occupations	260	667	39.0%
Protective Service Occupations	18	696	2.6%
Food Preparation and Serving Related Occupations	801	3,081	26.0%
Building, Grounds Cleaning and Maintenance Occupations	89	1,597	5.6%
Personal Care and Service Occupations	299	1,622	18.4%
Sales and Related Occupations	628	3,220	19.5%
Office and Administrative Support Occupations	1,497	4,729	31.7%
Farming, Fishing, and Forestry Occupations	3	15	20.0%
Construction and Extraction Occupations	37	1,349	2.7%
Installation, Maintenance, and Repair Occupations	74	642	11.5%
Production Occupations	178	1,018	17.5%
Transportation and Material Moving Occupations	144	1,541	9.3%
Total, All Occupations	8,904	49,538	18.0%

Source: Karl F. Seidman Consulting and American Community Survey 2011-2015 5- year estimates

Additional analysis was conducted on several mid-level jobs in occupational groups with "tight demand" that are more accessible to low-income and non-college educated workers. These include: computer support specialists and drafters, engineering, and mapping technicians. The results shown in Table 28 indicate demand for an additional 406 workers in these occupations. Although data on Somerville's workforce in these specific occupations were not available, it appears likely that demand is tight, given that the ratio of new jobs to the existing workforce for the broader category in which these jobs fall is 49% and 21%, respectively.

Table 28. Expected New Workforce Demand for Three Targeted Technology Related Occupations

Occupation	Projected New Jobs*
Computer support specialists	301
Drafters, engineering, and mapping technicians	105
Total	406

Source: Karl F. Seidman Consulting
*Based on 9 industries with demand for these occupations

Overall, Somerville has a tight labor market with strong employment growth and low unemployment rates. Somerville's unemployment rate was 2.4% in April 2017, and it varied between 1.7% and 2.8% over the prior twelve months. Moreover, Somerville's unemployment has been low for several years, averaging 2.4% in 2016 and 3.2% in 2015. The *2015 Massachusetts Economic and Labor Market Review* characterized the Metro North labor market, in which Somerville is located, as extremely tight with an unemployment rate of 3.9% in 2015, a 4.9% wage growth rate and the number of job openings well above the number of unemployed workers looking for a job. Since 2015, Somerville's labor market has likely grown tighter as the economy has continued to grow and the number of unemployed workers declined by 16%[19]. These overall tight labor market conditions indicate that new and expanding employers in Somerville may have difficulty finding workers and face increased employee turnovers as workers have more opportunities for career advancement and are less concerned about the risk of job loss.

In analyzing Somerville's Jobs Linkage fee and policies, it is important to understand specific occupational and skills gaps and their relationship to projected employment demand from future development projects. A 2015 report by Northeastern University's Dukakis Center[20] projected future occupation demand for Massachusetts and its Workforce Investment Areas and analyzed the capacity of the existing vocational education system to address this expected demand. This study found that the majority of job openings in Massachusetts through 2022 will not require a

[19] Based on the number of unemployed Somerville workers in April 2017 and April 2015.
[20] *Meeting the Commonwealth's Workforce Need: Occupation Projections and Vocational Education*, Northeastern University Kitty and Michael Dukakis Center for Urban and Regional Policy, October, 2015.

college degree and can be met through no more than a vocational education or associate's degree. The four occupational groups with the highest projected job openings are:

- Food Preparation and Serving Related Occupations;
- Office and Administrative Support Occupations;
- Sales and Related Occupations; and
- Healthcare Practitioners and Technical Occupations.

These four categories combine to account for 43% of the state's expected job openings between 2012 and 2022.

The report also found that the state's existing vocational education system only has the capacity to fill a small share of the projected job openings through 2020 in positions that do not require a college degree. Statewide, high school and community college programs can fill close to 15.7% of future jobs requiring a high school degree or less, 11% of job openings requiring some college; and 23% of job openings requiring an associate's degree. The gap in high school and community vocational education capacity is greater for the Metro North Workforce Investment Region. Based on the study's analysis of current graduation rates only 10.9% of future jobs requiring a high school degree or less, 5.2% of job openings requiring some college; and 11.3% of job openings requiring an associate's degree will be filled through the region's vocational high schools and community colleges. However, this capacity varies considerably across occupational groups, as shown in Table 29. Metro North high schools and community colleges have the highest capacity to meet expected job openings for Installation, Maintenance and Repair occupations, Architectural and Engineering occupations, Construction and Extraction occupations, and Arts, Design, Entertainment, Sports, and Media occupations, at 32.7%, 27.7% 19.6%, 18.5% and 18.1%, respectively. In the Architecture/Engineering and Arts/Design/Media categories, capacity is especially strong for jobs requiring only a high school degree—supplying two-thirds to 86% of expected demand. Capacity to fill jobs requiring an associate's degree is also relatively strong, at close to two-thirds, for the Architectural and Engineering and one-third for Arts, Design, Entertainment, Sports, and Media occupations.

Based on the Northeastern Report, the vocational education supply capacity is especially low in the Metro North Workforce Investment Area for three occupational areas in which future development projects are expected to generate large numbers of new jobs:

- Food Preparation and Serving Related Occupations: 4.2% of expected job openings with an average annual wage of $28,055[21];
- Office and Administrative Support Occupations: 1.9% of expected job openings with an average annual wage of $44,774; and
- Sales and Related Occupations: 1.0% of expected job openings with annual average wage of $45,882.

[21] Annual wage figures are from the May 2016 US Bureau of Labor Statistics Occupational Employment and Wage Statistics for the Metro North WIA.

These findings highlight the need for expanded investment in local and regional vocational and job training to prepare Somerville residents and workers for future jobs. Moreover, expanded training capacity appears particularly important to address the type of jobs that will arise from business and employment growth at the city's future development projects.

Table 29. Supply of Annual New Graduates from College and Vocational Education System, Metro North Workforce Investment Area

Occupational Group	Supply as Share of Openings by Educational Level				
	HS Graduate	Some College	Associate's Degree	BA	Total
Management Occupations	19.6%	5.0%	9.4%	3.2%	6.4%
Business and Financial Operations Occupations	22.5%	4.3%	5.6%	2.6%	2.4%
Computer and Mathematical Occupations	45.1%	8.8%	14.5%	5.1%	9.6%
Architecture and Engineering Occupations	86.4%	35.1%	62.6%	10.4%	27.7%
Life, Physical, and Social Science Occupations	25.6%	1.7%	9.1%	2.2%	4.3%
Community and Social Service Occupations	5.3%	2.3%	2.4%	1.1%	2.2%
Legal Occupations	6.8%	0.7%	2.1%	1.4%	1.9%
Education, Training, and Library Occupations	32.7%	8.4%	13.5%	8.6%	12.4%
Arts, Design, Entertainment, Sports, and Media Occupations	64.7%	14.0%	32.4%	9.4%	18.1%
Healthcare Practitioners and Technical Occupations	13.0%	4.4%	13.3%	4.1%	7.1%
Healthcare Support Occupations	11.6%	7.8%	11.1%	5.5%	9.5%
Protective Service Occupations	0.0%	0.0%	0.0%	0.0%	0.0%
Food Preparation and Serving Related Occupations	5.5%	2.9%	7.4%	1.9%	4.2%
Building and Grounds Cleaning and Maintenance Occupations	0.0%	0.0%	0.0%	0.0%	0.0%
Personal Care and Service Occupations	14.4%	5.5%	10.8%	2.6%	9.2%
Sales and Related Occupations	1.4%	0.5%	1.8%	1.0%	1.0%
Office and Administrative Support Occupations	2.2%	1.6%	3.0%	1.3%	1.9%
Construction and Extraction Occupations	19.6%	15.4%	30.4%	10.5%	18.5%
Installation, Maintenance, and Repair Occupations	36.8%	26.8%	41.9%	13.8%	32.7%
Production Occupations	17.7%	13.2%	23.7%	10.6%	16.6%
Transportation and Material Moving Occupations	1.8%	1.8%	2.2%	0.8%	1.7%
Total All Occupations	10.9%	5.2%	11.3%	3.8%	7.1%

Source: *Meeting the Commonwealth's Workforce Needs: Occupation Projections and Vocational Education*

Employment Barriers for Somerville Residents

Beyond the occupational labor imbalances discussed above, Somerville workers may not have access to jobs at new development projects due to more general barriers to employment, such as lack of English language skills, poor reading and math skills, low educational attainment, limited work experience, prior criminal record and other factors. Somerville has a well-educated and

experienced workforce, but there is a sizable portion of the city's labor force that faces language and educational barriers to employment. Based on ACS 5-year estimates, 20.2% of workers in Somerville's labor force have a high school level education or less (see Table 30). Educational barriers are especially high for unemployed workers, with 43% of them in the prime working age cohort lacking post-secondary education. This profile is confirmed by recent Somerville clients of the Career Place shown in Table 31: 72% of the job seekers from FY2014 to FY2016 attained education at or below a high school diploma. Additionally, almost 10% of Somerville workers reported that they speak English less than very well and thus, may face barriers to employment, obtaining a quality job or job advancement based on their English language skills.

Table 30. Educational Attainment for Somerville Workers and Residents, Age 25 to 64 Years

Education Level	Percent of Population (25 or older)	Percent of Labor Force (25 to 64)	Percent of Unemployed (25 to 64)
Less than high school graduate	7.9%	5.9%	6.0%
High school graduate	15.4%	14.3%	37.1%
Some college or associate's degree	14.0%	13.3%	20.0%
Bachelor's degree or higher	62.7%	66.5%	36.9%

Source: American Community Survey, 2011 to 2015 Estimates

Table 31. Educational Attainment, Career Place Somerville Job Seekers FY 2014 to 2016

Education Level	Number	Percent
Less than high school graduate	455	51.9%
High school graduate or GED	178	20.3%
Some college/vocational degree	60	6.8%
Associate's degree	20	2.3%
Bachelor's degree	86	9.8%
Graduate degree	30	3.4%
No information	48	6.3%
Total	877	100.8%*

Source: The Career Place; *Total is 100.8% due to rounding

Despite a well-established system of providers and education programs for adult basic education (ABE) and English for Speakers of Other Languages (ESOL)[22], the supply of these services is insufficient to address the need and demand among Somerville residents. According to the Somerville Foundation report, *Breaking the Language Barrier: A Report on English Language Services in Greater Somerville*, there were 3,702 people on waiting lists among Metro North providers for ABE and ESOL services in December 2010, with 95% of these for ESOL. The

[22] There are 25 ESOL providers in Somerville funded by the Office of New Somervilleians and listed on their web site. The Massachusetts Department of Elementary and Secondary Education ABE/ESOL directory lists 29 providers in Somerville.

Somerville Center for Adult Learning Experiences has 800 people on its waiting list for English Language Learning programs.

Among workforce development practitioners, a lack of English language skills was the most frequently cited employment barrier for Somerville workers. Other common barriers outside of occupational specific skills, as reported by practitioners, are job readiness including soft skills, job search skills and prior work experience, legal status as an undocumented worker, and health issues, including alcohol and drug use. Transportation, childcare and basic education skills in reading, writing, and math were mentioned less frequently by a quarter of interviewees. These barriers are consistent with those identified on a recent report in improving high rates of unemployment prepared by Governor Baker's Task Force on Economic Opportunity for Persons Facing Chronically High Rates of Unemployment[23] and a 2016 report by the Job Training Alliance[24]. The Governor's Task Force report also noted limited knowledge of the job market, how benefit programs work, poor credit scores (used by employers in screening applicants), access to mentors, and employer bias and stigma as additional barriers.

Warranted Jobs Linkage Fee and Recommendations

Somerville's future commercial development will create demand for workers in several occupational areas that are accessible to low-income and moderate-income residents, but insufficient workforce training capacity and funding exists to address this demand. With the city's tight labor market and limited capacity of the existing job training system to address new demand, additional investment in job training will be necessary to fill this demand for workers. While there is an existing Somerville labor force in these occupational areas, demand in the occupations with the largest need for new workers is above 10% and as high as 48% of the city's current supply and thus is unlikely to be filled with Somerville's existing workforce. Since the goal of the Jobs Linkage policy is to expand opportunity for Somerville's low-income and moderate-income workers from new development, it is necessary to provide training and education to connect and prepare unemployed and under-employed workers for these new jobs rather than relying on existing employed residents to fill them. Moreover, barriers exist that will prevent many of the city's less educated and immigrant workforce from benefiting from these jobs. Finally and most importantly, the current workforce development services do not have sufficient funding and capacity to meet the increased demand for skills training and education needed to connect DIP employment to Somerville residents. For all these reasons, a jobs linkage fee is warranted to fund job training and workforce development services to address the potential occupational and skills gaps among Somerville residents to meet labor demand at the projected new development, particularly in occupations that can benefit low-income and lower skilled workers.

[23] *Report and Recommendations to Improve Employment Outcomes Among Populations Facing Chronically High Rates of Unemployment* January 2016, http://www.mass.gov/lwd/docs/executive-office/eo-561-task-force-report508.pdf .

[24] Root Cause, *Job Training Works, Pays and Saves: An Economic Impact Study on Outcomes of Job Training*, January 2016

To estimate and quantify this need, the analysis focused on those low-skill and middle-skill occupations that are most accessible to low-income and moderate-income residents, ESOL and ABE services that are important barriers to both skills training services and employment and career advancement training and services to help workers mover from entry-level to higher skilled and higher paying occupations. Table 32 summarizes the 10-year projected new employment for these occupations, which total 4,434 jobs. To estimate the cost of training services for these jobs, a goal of filling 30% of these positions with Somerville residents is used. This goal is based on the employment goals established for Assembly Square development. This target results in the need for training to support 1,330 jobs for low-income and moderate-income Somerville residents.

Table 32. Development Projects' Estimated Ten-Year Job Growth in Low-Skill and Middle-Skill Occupations

Occupation Category or Position	Estimated New Jobs at Projected Development
Healthcare Support Occupations	260
Protective Service Occupations	18
Food Preparation and Serving Related Occupations	801
Building, Grounds Cleaning and Maintenance Occupations	89
Personal Care and Service Occupations	299
Sales and Related Occupations	628
Office and Administrative Support Occupations	1497
Farming, Fishing, and Forestry Occupations	3
Construction and Extraction Occupations	37
Installation, Maintenance, and Repair Occupations	74
Production Occupations	178
Transportation and Material Moving Occupations	144
Miscellaneous Computer Occupations, including Computer Support Specialists	301
Drafters, Engineering, and Mapping Technicians	105
Total	4,434
Total for Somerville residents at 30% of new jobs	1.330

Source: Karl F. Seidman Consulting Services

The estimated total cost to provide skills training to 1,330 residents is $6.06 million based on an average per participant training cost of $4,553 for the Individual Training Account (ITA) funded training programs used by Somerville residents in FY2015 through FY2017. A linkage of $3.22 per square foot is needed to generate these funds using a base of 1,880,000 square feet of new development expected to pay a linkage fee over the next ten years[25].

Three adjustments are applied to this initial jobs linkage figure. First, since Somerville residents have access to existing occupational training provided by high school, college and non-profit training agencies, the linkage fee does not need to fund the full $6.06 million cost. Consequently,

[25] This figure differs from the 2.21 million square feet used to project employment impacts due to the application of the current 30,000 square foot exemption assuming an average project size of 200,000 square feet.

the number of participants to be trained with linkage fee funds was adjusted for recent data on Somerville residents receiving occupational skills from four sources:

- Somerville High School vocational training programs;
- Bunker Hill Community College;
- Training provided through federally funded ITAs; and
- Additional training provided by area non-profit providers.

Primary data on vocational training completed by Somerville residents provided by training providers and the Metro North Regional Employment Board was used to estimate this job training resource. The resulting estimate of training capacity is 68 training program graduates per year, which can prepare 680 Somerville residents for the new jobs at future development projects. To account for the large decline in federal funds for ITA in the Metro North region (33% over the past three years), a range of ITA training slots was used; this range had the average number of ITAs over the past three years at the top level and 50% of this amount as the bottom level, assuming a continued decline in future years. Table 33 details the components of this estimate. Once this training capacity is deducted, the jobs linkage would need to fund training for 650 to 705 jobs at a cost of $2,959,000 to $3,164,00 which translates into a per square foot linkage fee of $1.57 to $1.68.

Table 33. Estimated Skills Training Capacity for Somerville Residents

Educational Program or Funding Source	Training Capacity
Somerville High School annual vocational training for targeted occupations[26]	8
Annual ITA funded skills training, Somerville residents	5.5 to 11
Additional training reported by Job Training Alliance members, Somerville residents	11
Bunker Hill Community College years ending 2015 and 2016[27]	38
Net capacity, non-jobs linkage fee funded	63.5 to 68
Ten years capacity	635 to 680
Net positions to fund	650 to 705
Percentage of targeted jobs funded by the Jobs Linkage Fee	49% to 53%

Source: Karl F. Seidman Consulting Services

A second adjustment relates to workers' broader educational barriers to employment. As documented from US Census data, multiple reports and practitioner interviews, many of Somerville's unemployed and low-income workers lack English language proficiency, basic math skills and a high school diploma or equivalent. Since these basic competencies are needed for many occupational skills training programs, the sufficient supply of these services is a complement to the skills training program, as well as vital to securing ultimate employment for most occupations. Consequently, an additional jobs linkage amount is estimated to address the

[26] Somerville high school vocational training is based on graduates who do not go on to college for eight occupations relevant to projected industries in new development.
[27] BHCC figures based on number of Associate and Certificate graduates who were Somerville residents, reduced by the percent of all college graduates who transfer to four year colleges.

cost of providing ABE and ESOL education to prepare targeted Somerville residents for the projected new jobs at new commercial development projects.

Table 34. Ten-Year Estimate, ABE and ESOL Services for Targeted Jobs at Future Development Projects

Education Level	Percent of Unemployed Somerville Workers	Percent Not Speaking English Well Somerville Labor Force	Percent Needing ESOL Services	Low Estimate Need for ABE Services*	High Estimate Need for ABE Services+
Less than high school diploma	6.0%	16.7%	3.1%	6.0%	6.0%
High school diploma or equivalent	37.1%	10.4%	3.4%	0.0%	9.3%
Some college or associate's degree	20.0%	6.4%	1.7%	0.0%	0.0%
Bachelor's degree or higher	36.9%	5.1%	1.2%	0.0%	0.0%
Total percentage of workers			9.3%	6.0%	15.3%
ABE/ESOL slots to fund for DIP targeted jobs			124	246	354

*Includes only workers with less than a high school diploma; +Includes workers with less than a high school diploma and one quarter of workers with a high school diploma or equivalent.

The linkage fee amount for these education services was estimated based on American Community Survey estimates for the education level of unemployed Somerville residents and the estimated English language proficiency for Somerville residents at each education level (see Table 34). Unemployed workers were used for these estimates since they are a key client target for training programs, a key source of workers to fill new jobs, and provide a better proxy for the Somerville residents who are likely to receive training for jobs at future development projects than the overall Somerville labor force. Two estimates were made for ABE services: (1) a low estimate assumes that all workers with less than a high school education will need ABE services; and (2) a high estimate that includes 25% of workers with a high school diploma or equivalent. The high estimate is intended to address workers who, despite having a high school diploma, lack high school-level competencies. Based on these figures, 9.3% of workers for targeted jobs in new development projects will need ESOL services to improve their English proficiency and between 6% and 15.3% will need to complete an ABE program. When applied to the 1,330 new low-skill and middle-skill jobs targeted to Somerville residents, this translates into the need to provide ESOL education to 124 workers and ABE to between 246 and 354 workers. The

estimated cost per participant is $2,472[28], which results in education costs of between $914,640 and $1,181,600. When applied to the projected linkage base of 1,880,000 square feet, the additional warranted linkage for ABE and ESOL services is $.49 to $.63 per square foot.

A final third adjustment was made to provide for training and other services to help residents in entry-level jobs gain additional skills to move up a career or occupation ladder into higher paying positions. These career advancement services will help residents move into higher paying jobs to provide a family-sustaining income. To estimate costs for career advancement services, the projected jobs from new development in four occupations categories with good career ladder opportunities was used.

- Healthcare Support;
- Office and Administrative Support;
- Miscellaneous Computer Occupations; and
- Drafters, engineering, and mapping technicians.

These four occupational categories account for 2,163 projected new jobs and applying the 30% Somerville resident employment target, the jobs linkage fee would need to fund career advance services for 649 workers. To estimate the cost for these services, the FY2016 average cost for incumbent worker training from the state's Workforce Training Fund ($1,088) was used as a proxy for existing worker skills training. Using this per employee, figure, another $706,000 is needed to fund career advancement services.

After all three adjustments, the warranted jobs linkage fee per square foot ranges from $2.44 to $2.69 per square foot. Table 35 summarizes the components of the final warranted jobs linkage fee.

Table 35. Calculation of Warranted Jobs Linkage

Required Training/Education	Number of Training/Education Slots	Cost	Per SF Cost*
Skills training to prepare residents low and middle skill jobs	1,330	$6,055,000	3.22
Less available vocational and nonprofit skills trainings	-635 to -680	-$2,891,000 to -$3,096,000	-1.54 to -1.65
Plus required ESOL services	124	$307,000	+.16
Plus required ABE Services	246 to 354	$608,000 to $875,000	+.32 to +.47
Plus career advancement services	649	$706,000	+.38
Total		$4,580,000 to $5,052,000	$2.44 to $2.69

*Based on Project Linkage Fee Base of 1,880,000 square feet.

[28] This figure is based on a $2,202 average FY2010 expenditure per participant for ESOL programs in Greater Somerville (*Breaking the Language Barrier*, p. 27) adjusted to 2017 dollars by the Greater Boston CPI for Urban Consumers.

Review of Policy Options and Other City Policies

This section reviews the legal justification for linkage fees, compares Somerville's current linkage fee policies to other Massachusetts cities and counties, considers several linkage fee policy options and assesses the impact of housing and jobs linkage fee rates on Somerville's competitiveness for attracting businesses and development.

Legal Basis for Linkage Fees

Linkage fees have been an established policy for local governments for over three decades, with the City of Boston's policy first enacted in 1983. An established body of law supports a municipality's right to require monetary or other contributions in connection with commercial and/or residential development. In recent years, there has been no significant change in the legal basis and justification for linkage fees. It is constitutional to condition a development permit upon such payments or contributions when a "reasonable relationship" can be demonstrated between the government's legitimate purpose and the required fee. In the case of Somerville's linkage fees, the provision of affordable housing for low- and moderate-income households and providing education and training to create and maintain jobs for Somerville residents constitute legitimate government purposes, as indicated by the authorizing state legislation.

Additionally, two Supreme Court cases set legal standards that: (1) a rational nexus must be established between the imposed exaction or mitigation fee and its stated purposes; and (2) the fee amount must be proportional to the development project's impact that is mitigated or addressed by the exaction. The Nollan and Dolan Supreme Court cases are the primary basis for justifying the linkage fees, and provide the impetus for communities to conduct nexus studies that establish the relationship between new development and employment and its impact on housing and job training needs. The U.S. Supreme Court decision in the Nollan case [Nollan v. California Coastal Commission, 483 US 825 (1987)] declared that there must be an essential nexus between the exaction or mitigation imposed on the party and a legitimate state interest. The U.S. Supreme Court decision in the Dolan case enshrined into law the proportionality test that mitigations required by municipalities must be roughly proportional to the impact that the proposed developments will create [Dolan v. City of Tigard, 512 US 687 (1994)]. Further, the Supreme Court clearly placed the burden of proof on the municipalities to prove, within reason, that the mitigation is in fact necessary.

The analysis in this study indicates that a clear nexus exists between new non-residential development and the need for new affordable housing and to ensure low- and moderate-income Somerville residents gain employment in the jobs created by this development. The analysis also identifies fee levels that are proportional to addressing and mitigating these development impacts.

Development Impact Exaction Policy Issues

As Somerville considers updating its Housing Linkage policies and setting parameters for the new Jobs Linkage Fee, it faces common policy issues that cities have addressed in different

ways. The core policy issues, beyond the critical question of the appropriate and warranted linkage fee rates, for linkage policies include:

1. **Applicable project type and size.** This policy defines the uses and scale of real estate development projects that are subject to linkage fees and what zoning status triggers linkage fee payments. Somerville currently applies its housing linkage fees to a very broad set of uses, exempting only residential, religious, city owned buildings and artist studio space with a project size threshold at 30,000 gross square feet. Furthermore, the city only applies the requirement to projects seeking a special permit, a special permit with site plan review or site plan approval.
2. **Fee variation by use**. Housing and job impacts vary by the type of use and business type since the density and wage levels vary considerably across uses and industries. Consequently, some cities and counties have linkage fee rates that vary by use. The benefit of tailoring rates more closely to impacts is offset by other aspects of this policy, including its added complexity, potential disincentives for certain uses and how to address a project's change in uses over time.
3. **Fee variation by location.** Some cities have varied their linkage fees by a project's location perhaps reflecting differences in the impacts and mitigation costs across city economic centers and neighborhoods. Since Somerville is a compact city without great variations in either housing costs or transportation access to jobs across neighborhoods, there is not a strong case for this type of geographic variation in linkage fees.
4. **Exemptions.** Somerville currently exempts the first 30,000 square feet of any project from linkage fee payments, which reduces the housing linkage fees paid by each project by $154,500 under current rates.
5. **Linkage fee payment schedule**. Somerville allows housing linkage fee obligations to be paid over a five year period, which slows the receipt of funds needed to build affordable housing. This extended payment schedule might be shortened to pay linkage fees more quickly and accelerate the supply of needed housing subsidy funds.
6. **Linkage fee rate adjustment over time.** Current policy allows for adjusting the housing linkage fee every three years based on an analysis of the impact of new commercial development on the cost and supply of housing in Somerville. However, there is no provision for a rate increase based on an inflation index, such as the Consumer Price Index (CPI), as practiced in several other cities.

Review of Linkage Programs in Other Cities

Linkage fees[29] charged to commercial development for the purpose of funding affordable housing is a policy utilized in a number of communities around the United States. They are often found in communities with high housing costs where there is a demonstrated need for affordable

[29] Linkage fees policies have different names in different communities. Boston calls its linkage fees development exaction fees, and Cambridge a housing contribution. For the purposes of this analysis reviewing these policies across communities, linkage fees has been used throughout to maintain consistency of usage and terminology in order to improve readability.

housing. Numerous communities in California have enacted such policies, and they are also found in other states, such as Washington, Colorado, Florida, and New Jersey. Somerville is among the Massachusetts communities that have a linkage fee policy, along with the cities of Boston, Cambridge and Barnstable County. This section reviews linkage policies in Massachusetts cities and counties, as those most relevant to Somerville, to identify competitive issues and existing practices to inform potential changes to Somerville's policies.

Linkage Fee Program and Policy Administration

All housing linkage fee programs operate in a similar manner. Commercial, mixed-use, or other types of developments over a certain number of square feet are subject to a fee assessed per square foot of new developed space over the threshold size for the development. Though the essence of the policy may be the same, programs differ in a variety of ways. Some governing bodies restrict the application of the linkage fee to the use type, such as office space or retail space, whereas others impose the linkage fee on all nonresidential development in their jurisdiction. Some policy programs allow developers to either directly build the required housing or to pay an exaction into an affordable housing trust over a set period of time. In some cases, the fee is divided into installments and paid at certain intervals over a period of several years, most frequently related to the issuance of the certificate of occupancy or building permit. Governments adjust the fee on a regular basis, most often relating to the Consumer Price Index (CPI) or a construction cost index, such as the Engineering News Record Construction Cost Index. It should be noted that adjustments based on these indices do not take into account changes in land values, which impact the costs of developing affordable housing. Major revisions to the fee structure are undertaken less frequently, requiring approval of the local legislative body and often a new nexus study. Many communities have maintained the original fee structures from when the fees were first enacted, adjusting only based on the index, largely due to the cost and complexity of re-evaluating and passing new linkage legislation. The following section reviews linkage programs in Massachusetts. Exaction/linkage fee rates and key policies for Boston and three comparison cities/counties are summarized in Table 37 on page 71.

City of Boston. Boston's linkage fees and policies are defined under Article 80 of the city zoning code, which addresses development project review, in Section 80B-7. This policy requires housing and jobs exaction contributions for any real estate development that meets the definition of a "Development Impact Project" (DIP). Four characteristics establish a real estate project as a DIP subject to exactions: (1) the project cannot be built "as-of-right" and requires some forms of zoning relief; (2) the project has more than 100,000 square feet of new construction, additions to an existing building, or renovation of an existing building; (3) the project includes more than 100,000 square feet of gross floor area for proposed Development Impact Uses; and (4) is not wholly owned by a government agency. The definition of Development Impact Use (DIU) is very broad, covering 40 distinct uses and excluding residential, wholesale businesses, storage, industrial uses, and accessory parking garages. Housing Exactions and Job Exactions are paid on the gross square feet amount above 100,000 at current rates of $8.34 and $1.67 per square foot, respectively. Housing exactions can be paid either through cash Housing Contribution Grant or by building low-income or moderate-income

housing units with cost at least equal to the required Housing Contribution Grant but in practice all exactions have been paid with a cash grant. Grants are paid in seven equal annual installments beginning at the earlier of the Certificate of Occupancy date or 24 months after construction starts. All Housing Contribution Grant funds go to the Neighborhood Housing Trust, which awards the funds to finance affordable housing projects through a periodic RFP process. Job exaction obligations can be met through either payment of a cash grant (Job Contribution Grant) or creation of a job training program with a cost at least equal to the required Job Contribution Grant. In practice, almost all Job Exactions have been paid through the grant option. Grants are paid in two equal installments with the first payment due at building permit issuance and the second payment one year later. The Neighborhood Jobs Trust receives all Job Contribution Grant funds, and awards them through a RPF process to finance job training, education and employment programs. Housing and job exaction rates have been set by special state statutes and can be adjusted for inflation every three years by a vote of the Boston Planning and Development Agency (BPDA) Board of Directors[30].

City of Cambridge. The City of Cambridge's commercial linkage fees (referred to as a Housing Contribution) in its Incentive Zoning Ordinance were first adopted in 1988. Developers can also opt to create affordable housing units, under the "Housing Creation" option, but this has not occurred in the past decade. The Incentive Zoning Ordinance applies to commercial development of more than 30,000 square feet of gross floor area devoted to one or more of the following uses: Hotel or Motel; Radio and Television Studio, College or University (with some exemptions), Noncommercial Research Facility, Healthcare Facility, Social Service Facility, Office and Laboratory Use, Retail and Consumer Service Establishment, Open Air or Drive In Retail, Light Industry, Wholesale Business, Storage, and Heavy Industry. The current housing contribution is $13.50 per square foot over 2,500 square feet of the project authorized by the special permit granted with one-dollar increases occurring annually in September 2017 and September 2018. Consequently, the Cambridge fee is scheduled to reach $15.50 per square foot in fall 2018. The fee does not vary by type of use or by size of development. The amount of the housing contribution is also subject to annual adjustment based on the CPI Housing Index for the Boston-Brockton-Nashua, MA-NH-ME-CT area. The current fee was recommended by a 2015 Nexus Study for the Incentive Zoning Ordinance and went into effect on September 28, 2015. The Housing Contribution is paid, as a lump sum payment, directly to the Managing Trustee of the Affordable Housing Trust (AHT) or its designee. The AHT Managing Trustee must certify to the Superintendent of Buildings that the payment requirements for the ordinance are met prior to issuance of the Certificate of Occupancy. There are no reported problems with the administration or collection of the fee.

Barnstable County. The Cape Cod Commission is a regional planning agency that acts as the regulatory authority for all development projects in Barnstable County. In 2005, the Commission carried out a nexus study to investigate the impact of regional development on low-

[30] The inflation adjustment for the Housing Exaction is calculated based on an equally weighted (50%/50%) average of the change in the Boston Metropolitan Area Consumer Price Index for all urban consumers and the change in the housing component of the Boston Metro Area Consumer Price Index (CPI). The Job Exaction is adjusted by the change in the Boston Metro Area CPI for urban wage earners.

income and moderate-income residents. The results of the study were incorporated into an affordable housing linkage fee policy as part of the 2009 Regional Policy Plan, which has since been amended under a number of county ordinances.

The linkage fee policy is triggered by all new land development of 30 acres or more, land development into 30 or more residential lots or 10 or more business, office or industrial lots, new building developments and expansions to existing developments over 10,000 square feet or 40,000 square feet of outdoor areas. These developments are called "Developments of Regional Impact" or "DRI," which are regionally significant development projects that, due to their size, location, or character, impact more than one community. The 2009 plan puts forth a process for the appropriate review of these projects and includes appropriate affordable housing and other mitigation fees. The affordable housing fee varies depending on the type of development and its location. These categories were determined based on the number of lower-than-average-income jobs each industry or use creates. The fee also depends on whether the development is located in an area that is determined to be an "economic center." The fee schedule was updated in November of 2014 and the new fee schedule went into effect on July 1, 2017. Table 36 summarizes the current linkage fee rates. Fees are adjusted on an annual basis based on the Consumer Price Index.

The fee schedule is subject to reductions and discounts of up to 50%, or 65% if the development is approved for a Hardship Exemption. Discounts include development in an economic center (15% reduction), redevelopment projects (15% reduction), non-profit organization development (10% reduction), and reservation of land for estate or conservation purposes (10%).

Fees accrued under the DRI mitigation policy are collected in advance of the issuance of a Certificate of Compliance, which states that the development complies with the DRI policy. Only upon receipt of the Certificate of Compliance can the developer receive the Certificate of Use and Occupancy by the Municipal Agency. The fees are collected by the Cape Cod Commission, which holds the funds until the town manager of the town where the development took place requests them for affordable housing projects. Instead of paying the fee, developers can mitigate the affordable housing impacts by developing 10 % of the housing units determined necessary to support the lower-than-average-income jobs that are projected to be created by the new development; for example, if a development is projected to create 20 new jobs, then the developer could build 2 low-income housing units instead of paying the mitigation fee.

Table 36. Mitigation Fees for Developments of Regional Impact, July 1, 2017

Type of Development	DRI Mitigation Application Fee
Residential	$10,975 base fee, plus $329 per lot or unit
Non-Residential Building	Fifty-five (55) cents per square foot of gross floor area
Non-Residential Outdoor Space (such as swimming pools and tennis courts)	Fifty-five (55) cents per square foot
Wind Energy Conversion Facilities (WECF)	1-3 WECF: output of 250kW up to less than 1MW each: $3,293 1-3 WECF with an output of 1MW or greater each: $9,878 Per WECF over 3: $3,293 per WECF Not eligible for Fee Reductions
Other Non-Residential Developments	$10,975 base fee plus:
Divisions of Land:	$329 per lot
Gravel Pits, Mining and Extraction Activities and Golf Courses	$329 per acre
Wireless Communication Towers:	$55 per linear foot of tower/monopole height above ground level
Water Dependent Uses including but not limited to docks, piers and revetments:	Twenty-seven (27) cents per square foot
Utilities and other linear development:	Fifty-four (54) cents per linear Foot
Mixed-Use Projects	The applicable residential and non-residential per lot/unit/foot fee set forth above. The residential base fee is not applied to Mixed-Use Projects
Historic Properties	Single-family or Accessory Building - $441 Other - $2,745
Other	For other types of land uses not covered above, $10,975 base fee plus (to be determined as needed, based upon similar uses in the fee schedule above).

Source: Cape Cod Commission.

Table 37. Key Housing and Jobs Exaction/Linkage Policies in Somerville and Comparison Cities

City	Exaction/Linkage Fee Rate (per square foot)	Project Size Threshold (square feet)	Exemption (square feet)	Payment Schedule	Rate Adjustments
Boston	Housing: $8.34 PSF Jobs: $1.76 PSF	100,000	100,000	Housing: seven payments, at certificate of occupancy (COO) and 6 anniversary dates Jobs: two payments at COO date and one-year anniversary	No sooner than three years based on a mix of CPI for Urban Consumers and CPI Housing Component
Cambridge	Housing: $13.50 PSF + $1 annual increase through 2018	30,000	2,500	One payment at COO	Recalculation after three years or longer
Somerville	Housing: $5.15 PSF	30,000	30,000	Five payments at COO and next four anniversary dates	Reevaluation every three years
Barnstable County	Housing: varies by use: .55 per sq. foot for non-residential	10,000 for buildings, 50,000 for outdoor space	None	One payment prior to Certificate of Compliance	Annual CPI adjustments

Source: Karl F. Seidman Consulting Services

Somerville Policies in Relation to Other Communities

Although there are similarities in the core linkage policy across cities, several aspects of Somerville's policies emerge from the review of policies in other cities:

- Somerville's project threshold is the middle range, higher than Barnstable County, the same as Cambridge and well below Boston's 100,000 square feet;

- Somerville's exemption of 30,000 square feet is much higher than Cambridge at 2,500 but similar in policy to Boston, for which the project threshold and exemption levels are the same;

- Boston and Somerville are the only cities that use multiyear payments, with Somerville's five-year payment period shorter than the seven years for Boston;

- Somerville is unique in not providing for any inflation adjustments to fees, with Cambridge and Barnstable County having provisions for annual inflation adjustments to their exactions and Boston providing for a three- year adjustment period.

- Somerville is consistent with Boston and Cambridge in not varying fees by project use. Barnstable County has a more complex system that varies its fee by use.

Policy Options for Somerville Linkage Policies

This section reviews several policies and administrative aspects of Somerville's linkage fee policy that inform recommendation for potential policy changes. This discussion focuses on five issues:

1. Project threshold and exemption level;
2. Fee variation by use;
3. Number and timing of fee payments;
4. Periodic adjustment of fee level; and
5. Use of jobs linkage fee revenue.

Project Size Threshold and Space Exemptions

As noted above, Somerville's project threshold is the same as Cambridge and well below the 100,000 square foot threshold in Boston. The current threshold is appropriate for Somerville as recent development has involved a mix of both mid-size and large projects; an equal number of projects between 30,000 and 100,000 square feet and over 10,000 square feet were permitted since 2009. While there were many smaller projects of less than 30,000 square feet permitted since 2009, most of these were residential without retail, office or hotel space. Non-residential space in these 113 projects under 30,000 square feet totaled 154,000 square feet. Consequently, lowering or reducing the project threshold is unlikely to provide much revenue to mitigate housing and employment impacts.

Somerville currently exempts the first 30,000 square feet of a project from housing linkage payments. This does not serve to exempt small projects from fees since the 30,000 square foot threshold achieves this purpose. However, this provision reduces linkage fee revenue at the established rate and adds a slight complexity to the policy and its administration. It also contributes to a higher nominal rate since applying this large exemption requires setting a higher fee level to generate the specified level of revenue needed to mitigate the development impacts. However, removing the exemption would increase the linkage fee burden on small to mid-size developments between 30,000 and 60,000 square feet. With the exemption, these projects now pay linkage fees on less than half of their developed square feet, but removing the exemption would require them to pay fees on the entire square footage.

Development Use and Fee Levels

The impact of new development on the demand for affordable housing and need for education and training services does vary by building use and business type. Uses and businesses with a higher density of employment and a large share of lower paying jobs will generate greater

impacts. Table 38 compares different uses by their employment density (measured by typical square feet per employee) and share of jobs with average annual wages below 80% of area median income. Restaurants have both the highest employment density and share of lower paying jobs. Research and Development is on the other end of the spectrum with low density and a relatively low share of jobs with wages below 80% of median income. Office uses fall in the middle—they have high job density but a middle range of low paying jobs. Hotels and retail uses, on the other hand, have a large share of lower paying jobs but relatively low employment density. Thus, based on impact alone, there is a case for varying fees by use. Somerville could establish a multi-tiered fee schedule with different rates for hospitals, hotels, office, retail/personal services, restaurants and universities.

Table 38. Variation in Employment Density and Job Wage Levels by Use

Development Use	Square Feet Per Employee	Percent of Jobs with Median Wages Below 80% of Median Income
Office	200	17% to 53%
Hotel	1,000	90%
Retail	500	44% to 95%
Restaurant	225	98%
Research and Development	440	16%

Source: Somerville OSPCD and Karl F. Seidman Consulting Services from BLS Data

There is a precedent for varying fees by type of use. Many California cities, including San Diego and San Francisco do so, as does Barnstable County in Massachusetts, which has varied fee rates for eleven different use categories. Locally, Boston, Cambridge and Somerville all use a uniform rate for all uses.

Despite the differential impacts by use, Somerville may want to continue its policy of a single fee rate across uses for administrative simplicity and competitive factors. From an administrative perspective, the occupancy use of a project may be difficult to determine for some projects and may change over time for a building. The first problem is most likely to occur for office buildings that combine general office uses with research and development, medical services or educational uses, or have large portions of a building devoted to mixed activities, as is becoming more common with collaborative and open floor space designs. There would be an incentive for owners and developers to classify mixed space as the use with a lower fee, or underestimate office space if differential contribution rates were applied. Additional administrative complexities might result from the need to allocate common areas and shared uses (e.g., reception areas, conference rooms, etc.) among different uses. Furthermore, developers and building owners might view the fees as unjustified and seek a refund or legal relief if the allocation of uses changed upon final occupancy. These problems can be addressed by having the contribution rate based on the predominant use in the building. However, this would mitigate the goal of having the fee rate reflect differential impacts.

Another issue is that building uses often change over time: ground floor space may first be rented to a retail store and later converted to a restaurant. Similarly, a building might first have an office tenant and later be converted to an institutional or research and development use.

Somerville could address this issue by basing linkage fee rates on the initial use but this could create inequitable results between buildings with stable uses and those for which uses change more often. This problem seems greatest for buildings with a larger share of ground floor commercial space which may change more frequently between retail, restaurant and office uses.

Timing of Fee Payments

Somerville, with a five-year payment period, has a relatively long time period for collecting housing linkage fees, exceeded only by Boston, at seven years. This extended payment period slows the receipt of funds and the ability to deploy them to build affordable housing and expand training services. It also adds administrative costs and complexity as the city must track, invoice, and collect payments from each project over five years. Since the affordable housing impacts from new development are likely to occur in the first year or two after project completion as the project is leased up and tenants hire new employees, the five-year payment period is not well aligned with project impacts. A single payment or shorter payment period would supply funding to build housing and implement training programs at a pace that better matches impact while simplifying fee administration and collection.

For the new jobs linkage fee, it is important to collect fees early in the development process to allow the funding and implementation of education and training programs to train residents before the project is occupied and tenants begin hiring workers. Consequently, the jobs linkage fee is appropriate to collect in a single payment at the time of building permit issuance.

Fee Adjustments

Somerville's linkage ordinance has a provision to periodically recalculate linkage fees every three years to adjust for changing market and economic conditions but does not provide for inflation-based adjustments, as is common for other communities. Somerville's policy of periodic analytically-based linkage fee adjustments is good practice to keep linkage fees current. Moreover, Somerville has been more consistent than Cambridge and Boston in undertaking these periodic updates. However, it has proven difficult to complete nexus studies and updates within this three-year time frame, with updates more likely to occur within a five- to ten-year period. Given this situation, Somerville may want to amend its ordinance to allow regular annual or biennial adjustments linked to an inflation index such as the CPI or a building cost index.

Use of Jobs Linkage Fees

With implementation of a new jobs linkage fee, policies are needed to guide the deployment of linkage revenue collected and paid into the Job Creation and Retention Trust. Somerville faces two broad options for use of job linkage funds:

1. **Project-specific training** in which linkage fees collected from a project are used to train residents for jobs with employers at that specific project; and

2. **Citywide programs** in which linkage fees collected from multiple projects are pooled and then awarded to providers to provide training for jobs with employers throughout Somerville.

The first option has several advantages. First, there is a stronger connection between the fees collected and impacts generated by the project than with the citywide training approach. Second, the availability of training dollars could be an incentive that helps Somerville and the project developer attract businesses to a new project. Third, this approach fosters relationships between the city and new employers around resident hiring, training and career ladder development that may be leveraged for future programs and benefits.

Several challenges exist to effectively implement this option. The city's working relationship for the project is with the developer but the cooperation and engagement of employers is needed to establish a new training program. This places a burden on the city to establish these relationships and a willingness of developers to initially broker this process. Additionally, employers must need to hire a sufficient number of people for the same or very similar position for a program specific to the project to be feasible. Finally, the single project linkage fee revenue needs to be large enough to cover the full costs to implement the training program and related services. These last two conditions are more likely to exist for larger projects and those with expanding employers that are adding many employees.

While the second option does not directly connect with and leverage the employment and training opportunities presented by specific projects, it is easier to implement because it draws hiring and occupational training needs among employers across Somerville. It can pool linkage revenue across projects to fund larger scale or more integrated programs and pool demand across employers to achieve economies of scale for programs. Finally, it allows for competitive awarding of funds across different occupations and program designs, and thus may allow Somerville to target funds to programs that are most likely to offer the best employment outcomes for residents.

Linkage Fee Impact on Somerville's Competitiveness

An important consideration for Somerville in establishing the housing and jobs linkage fee rates is their potential impact on attracting new development and tenants. This is a particularly important concern given that maximum combined fee rate of $89.12 per square foot ($86.43 for housing and $2.69 for jobs) would be seventeen times the current housing fee of $5.15. If adopted, this rate would be more than six times the current housing contribution rate in Cambridge ($13.5) and almost nine times Boston's combined housing and jobs exactions of $10.01. An increase in the fee rate increases development costs, which developers must offset through either paying less for land (or an existing building in the case of renovation projects), reducing their return on investment, or collecting higher rents from tenants. The last option, raising rents, may affect Somerville's competitiveness in attracting businesses to new development projects.

Table 39 compares Class A office rents for Somerville with competing areas in Cambridge, Boston and several suburban locations, including those with sizeable professional service and technology companies, such as Lexington and Waltham. A developer's capacity to pass on the cost of fees to tenants and still remain economically competitive in attracting tenants depends on rent differentials between Somerville and competing locations. Somerville's office rents are well below Boston's major office markets (Financial District, Back Bay and the Seaport District) and the mid-Cambridge and East Cambridge markets, but close to or above competing suburban locations. Somerville's average rent for recently developed buildings is $40.50, $18 below Boston's financial district and $35 below East Cambridge. With the exception of Lexington, Somerville Class A rents in newer buildings are above those in competing suburban locations, by $8.32 for Waltham and $22.50 for Quincy. For the inner suburban market, which includes many communities closest to Somerville, including Chelsea, Malden, Medford and Revere, average asking rents were $33.00 in the First Quarter of 2017, or $7.50 below Somerville office rents.

Table 39. Class A Office Rents in Somerville, Boston, Cambridge and Selected Suburbs

Market Area	Office Rent	Differential
Somerville	$40.50	
Lexington	$56.00	$15.50
Quincy	$18.00	-$22.50
Waltham	$32.18	-$8.32
Boston Inner Suburbs	$33.00	-$7.50
East Cambridge-Kendall	$75.47	$34.97
Cambridge-Mid	$67.96	$27.46
Cambridge-West/Alewife	$47.75	$7.25
Boston-Seaport	$69.08	$28.58
Boston-Financial District	$58.87	$18.37
Boston-Back Bay	$64.76	$24.26
Charlestown-East Boston	$41.32	$0.82

Source: Somerville, Lexington, Quincy, and Waltham from Costar data for buildings built within last 5 years; other areas from Lincoln Property Office Report 1st Quarter 2017, Class A asking rents.

The maximum combined housing and jobs linkage fee, based on the city covering 100% of the financing gap is $89.12 per square foot of new development—an $83.97 increase over the current rate. If a developer passed on this increase in full to tenants, rents would increase by $8.40 per square foot for a ten-year lease[31]—a 21% increase in Somerville's Class A office rent (see Table 40). This would leave rent differentials of almost $10 with Boston's Financial District and over $26 with Kendall Square, but erase the city's advantage over the Alewife section of Cambridge and make Somerville less competitive with suburban locations by more than doubling its rent premium over Waltham and inner suburbs.

[31] This calculation is based on the current 30,000 square foot exemption, 85% net leasable space and a building size of 200,000 gross square feet.

Table 40. Potential Impact of Maximum Fee on Boston Class A Office Rents

Maximum Housing Fee	$86.43
Maximum Jobs Fee	$2.69
Total Combined Fee	$89.12
Existing Linkage Fee	$5.15
Increase in Fee	$83.97
Cost per Leased Square Foot	$83.97
Amortized over Ten Year Lease	$8.40
Amortized Fee as Percent of Class A Rent	20.7%

Source: Karl F. Seidman Consulting Services

Developers are constrained in their ability to pass on the cost of additional fees to tenants by competition from outside Somerville and existing Somerville buildings that are not subject to linkage fees. If developers are unable to pass on the fee to tenants or reduce their property acquisition costs, linkage fees will increase their required equity investment and reduce their rate of return. A large negative impact on investment returns creates a risk that developers may decide to pursue projects in more profitable locations or impair their ability to raise equity capital, making new development projects infeasible. Table 41 presents the estimated impact on a developer's return on equity assuming "worst case" in which the full cost of the additional fees are paid by an increase in the developer's cash equity under scenarios in which the developer would earn a 6% and 8% return prior to the fee increase. With the maximum fee increase of $83.97 per square foot, a developer's annual return on investment from the building's net income would decrease from 8% to 4.72% or from 6% to 3.54%. These represent a 41% decline in expected investment returns, which indicates that if the maximum fee was adopted and most of the increase had to be paid with developer equity, it is likely to deter new investment in Somerville's office development.

Table 41. Potential Impact of Maximum Fee on Developer Investment Return

Investment Parameter	8% Investment Return	6% Investment Return
Original Equity Investment*	$20,500,000	$20,500,000
Additional Fees at $83.97 PSF	$14,274,900	$14,274,900
New Equity Total	$34,774,900	$34,774,900
Investment Income+	$1,640,000	$1,230,000
New Return on Investment	4.72%	3.54%
Change in Investment Return	-3.28	-2.46
Percent Change in Returns	-41%	-41%

Source: Karl F. Seidman Consulting Services

*25% of Estimated TDC of $82 million; +8% or 6% of original equity investment

Impact of Alternative Fee Scenarios on Rents and Returns

Since adoption of the maximum warranted linkage fees is likely to impair Somerville's competitive position for attracting new businesses and real estate investment, the impact of two alternative fee scenarios was analyzed. This analysis also considered the combined impact of

linkage fees and $7.74 per square foot in other impact fees that Somerville has or is considering adopting[32]. The two scenarios analyzed are:

1. Scenario One: setting the housing linkage fee at $19.73 (equal to AHTF's recent share of the financing gap) and jobs linkage fee at $2.44.
2. Scenario Two: setting the housing linkage fee at $8.50 and jobs linkage fee at $2.50 so that Somerville linkage fees are in a comparable range to Boston ($10.01) and Cambridge ($13.50).

The results of this analysis are presented in Table 42. If the full increase in linkage and other fees are passed on to tenants via increased rents, the impact would be modest: rents would increase by $2.48 under Scenario One and $1.36 under Scenario Two based on a ten-year lease. These relatively small rent increases are unlikely to be a deciding factor for tenants and alter Somerville's competitive position relative to Boston, Cambridge and suburban communities.

In terms of investment returns, the impact is more significant, especially under Scenario One. Developer returns could drop by 102 to 136 basis points under Scenario One, if the full fee costs are paid with additional developer equity. Under Scenario Two, the impact is smaller ranging from 61 to 81 basis points. These are not so large as to make Somerville uncompetitive for real estate investment, especially since developers are likely to be able to offset at least part of the increased fee cost in other ways. However, since Somerville is still an emerging office real estate market and is competing with more established and higher rent markets in Boston, Cambridge and the strongest suburbs, developers and investors may perceive it as a higher risk location for investment. Consequently, Somerville should be careful not to set an overall level of fees that developers view as too burdensome and change the perceived risk/return balance, particularly relative to Cambridge and Boston.

Table 42. Potential Impact on Class A Office Rents and Developer Returns Under Alternative Linkage Fee Scenarios

Fee Component/Impact	Scenario One	Scenario Two
Combined Fee Cost per Leased SF	$29.91	$18.74
Increase from Current Linkage Fee	$24.76	$13.59
Impact on Rent Amortized over 10-Year Lease	$2.48	$1.36
Amortized fee as % of Somerville Rent	6.11%	3.36%
Impact on Developer Returns: 6% Base	-1.02%	-.81%
Impact on Developer Returns: 8% Base	-1.36%	-.61%

Source: Karl F. Seidman Consulting Services

[32] These include $2.40 for funding the Green Line extension, $2.00 for Union Square infrastructure, $1.60 for community benefits, and $1.74 to address storm water impacts.

Recommended Linkage Fee Rates and Policy Changes

The analysis detailed in this report supports an increase in Somerville's housing linkage fee and establishes the nexus and warranted fee level for the newly authorized jobs linkage fee. Projected construction of 2.21 million square feet in non-residential development over the next ten years is expected to generate 8,899 jobs. This employment growth will create demand for 591 new units of housing for very-low, low-income, and moderate-income households; and expanded workforce education and training services to serve 1,330 residents. An estimated financing gap of $162.5 million will exist to reach the $248 million in total development costs necessary to build the new affordable housing units. For workforce development services, a smaller funding gap of $4.58 to $5.05 million is needed to address development impacts. The maximum warranted housing and jobs linkage fees to fill these financing gaps are $86.43 per square foot and $2.44 to $2.69 per square foot, respectively.

Setting the final linkage fee rates is a matter of balancing public policy goals and considering both the need to address increased demand for affordable housing and workforce development services with the potential impacts of an increased rate on the city's future development. Given Somerville's goal to expand its employment base to create 30,000 new jobs and its emerging status as a location for Class A office and research space, it is important for Somerville to set linkage fees that are comparable to Boston and Cambridge rates. This rate level sustains Somerville's rent advantage over these key competitor cities, keeps its rents in line with major suburban alternatives and avoids developers perceiving Somerville as being less supportive of new investment as the result of establishing linkage fee rates above its neighboring cities.

A combined jobs and housing linkage fee in the range of $10.00 to 12.50 is recommended, placing Somerville at or slightly above Boston and below Cambridge, with the housing linkage fee between $8.00 and $10.00 per square foot and the jobs linkage fee between $2.00 and $2.50 per square foot. By adopting a rate in the $10.00 to $12.50 range (without, as noted below, an exemption for the first 30,000 square feet), Somerville will lessen the potential for adverse impacts on the city's commercial rents and competitiveness in attracting and retaining businesses and continued investment. As discussed in the prior section, if increased linkage fees of $11 per square foot in combination with other new exactions are fully passed on to tenants, it will increase annual rents by $1.36, or a 3.3% increase over the city's Class A office rents for newer buildings. Alternatively, if the additional exaction costs are fully absorbed by developers without increasing rents, its impact on investment returns would be limited, reducing them by .61 to .81 percentage points.

Table 43. Recommended Housing and Jobs Linkage Fee Rates

Fee Type	With 30,000 SF Exemption	Without 30,000 SF Exemption
Jobs Fee Rate	$2.00 to $2.50	$1.70 to $2.13
Housing Fee Rate	$8.00 to $10.00	$6.81 to $7.23
Combined Rate	$10.00 to $12.50	$8.51 to $9.36

Source: Karl F. Seidman Consulting Services

It is recommended that a two-stage approach regarding the usage of the jobs linkage fees be implemented. Under this approach, in the first stage, the jobs linkage fees collected from a project would be reserved to implement job training and education services linked to employers and jobs at the project. City planning and economic development staff would then meet with the project developer and confirmed tenant firms to discuss hiring plans and training needs and the potential to provide education and training for Somerville residents specific to the firms and project. Based on these meetings and discussions and consultation with potential training providers, a decision would be made on whether it is feasible to implement a training program specific to the project. If project-specific training was deemed feasible, Somerville economic development staff would convene meetings between the employer(s) and training and education providers on the implementation of the project-specific training, including specific dates and milestones to ensure implementation progress. When project-specific training is deemed infeasible, the second stage approach to jobs linkage revenue would apply and fees would be paid into a general fund of the Municipal Job Creation and Retention Trust to be awarded through a competitive RFP process for citywide training programs. In the event that project-specific training programs incurred hurdles and could not be implemented, the reserved linkage fees for the project would be released and transferred into the Trust's general fund. Given the time needed to manage the RFP and funding process, implement new training programs and monitor and evaluate employment outcomes, competitive RFPs by the Municipal Job Creation and Retention Trust are likely to be conducted every two to four years. For project-specific and general fund training programs, the Trust should encourage and give priority to programs with the following practices:

- Integration of ABE and ESOL services with training for entry level jobs and programs serving residents with these educational needs;
- Post-employment follow-up and support services to increase residents' successful transition to and retention at their new job; and
- Career advancement and job ladder services when feasible, given the opportunities within the occupation, industry and Somerville employers.

Several additional changes to the current linkage policies are recommended to simplify fee policies and their administration and accelerate collection and deployment of fee revenue:

- Shorten the housing linkage fee payment schedule to three payments made on the building certificate of occupancy (C of O) date; one year after C of O and two years after C of O;
- Use of a single payment at the building permit date for the jobs linkage fee to provide upfront payment needed to fund job training in advance of building occupancy and employment;
- Consolidate the payment schedule for each annual payment after C of O to January 15 (for initial C of O between January 1 and June 30) and July 15 (for initial C of O between July 1 and December 31) to simplify book keeping and administration of fee collection;

- Continue the current policy of reevaluating and updating linkage fees based on a nexus analysis every five years; and
- Establish an annual inflation rate adjustment based on the Boston CPI or alternative index.

Appendix A: Definitions of Economic Sectors

Construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems). Establishments primarily engaged in the preparation of sites for new construction and establishments primarily engaged in subdividing land for sale as building sites also are included in this sector.

Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal. Within this sector, the specific activities associated with the utility services provided vary by utility: electric power includes generation, transmission, and distribution; natural gas includes distribution; steam supply includes provision and/or distribution; water supply includes treatment and distribution; and sewage removal includes collection, treatment, and disposal of waste through sewer systems and sewage treatment facilities.

Wholesale Trade sector The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The merchandise described in this sector includes the outputs of agriculture, mining, manufacturing, and certain information industries, such as publishing.

Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers: store and nonstore retailers.

Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. Establishments in these industries use transportation equipment or transportation related facilities as a productive asset. The type of equipment depends on the mode of transportation. The modes of transportation are air, rail, water, road, and pipeline.

The Utilities, Wholesale Trade, Retail Trade, and Transportation and Warehousing were combined and presented as Trade, Transportation and Utilities in the study report.

Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data. The main components of this sector are the publishing industries, including software publishing, and both traditional publishing and publishing exclusively on the Internet; the motion picture and sound recording industries; the broadcasting industries, including traditional broadcasting and broadcasting exclusively over the Internet; the telecommunications industries; and Web search portals, data processing industries, and the information services industries.

Financial and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions. Three principal types of activities are identified:

1. Raising funds by taking deposits and/or issuing securities and, in the process, incurring liabilities. Establishments engaged in this activity use raised funds to acquire financial assets by making loans and/or purchasing securities. Putting themselves at risk, they channel funds from lenders to borrowers and transform or repackage the funds with respect to maturity, scale, and risk. This activity is known as financial intermediation.
2. Pooling of risk by underwriting insurance and annuities. Establishments engaged in this activity collect fees, insurance premiums, or annuity considerations; build up reserves; invest those reserves; and make contractual payments. Fees are based on the expected incidence of the insured risk and the expected return on investment.
3. Providing specialized services facilitating or supporting financial intermediation, insurance, and employee benefit programs.

Monetary authorities charged with monetary control are included in this sector.

Real Estate and Renting and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services. The major portion of this sector comprises establishments that rent, lease, or otherwise allow the use of their own assets by others. The assets may be tangible, as is the case of real estate and equipment, or intangible, as is the case with patents and trademarks. This sector also includes establishments primarily engaged in managing real estate for others, selling, renting and/or buying real estate for others, and appraising real estate. These activities are closely related to this sector's main activity, and from a production basis they are included here. In addition, a substantial proportion of property management is self-performed by lessors.

The Finance and Insurance sector and Real Estate sector were combined and presented as Financial Activities in the study report.

Management of Companies and Enterprises sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision-making role of the company or enterprise. Establishments that administer, oversee, and manage may hold the securities of the company or enterprise.

Professional, Scientific and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this sector specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic

services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services.

Administrative and Support and Waste Management and Remediation Services sector comprises establishments performing routine support activities for the day-to-day operations of other organizations. These essential activities are often undertaken in-house by establishments in many sectors of the economy. The establishments in this sector specialize in one or more of these support activities and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: office administration, hiring and placing of personnel, document preparation and similar clerical services, solicitation, collection, security and surveillance services, cleaning, and waste disposal services

The Management of Companies, Professional, Scientific and Technical Services, and Administrative and Support/Waste Management and Remediation Services sectors were combined and presented as Professional and Business Services in the study report.

Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects. This instruction and training is provided by specialized establishments, such as schools, colleges, universities, and training centers. These establishments may be privately owned and operated for profit or not for profit, or they may be publicly owned and operated. They may also offer food and/or accommodation services to their students.

Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. The industries in this sector are arranged on a continuum starting with establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. Establishments in this sector deliver services by trained professionals. All industries in the sector share this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise.

The Education Services and Health Care/Social Assistance sectors were combined and presented as Education and Health Services in the study report.

Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons. This sector comprises (1) establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; (2) establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and (3) establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests.

Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption. The sector

includes both accommodation and food services establishments because the two activities are often combined at the same establishment.

The Arts/Entertainment/Recreation and Accommodation/Food Services sectors were combined and presented as Leisure and Hospitality in the study report.

Other Services (except Public Administration) sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system. Establishments in this sector are primarily engaged in activities such as equipment and machinery repairing, promoting or administering religious activities, grant making, advocacy, and providing dry-cleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services. Private households that engage in employing workers on or about the premises in activities primarily concerned with the operation of the household are included in this sector.

Public Administration sector consists of establishments of federal, state, and local government agencies that administer, oversee, and manage public programs and have executive, legislative, or judicial authority over other institutions within a given area. These agencies also set policy, create laws, adjudicate civil and criminal legal cases, and provide for public safety and for national defense. In general, government establishments in the Public Administration sector oversee governmental programs and activities that are not performed by private establishments

Source: Source: US Census Bureau 2017 North American Industry Classification System (NAICS) definitions from the NAICS search site (https://www.census.gov/cgi-bin/sssd/naics/naicsrch)

Jobs-Housing Nexus Study

Prepared for:
City of San Diego

Prepared by:
Keyser Marston Associates, Inc.

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INTRODUCTION

The following report summarizes an analysis of the impacts of non-residential development on the demand for affordable housing in the City of San Diego (City). The report has been prepared by Keyser Marston Associates, Inc. for the San Diego Housing Commission (SDHC), in order to assist the City in updating its housing impact fee program.

Background

The City of San Diego Housing Impact Fee Ordinance was established in 1990 to address the affordable housing demand created by non-residential development. Keyser Marston Associates, Inc. (KMA) performed the nexus analysis in support of the housing impact fees. In 1996, the fees were reduced by 50%. Subsequently the City and SDHC embarked on several efforts to update the nexus analysis and consider changes in the housing impact fees, as follows:

- In 2002, the City Council declared a "State of Emergency Due to Severe Shortage of Affordable Housing in San Diego." As part of the response to the housing shortage, the City commissioned KMA to conduct a fully updated nexus analysis. The nexus study was completed in December 2004 but was never formally presented to SDHC or the City.

- In 2008, KMA, at the request of SDHC, reviewed and partially updated the 2004 report. Like the 2004 report, the 2008 review was never formally presented.

- In September 2009, the City Council's Land Use and Housing Committee recommended that the impact fee program be reviewed and evaluated and in October 2009, the City Council approved the Committee's recommendation. As a result, KMA completed a new nexus analysis in October 2010. The KMA study, and SDHC's recommendation for increased fee levels, were presented to the City Council in July 2011. The Council did not adopt SDHC's proposal to increase fee levels.

- The present study was requested by SDHC in March 2013 and comprises a comprehensive update of KMA's 2010 study.

Purpose

The purpose of a nexus analysis is to document the linkages among construction of new workplace buildings (such as office, retail, hotel, etc.), the employees that work in them, and the demand for affordable housing. Since the jobs in all buildings cover a range of compensation levels, and the households a range of sizes, there is need for additional housing at all affordability levels. This analysis quantifies the housing need at each affordability level associated with each type of workplace building.

The analysis is conducted to meet the requirements of several U.S. Supreme Court decisions and also California Code Section 66000 and following. Such analyses are called linkage, or nexus, analyses.

Analysis Scope

This analysis examines the types of workplace buildings that are listed in the existing Housing Impact Fee ordinance as follows:

- Office
- Hotel and other lodging
- Retail/entertainment
- Research and Development/manufacturing/industrial
- Warehouse/storage

The following affordability levels are addressed in the analysis:

- Very Low Income (under 50% of Area Median Income, or AMI)
- Low Income (50% to 80% AMI)
- Moderate Income (80% to 120% AMI)

Report Organization

The report is organized into five sections as follows:

- Section I – presents a summary of the nexus concept and some of the key issues and underlying assumptions in the analyses linking jobs and housing demand.

- Section II – provides an overview of the historical and projected growth of jobs and housing in the City.

- Section III – presents an analysis of the jobs and housing relationships associated with individual prototype workplace buildings and concludes with a quantification of the number of households at each income level associated with each building type.

- Section IV – contains a summary of the costs of delivering housing units affordable to households at the income levels under study, allocated to each square foot of building area.

- Section V – provides materials to assist policy makers in evaluating alternative fee levels, including possible indices for increasing the level of the fee over time. The material in this section is not part of the nexus analysis.

- Appendix A – presents a summary matrix of key analysis assumptions and discussion of specific factors in relation to the nexus concept.

- Appendix B – contains supporting information related to worker occupations and incomes.

- Appendix C – contains supporting information related to the affordability gap calculations.

Data Sources and Qualifications

The analyses in this report have been prepared using the best and most recent data available. Local data were used whenever possible. The major sources were the U.S. Census Bureau's 2009-2011 American Community Survey, the U.S. Bureau of Labor Statistics, the California Employment Development Department, and San Diego Association of Governments (SANDAG). While we believe all sources utilized are sufficiently accurate for the purposes of the analyses, we cannot guarantee their accuracy. Keyser Marston Associates, Inc. (KMA) assumes no liability for information from these and other sources.

SECTION I – THE NEXUS CONCEPT AND MAJOR ISSUES

Introduction

This section outlines the nexus concept and some of the key issues surrounding the linking of new non-residential development to the demand for new residential units in the City of San Diego. The nexus analysis and discussion focus on the relationships among development, growth, employment, income of workers, and demand for affordable housing. The analysis yields a connection between new construction of the types of buildings in which there are workers and the need for additional affordable housing, a connection that is quantified both in terms of number of units and the amount of subsidy assistance needed to make the units affordable.

The Legal Basis and Context

The first housing linkage programs were adopted in the cities of San Francisco and Boston in the mid-1980s. To support the linkage, the City of San Francisco commissioned an analysis to show the relationships, or what might now be characterized as an early version of a nexus analysis. Since that time there have been several court cases and California statutes that affect what local jurisdictions must demonstrate when imposing impact fees on development projects. The most important U.S. Supreme Court cases are Nollan v. California Coastal Commission and Dolan v. City of Tigard (Oregon). The rulings on these cases, and others, help clarify what governments must find in the way of the nature of the relationship between the problem to be mitigated and the action contributing to the problem. Here, the problem is the lack of affordable housing and the action contributing to the problem is building workspaces that mean more jobs and worker households needing more affordable housing.

Following the Nollan decision in 1987, the California legislature enacted AB 1600 which requires local agencies proposing an impact fee on a development project to identify the purpose of the fee, the use of the fee, and to determine that there is a reasonable relationship between the fee's use and the development project on which the fee is imposed. The local agency must also demonstrate that there is a reasonable relationship between the fee amount and the cost of mitigating the problem that the fee addresses. Studies by local governments designed to fulfill the requirements of AB 1600 are often referred to as AB 1600 or "nexus" studies.

One court case that involved housing linkage fees was Commercial Builders of Northern California v. City of Sacramento. The commercial builders of Sacramento sued the City following the City's adoption of a housing linkage fee. Both the U.S. District Court and the Ninth Circuit Court of Appeals upheld the City of Sacramento and rejected the builders' petition. The U.S. Supreme Court denied a petition to hear the case, letting stand the lower court's opinion. The authors of this nexus study were the authors of the Sacramento study.

Since the Sacramento case in 1991 there have been several additional court rulings reaffirming and clarifying the ability of California cities to adopt impact fees. A notable case was the San Remo Hotel v. the City and County of San Francisco, which upheld the impact fee levied by the City and County on the conversion of residence hotels to tourist hotels and other uses. The court found that a suitable nexus, or deleterious impact, had been demonstrated. In 2009, in the Building Industry Association of Central California v. the City of Patterson, the Court invalidated the City's fee since the impact of the proposed project as related to the fee had not been demonstrated. The most recent ruling was in 2010 when the court upheld most of the impact fees levied by the City of Lemoore in Southern California. Of note relevant to housing impact fees was the judges' opinion that a "fee" may be "established for a broad class of projects by legislation of general applicability….the fact that specific construction plans are not in place does not render the fee unreasonable." In other words, cities do not have to identify specific affordable housing projects to be constructed at the time of adoption.

In summary, the case law at this time appears to be fully supportive of jobs/housing impact fees such as the impact fee that has been in place in the City of San Diego since 1990 and is the subject of this nexus analysis.

The Nexus Methodology

An overview of the basic nexus concept and methodology is helpful to understanding the discussion and concepts presented in this section. This overview consists of a quick "walk through" of the major steps of the analysis. The nexus analysis links new commercial buildings (or other workplaces) with new workers in the City; these workers demand additional housing in proximity to the jobs, a portion of which needs to be affordable to the workers in lower and middle income households.

The methodology utilized in this analysis is a "micro" analysis that examines individual buildings. The micro nexus readily lends itself to quantification that serves as a basis for quantifying the nexus cost, or basis for the fee amount, for each building type.

To illustrate the micro nexus, very simply, we can walk through the major calculations of a building. We begin by assuming a prototypical building of some specific size and then make calculations as follows:

- We estimate the total number of employees working in the building based on average employment density experience.

- We use occupation and income information for typical job types in the building to calculate how many of those jobs pay compensation at the levels addressed in the analysis. Compensation data is from the California Employment Development Department (EDD) and is specific to San Diego County as of 2012. Worker occupations by building type are derived from the 2012 Occupational Employment Survey by the U.S. Bureau of Labor Statistics.

- We know from the Census that most employees are members of households where more than one person is employed and the number of workers by household size; we use factors derived from the Census to translate number of workers into households of various size represented in each income category.

- Then, we calculate how many of the Very Low-, Low-, and Moderate-Income households are associated with the building and divide by the building size to arrive at coefficients of housing units per square foot of building area.

- In the last step, we multiply the number of lower income households per square foot by the costs of delivering housing units affordable to these income groups.

The factors and relationships utilized in the analysis reflect long-term average conditions. Short-term conditions, such as a recession or a vigorous boom period, are not an appropriate basis for estimating impacts over the life of the building.

The Relationship between Job Growth and Population Growth

A major social issue driving this analysis is growth in lower and middle income households. New population growth in most U.S. regions occurs primarily as a result of job growth. Over the long term, the vast majority of growth in the State of California and its sub-regions is job-driven. Many people coming to the region would not come if they could not expect to find a job. People born in the local area would not stay without jobs. This is the long-term pattern. In the short-term, economic cycles and other factors can result in population growth without jobs to support the growth. If an economic region in the U.S. does not maintain job growth, there is an out-migration to regions where job growth is occurring. Many cities in the Midwest during the 1970s and 1980s are examples of this outmigration, and some U.S. cities continued to lose population in more recent decades.

Not all population growth in San Diego is the result of new jobs in the region. Retirees, students, and others who are not part of the work force all generate demand for housing. However, non-working households are not included in the analysis since the purpose is to demonstrate the linkage between new buildings, new workers, and demand for housing. Since only working households are part of this equation, the demand for housing generated by non-working households is excluded.

The Relationship between Construction and Job Growth

Employment growth does not have one cause. Many factors underlie the reasons for growth in employment in a given region; these factors are complex, interrelated, and often associated with forces at the national and international levels. One of the factors is the delivery of new workplace buildings. The nexus argument does not make the case that the construction of new buildings is solely responsible for growth. However, new construction is uniquely important, first, as one of a number of parallel factors contributing to growth, and second, as a unique and essential condition precedent to growth.

As to the first, construction itself encourages growth. When the State economy is growing, the most rapidly growing areas in the State are those where new construction is vigorous as a vital industry. In regions such as San Diego where multiple forces of growth exist, the political and regulatory environment join forces with the development industry to attract growth by providing new work spaces, particularly those of a speculative nature. The development industry frequently serves as a proactive force inducing growth to occur or be attracted to specific geographic areas or locations.

Second, workplace buildings bear a special relationship to growth, different from other parallel causes, in that buildings are a *condition precedent* to growth. Job growth does not occur in modern service economies without buildings to house new workers. Unlike other factors that are responsible for growth, buildings play the additional unique role that growth cannot occur without them for a sustained period of time. Conversely, it is well established that the inability to construct new workplace buildings will constrain or even halt job growth.

Addressing the Housing Needs of a New Population vs. the Existing Population

The Housing Element of the City of San Diego and SDHC have clearly documented that the housing needs of the existing lower and middle income households are not being met. This existing housing shortage, especially at the lowest income levels, is manifested in numerous ways such as payment of far more than 30% of income for rent as set forth in Federal and State guidelines, overcrowding, and other factors that are extensively documented by the Census and other reports.

This nexus study does not address the housing needs of the existing population. Rather, the study focuses exclusively on documenting and quantifying the housing needs of new households where an employee works in a new workplace building.

Local analyses of housing conditions have found that new housing affordable to lower and moderate income households is not being added to the supply in sufficient quantity to meet the needs of new employee households. If this were not the case, and significant numbers of units were being added to

the supply to accommodate the low to moderate income groups, or if residential units in the City were experiencing significant long-term vacancy levels, particularly in affordable units, then the need for new units would be questionable.

Substitution Factor

Any given new building in the City of San Diego may be occupied partly, or even perhaps totally, by employees relocating from elsewhere in the City. Buildings are often leased entirely to firms relocating from other buildings in the same jurisdiction. However, when a firm relocates to a new building from elsewhere in the region, there is a space in an existing building that is vacated and occupied by another firm. That building in turn may be filled by some combination of newcomers to the area and existing workers. Somewhere in the chain there are jobs new to the region. The net effect is that new buildings accommodate new employees, although not necessarily inside of the new buildings themselves.

Indirect Employment and Multiplier Effects

The multiplier effect refers to the concept that the income generated by a new job recycles through the economy and results in additional jobs. The total number of jobs generated is broken down into three categories – direct, indirect, and induced. In the case of the nexus analysis, the direct jobs are those located in the new workplace buildings that would be subject to the linkage fee. Multiplier effects encompass indirect and induced employment. Indirect jobs are generated by suppliers to the businesses located in the new workplace buildings. Finally, induced jobs are generated by local spending on goods and services by employees.

Multiplier effects vary by industry. Industries that draw heavily on a network of local suppliers tend to generate larger multiplier effects. Industries that are labor-intensive also tend to have larger multiplier effects as a result of the induced effects of employee spending.

Theoretically, a jobs/housing nexus analysis could consider multiplier effects although the potential for double-counting exists to the extent that indirect and induced jobs are added in other new buildings in the City of San Diego subject to the linkage fee. KMA chooses to omit the multiplier effects (the indirect and induced employment impacts) to avoid potential double-counting and make the analysis more conservative.

In addition, the nexus analysis addresses direct “inside” employment only. In the case of an office building, for example, direct employment covers the various managerial, professional, and clerical people that work in the building; it does not include the janitorial workers, the window washers, the security guards, the delivery services, the landscape maintenance workers, and many others that are associated with the normal functioning of an office building. In other words, any analysis that ties lower income housing to the number of workers inside buildings will continue to understate the demand.

Thus, confining the analysis to the direct employees does not address all the low to moderate income workers associated with each type of building and understates the impacts.

Changes in Labor Force Participation

In the 1960s through the 1980s, there were significant increases in labor force participation, primarily among women. As a result, some of the new workers were re-entering the labor force and already had local housing, thus reducing demand for housing associated with job growth. In earlier nexus analyses, KMA would adjust the analysis to account for this. However, increases in participation rates by women have stabilized and even declined slightly, and labor force participation rates for men have been on a downward trajectory since 1970. As such, an adjustment for increase in labor force participation is no longer warranted in a nexus analysis.

Economic Cycles

An impact analysis of this nature is intended to support a one-time impact requirement to address impacts generated over the life of a project (generally 40 years or more). Short-term conditions, such as a recession or a vigorous boom period, are not an appropriate basis for estimating impacts over the life of the building. These cycles can produce impacts that are higher or lower on a temporary basis.

Development of new workspace buildings tends to be minimal during a recession and generally remains minimal until conditions improve or there is confidence that improved conditions are imminent. When this occurs, the improved economic condition will absorb existing vacant space and underutilized capacity of existing workers, employed and unemployed. By the time new buildings become occupied, current conditions will have likely improved.

To the limited extent that new workspace buildings are built during a recession, housing impacts from these new buildings may not be fully experienced immediately, though, the impacts will be experienced at some point. New buildings delivered during a recession can sometimes sit vacant for a period after completion. Even if new buildings are immediately occupied, overall absorption of space can still be zero or negative if other buildings are vacated in the process. Jobs added may also be filled in part by unemployed or underemployed workers who are already housed locally. As the economy recovers, firms will begin to expand and hire again filling unoccupied space as unemployment is reduced. New space delivered during the recession still adds to the total supply of employment space in the region. Though the jobs are not realized immediately, as the economy recovers and vacant space is filled, this new employment space absorbs or accommodates job growth. Although there may be a delay in time, the fundamental relationship between new buildings, added jobs, and housing needs remains over the long term.

In contrast, during a vigorous economic boom period, conditions exist in which elevated impacts are experienced on a temporary basis. As an example, compression of employment densities can occur as firms add employees while making do with existing space. Compressed employment densities mean more jobs added for a given amount of building area. Boom periods also tend to go hand-in-hand with rising development costs and increasing home prices. These factors can bring market rate housing out of reach from a larger percentage of the workforce and increase the cost of delivering affordable units.

Discount for Changing Industries / Long-Term Declines in Employment

While short-term declines in employment related to economic cycles do not warrant an adjustment in the nexus analysis for the reasons described above, long-term or structural declines in specific industry sectors do warrant an adjustment.

It is general practice to examine major sectors of the local economy and determine if there are long-term trends in employment suggesting either decline or restructuring. In the case of long-term decline of one or more industries or sectors, it is appropriate to recognize that all new jobs may not be net new jobs. On the other hand, as discussed above, short-term temporary declines in employment do not warrant an adjustment. In San Francisco, by way of example, there was major long-term economic decline in the industrial land use activity sectors, as evidenced by the decline of the Port and its related activities. During the 1980s in that city, for every job gained in an office building, there was more than half a job lost in the industrial sector. Short-term upheavals such as the closing of a military base or single large manufacturing plant may also warrant an adjustment in the analysis.

San Diego's economy, like that of the U.S. as a whole, is constantly evolving. In recent years, the region's economy has become more diverse and less reliant upon military and defense industries. A few industry sectors in San Diego have experienced long-term declines in employment, as shown in Table I-1. Industry sectors experiencing long-term declines in employment include aerospace, computer and electronics manufacturing, banking, and durable goods manufacturing, among others. These are jobs that, once lost, never return and so the workers are forced to find employment in other industries. Declining industries may occupy special purpose space not readily re-occupied by other types of industries or tenants and therefore be taken out of the supply. Over time, displaced workers will presumably find new work locally and thus some of the employment in new buildings would be for workers who would not be new to the City or County and who already have housing. Based on the data in Table I-1, a 16% downward adjustment to the findings of the analysis is made to account for permanent job losses and downsizing in declining industries. The 16% adjustment factor is the equivalent of saying about one of every six jobs added is filled by a worker that has been downsized from a declining industry and already lives locally. This is likely conservative given it derived from declines in employment between 1990, when the unemployment rate was 4.6%, and 2012 with an

unemployment rate of 8.9%. Some of the decline in employment between the two periods could be the result of cyclical conditions and a higher unemployment rate in 2012. Never-the-less, the analysis conservatively assumes the entire decrease in employment is the result of a permanent structural change.

Other City of San Diego Affordable Housing Programs

The City of San Diego is committed to creating new opportunities for affordable housing as well as preserving the existing affordable housing stock.

SDHC was established by the City as a public agency dedicated to preserving and increasing affordable housing within the City of San Diego. Since 1981, SDHC has contributed more than nearly $1.3 billion in loans and bond financing to projects that produced 14,500 affordable units. The City has a comprehensive and multi-faceted program that tackles the affordable housing shortage from many approaches. The Housing Impact Fee program is but one of many financial resources that the City uses to increase the supply of affordable housing in San Diego.

TABLE I-1

SAN DIEGO COUNTY INDUSTRIES EXPERIENCING LONG-TERM DECLINES IN EMPLOYMENT
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

INDUSTRIES WITH LONG-TERM DECLINES IN EMPLOYMENT / SAN DIEGO COUNTY	1990 TOTAL EMPLOYMENT	2012 [2] TOTAL EMPLOYMENT	CHANGE SINCE 1990 Total	Percent
Unemployment Rate in San Diego County (1)	4.6%	8.9%		
Industries With Declining Long-Term Employment				
Aerospace Product & Parts Manufacturing	22,900	6,800	(16,100)	-70.3%
Computer & Electronic Product Manufacturing	32,400	24,700	(7,700)	-23.8%
Credit Intermediation & Related Activities (banking)	27,100	19,500	(7,600)	-28.0%
Manufacturing - Durable Goods - other	68,100	61,900	(6,200)	-9.1%
Building Finishing Contractors	12,800	9,900	(2,900)	-22.7%
Heavy & Civil Engineering Construction	7,800	5,900	(1,900)	-24.4%
Building Foundation & Exterior Contractors	8,700	6,800	(1,900)	-21.8%
Warehousing & Storage	3,200	1,600	(1,600)	-50.0%
US Department of Defense	23,700	22,100	(1,600)	-6.8%
Other Specialty Trade Contractors	6,200	4,900	(1,300)	-21.0%
Ship & Boat Building	7,300	6,100	(1,200)	-16.4%
Construction of Buildings	13,800	12,700	(1,100)	-8.0%
Federal Government excluding Defense	25,500	24,600	(900)	-3.5%
Mining and Logging	600	400	(200)	-33.3%
Publishing Industries (except Internet)	7,900	7,700	(200)	-2.5%
Manufacturing - Nondurable Goods	22,900	22,800	(100)	-0.4%
INDUSTRIES WITH DECLINING EMPLOYMENT	290,900	238,400	(52,500)	-18.0%
GROWING and STABLE INDUSTRIES	686,500	1,020,400	333,900	48.6%
TOTAL EMPLOYMENT IN SAN DIEGO COUNTY	977,400	1,258,800	281,400	28.8%
Decline in Employment in Declining Industries			(52,500)	
Growth in Employment in Growing / Stable Industries			333,900	
Jobs in growth industries filled by workers from declining industries			-15.7%	
Adjustment to analysis results: For every new job, the percent filled by employees from declining industries		round to	-16%	

[1] As of March of each year.

[2] Conservative approach for evaluating declining industries given higher unemployment rate in 2012 to 1990. Higher unemployment rate in 2012 compared to 1990 will tend to over-state the long term or structural declines in certain industries. A portion of the indicated decline is likely explained by cyclical market conditions in 2012 as compared to 1990.

Source: California Employment Development Department.

SECTION II – MACRO ECONOMIC JOBS/HOUSING ANALYSIS

This section examines the relationships in San Diego that underlie the jobs/housing linkage. In particular, the history of employment growth, housing production, and affordable housing production are reviewed. The history of housing production, particularly affordable housing production, compared with the demand generated by new workers is also examined.

In addition to historical data, this section contains a projection of jobs and dwelling units, as indicated by local and Statewide planning agencies, such as SANDAG. It must be emphasized, however, that the nexus relationships as established in this analysis are not contingent upon a specific projected level of employment growth being realized. The relationships linking employment and affordable housing are critical to the nexus, but the specific projected levels of growth are not. If employment growth occurs more slowly than projected, construction and housing demand will also be less than projected. In addition, in this analysis, linkages are established on a per-square-foot basis (Section III).

Employment History and Trends

SANDAG regularly publishes a regional employment inventory, including projections and other related data. According to SANDAG, "the purpose of the Demographic and Economic Forecasting Model is to forecast annually the size and structure of the region's economy and to produce a demographic forecast consistent with that future economy."[1] SANDAG is the most widely used data source by local planning agencies in the San Diego area. To capture the full range of business cycles, the time period between 1990 and 2008 is examined (2008 is used by SANDAG as a benchmark year in their most current projections as of this writing). According to SANDAG, employment growth in the City of San Diego between 1990 and 2008 registered a net increase of 147,800 total jobs, or an increase of 22%.

Year	Jobs in San Diego
1990[2]	673,722
2008[3]	821,521
Growth	147,799

Characteristics of San Diego Employees and Their Households

This section examines several key characteristics of San Diego employees and their households, particularly those that are relevant to the jobs/affordable housing linkage. These characteristics include:

[1] 2050 Regional Growth Forecast Process and Model Documentation, June 2010.
[2] SANDAG Regional Employment Inventory. 1994.
[3] SANDAG Cities/County Forecast 2050.

- The number of workers per worker household on average;
- Income characteristics; and
- Commute patterns.

Each of these factors impacts how many new workers in San Diego buildings will seek housing within the City. These characteristics become key inputs in the micro economic analysis of the linkage between workplace buildings and affordable housing demand.

Workers per Worker Household

The workers per household characteristic provides the link between the number of employees and the number of households associated with the employees, recognizing that most households today have more than one worker. The number of workers per household in a given geographic area is a function of household size, labor force participation rate, and employment availability, as well as other factors.

Historically, the national labor force participation rate rose steadily for three decades since the early 1960s as more and more women entered the labor force. The rate appears to have leveled off in the 1990s. Nexus studies prepared in the late 1980s and early 1990s often made an adjustment for increases in labor force participation to recognize that some employment growth already was living locally and had housing. As noted earlier, we no longer make such an adjustment.

For the nexus analysis, the characteristic of most direct interest is the number of workers per worker household. Worker households are defined as those households with one or more persons with work related income, including the self-employed, as reported in the 2009-2011 American Community Survey (ACS). In other words, worker households are distinguished from total households in that the universe of worker households does not include elderly or other households in which members are retired or do not work for other reasons. Student households and unemployed households on public assistance are also excluded from worker households.

According to the 2009-2011 ACS, the number of workers per worker household in the County of San Diego was 1.72. Since workers in the City of San Diego live all over San Diego County, the County average is used in the analysis.

Wages and Salaries of San Diego Workers and Household Income

The average wage or salary of San Diego workers and the income of households formed by the 1.72 workers determines the household's ability to afford housing. The California Employment Development Department reports information on average wages and salaries paid to San Diego County workers, by occupation type.

A summary of the occupations associated with each building was developed from the 2012 National Industry-Specific Occupational Employment Estimates, produced by the Bureau of Labor Statistics, which cross-references occupations by industry. Appendix B Tables 1, 3, 5, 7, and 9 present summaries for each building type.

The following is a summary table of the average salary levels for the three major occupation groups by building type. A detailed summary of wages and salaries for occupations in each building type is provided in Appendix B Tables 2, 4, 6, 8, and 10. The percentages refer to the share of employment within the building in the occupation group.

San Diego County Wages by Building Type

Building Type	Major Occupation Group	% of Employment in Building	Average Annual Income
Office	Office and administrative support occupations	27%	$37,600
	Business and financial operations occupations	11%	$73,600
	Computer and mathematical occupations	8%	$83,900
Hotel	Building and grounds cleaning and maintenance occupations	29%	$23,200
	Food preparation and serving related occupations	25%	$22,000
	Office and administrative support occupations	19%	$30,300
Retail	Food preparation and serving related occupations	33%	$22,100
	Sales and related occupations	32%	$28,800
	Office and administrative support occupations	11%	$32,700
Manufacturing	Production occupations	32%	$36,700
	Architecture and engineering occupations	12%	$87,900
	Office and administrative support occupations	10%	$39,000

Building Type	Major Occupation Group	% of Employment in Building	Average Annual Income
Warehouse	Transportation and material moving occupations	27%	$31,600
	Office and administrative support occupations	23%	$34,800
	Sales and related occupations	21%	$61,900

Source: California Employment Development Department, 2012 Occupational Employment Statistics Survey, Wages 1st Quarter 2012.

The occupations with the lowest compensation levels are in the retail and hotel industries, which are the industries associated with San Diego's important tourism sector.

Household Income

When workers in these occupations form households, their income, either alone or in combination with other workers, produce the household income. In addition, of course, there may be children and/or other household members who are not employed. The annual Median Income of a four-person household in San Diego County for the year 2013, as published by HCD, is $75,900. This analysis focuses on three classifications of household income:

- Very Low Income – up to 50% of Median Income
- Low Income – 50% to 80% of Median Income
- Moderate Income – 80% to 120% of Median Income

The upper limit of income classifications for two, three, and four person households in San Diego County for 2013 appear in the table below. These income levels are the levels set and utilized by HCD for most housing programs.

Two Person Household	
Very Low Income	$33,050
Low Income	$52,900
Median Income	$60,700
Three Person Household	
Very Low Income	$37,150
Low Income	$59,500
Median Income	$68,300
Four Person Household	
Very Low Income	$41,300
Low Income	$66,100
Median Income	$75,900

Source: California Department of Housing and Community Development.

Commute Relationships and Trends

This section provides a brief summary of existing commute relationships and the adjustment reflected in the analysis to reduce housing demand to a local or City of San Diego share using existing commute patterns as benchmark. This adjustment to a local share is not technically required for nexus purposes as the analysis could consider all housing demand irrespective of jurisdictional boundaries. Application of a commute factor is one of several conservative assumptions incorporated into the analysis.

The primary source of information regarding commute relationships is the American Community Survey (ACS), published by the U.S. Census Bureau. Working with only ACS data, the share of jobs in San Diego held by San Diego residents is computed at 60.4%. In San Diego, however, the Census Bureau's data does not provide a complete picture because it only covers jobs held by residents of the U.S. San Diego's city limits extend to the U.S.–Mexico border and SANDAG has documented significant cross-border commuting. SANDAG's September 2011 Cross-Border Travel Behavior Survey indicates approximately 26% of crossings into San Diego County are for trips to work.

Since relying exclusively on U.S. Census data could distort the share of San Diego's work force that resides within the City, KMA estimated the number of jobs in San Diego held by residents of Mexico. Estimates are based on combining data on border crossings from the U.S. Department of Transportation (USDOT) with SANDAG's September 2011 Cross-Border Travel Behavior Survey. Using these sources, it was estimated that approximately 24,200 jobs in San Diego are held by residents of Mexico commuting over the border daily for work (see Appendix B Table 11). This figure was used to adjust the ACS data

which, given it is derived from a survey of U.S. residents, does not account for workers who reside in Mexico. The result is a modified share of jobs in San Diego held by San Diego residents of 58.6% which has been applied in the analysis.

It is important to recognize that the commute share does not necessarily represent the demand for housing in San Diego. Taken to the extreme, one can hypothesize a city with very few workers living in it because there is very little housing or because few can afford to live there.

It should also be noted that even if housing were available and affordable, it is unlikely that 100% of people would live and work in the same city. The choice of where one lives depends on additional factors (schools, style of housing, types of amenities, and local services, etc.) as well as where one works.

As stated at the outset of this section, the commute share can be a policy choice or target. The existing condition is merely a starting point for the analysis and serves as useful benchmark for reducing total demand to a local share.

As to long-term trends, in San Diego as in most metropolitan regions, the share of jobs held by local residents has been declining for decades. As land is more available and affordable in outlying jurisdictions, the share of workers who reside outside the City is continually increasing, resulting in more commuting.

Housing

This section provides a brief summary of selected characteristics of the housing market that affect the ability of worker families to find housing in San Diego. This section also examines growth in housing units in San Diego to meet the demand of new worker households.

Housing Production

SANDAG and California Department of Finance data indicate that from 1990 through 2012, over 90,000 new housing units were constructed in the City of San Diego. As shown in Table II-1, annual building activity greatly varied over the two-plus decades. The high year was 1990, when almost 7,000 new units were added, and the low year was 2010, when only 645 new units were added. Construction activity was very strong during the decade from 1998 to 2008. On average, 3,935 units were constructed annually over the 23-year period.

As noted earlier, during 1990-2008, SANDAG estimates that 147,799 new jobs were created in San Diego. Also discussed earlier, there are approximately 1.72 workers per worker household, meaning that 147,799 new jobs can be equated to 85,930 households demanding housing somewhere within commuting distance to a job in San Diego.

It is important to note that housing demand generated by new employment is not equivalent to total housing demand. Each community experiences demand for its housing by people who work in other jurisdictions as well. In addition, there is a share of total demand attributable to non-working households. Every time the worker(s) in a household leaves the labor market, such as upon retirement, if the household remains in the same housing unit, the unit is removed from the pool of units for working households, thus resulting in demand for a new unit even though there is no employment growth.

To estimate the increase in housing demand generated by new retirees in the City, KMA relied on U.S. Census and SANDAG data to calculate the increase in the population between age 65 and 85 between 1990 and 2008. KMA excluded households over 85, recognizing that a significant portion of this population will require other housing solutions, such as nursing care, living with adult children, etc. KMA adjusted this population growth to estimate the number of newly retired households in San Diego, using U.S. Census data on employment rates and average household size, as shown in Table II-2. In total, KMA estimates that over the time period there were over 8,000 new non-working households between the ages of 65 and 85 in San Diego, thus increasing the total demand for new housing by that amount.

In total, KMA estimates that 85,930 new worker households and 8,345 new retirees created a demand for 94,274 new housing units between 1990 and 2008. During that same time period, San Diego added 79,595 net new housing units (Table II-1). Therefore, we can say that of the total new units in demand, the City production was sufficient to accommodate a significant portion of new housing demand (without consideration of affordability). Other ways of expressing the relationship are indicated below.

1990 through 2007	
Increase in Jobs	147,799
Increase in Worker Households (New Units in Demand) @ 1.72	85,930
Increase in Non-Working Households over age 65	8,345
Total New Housing Demand	94,274
Residential Construction in San Diego (from Table II-1)	79,595
Relationship of New Housing Units to New Worker Households	0.84:1
Deficit for 1:1 Ratio	(14,679)

The households not accommodated in the City of San Diego presumably found housing elsewhere in the region within commuting distance.

Housing Production by Affordability Level

KMA estimated the level of affordable housing production for the period from 1999 to 2012 to develop a sense of whether production has kept pace with demand. In the 2004 Housing Impact Fee Nexus Analysis, KMA assembled data on affordable housing production for the period between 1999 and 2004. The data source was a City Manager's Report on the City's Comprehensive Affordable Housing Strategy dated July 31, 2002 that discussed historical production and estimated future production based on projects in the pipeline.

The City's Annual Housing Element Progress Report provides information on affordable units permitted in the past eight years, between 2005 through 2012. Combining these two data sources allows us to estimate roughly the level of affordable housing production over a 14-year period. Between 1999 and 2012, there were about 6,177 affordable units constructed or permitted for construction, not including market-rate units that might be affordable. This represents approximately 11% of new dwelling units constructed, with the remaining new dwelling units available at market rates. See Table II-1 for more information. Not all of the affordable housing constructed or permitted during this time is likely to be available to new worker households, as some of it may be restricted to senior households, or other (typically) non-working populations.

The above analysis and discussion demonstrates that despite the notable accomplishments of the City of San Diego in the production of affordable housing, affordable units represent a small percentage of total units produced.

Future Projections

The jobs/housing nexus relationship in support of requiring new workspaces to contribute to new housing is based on best estimates of future trends and relationships in San Diego. In this context, projections of jobs, new workers households, and new housing units are provided in this section. The methodology for calculating the impact of specific building types does not, however, rely on any specific set of projections for employment and housing growth. (See Section III.)

Employment Projections

SANDAG provides projections of employment for the entire San Diego region. The most recent available is the 2050 Regional Forecast, published in 2010. For the purposes of this analysis, KMA examined the changes between the 2008 benchmark year and 2030, to match approximately the historical time frame examined earlier. Employment projections for San Diego are estimated as follows:

Year	Total Jobs
2008	821,521
2030[4]	928,178
Total Increase	106,657

The SANDAG projection for the 2008 to 2030 time period envisions the City adding an average of about 4,800 jobs per year over the 22-year period. See Table II-3 for more information. At 1.72 workers per worker household, these new jobs would generate approximately 62,010 new worker households (106,657 jobs divided by 1.72) that need housing in the San Diego region.

The SANDAG projections for residential construction in San Diego indicate 121,039 new units will be added. As discussed earlier, this housing would accommodate all households, not just worker households. Looking at demographic projections provided by SANDAG, it is clear that the City of San Diego expects significant increases in the number of non-working households over the forecasted timeframe. KMA estimated the increase in housing demand generated by new retirees in the City, and found it to be a significant source of future housing demand.

SANDAG anticipates that, with the aging of baby boomers, the number of San Diegans between the ages of 65 and 85 will more than double between 2008 and 2030, from 121,000 to almost 267,000. KMA excluded households over 85, recognizing that a significant portion of this population will require other housing solutions such as assisted living, nursing care, living with adult children, etc. Projected population growth between ages of 65 and 85 was used to estimate the number of newly retired households in San Diego, using U.S. Census data on labor force participation rates and household size for this age group. In total, KMA estimates that there will be about 66,890 new non-working households over age 65 in San Diego, thus increasing the total demand for new housing by that amount. See Table II-3.

In total, KMA estimates that 62,010 new worker households and 66,890 new retiree households will create a demand for 128,900 new housing units. Since SANDAG projects that 121,000 net new units will be built over the period, we can say that of the total new units in demand, the City production will fall short of accommodating new housing demand generated by new worker households and new retirees (without consideration of affordability) by about 7,900 units.

[4] SANDAG Cities/County Forecast 2050.

Affordability

Finally, the ratio of total new units and new worker households and related discussion does not take into account the matter of affordability. Based on the findings of this nexus analysis -- between 55% and 94% of new worker households will have incomes of 120% of Median Income or less (depending on the building type) -- the number of affordable units needed will far exceed affordable unit production under any likely scenario. During the 14 years reviewed, approximately 6,177 affordable units, or roughly 11% of total units, were constructed. Even if this rate of affordable unit production were maintained, the supply of affordable housing to the new work force would be far from adequate to meet new demand. A commercial linkage fee program would provide additional resources to improve affordable unit production for new worker households.

Homeless Individuals as Participants in the Labor Force

Homelessness is a serious and persistent problem in San Diego County. According to the Regional Task Force on the Homeless (RTFH), the January 2013 "point-in-time" count identified 9,028 homeless individuals throughout the County. More than half of this total, or 4,574 individuals, were unsheltered at the time of the survey. SDHC is actively engaged with other public, private, and non-profit organizations in a concerted effort to end homelessness through development of new housing options and wraparound supportive services.

While specific data on employment among homeless individuals in San Diego County are not readily available, both government and private sector studies confirm that a small proportion of homeless people are in fact employed. Review of these regional, state, and national studies offers the following highlights regarding this issue:

- An October 2010 Homeless Employment Report by Sacramento Steps Forward included a survey of homeless people which determined that 12% of the surveyed homeless respondents were employed at the time. (*2010 Homeless Employment Report: Findings & Recommendations*, by Bob Erlenbusch, Shannon Stevens, Kate Towson, and Michele Watts, October 2010)

- In December 1999, The Urban Institute prepared a report entitled "Homelessness: Programs and the People They Serve" for the Interagency Council on the Homeless. The report included a national survey of homeless assistance providers and clients. The survey found that 44% of homeless clients reported "any paid work in the past month". Of those reporting work, 20% -- or just under 9% of the total surveyed homeless clients -- indicated that the employment took the form of a job expected to last at least three months. (*Homelessness: Programs and the People They Serve; Findings of the National Survey of Homeless Assistance Providers and Clients*, prepared for Interagency Council on the Homeless by The Urban Institute, December 1999)

- Finally, the California Workforce Investment Board found that 1.3% of dislocated workers in California who were participating in Workforce Investment Act (WIA) programs in 2010 were homeless. (*Results Achieved Under the Workforce Investment Act [WIA] for Program Year 2010-2011*, California Workforce Investment Board Annual Report)

The table below identifies the proportion of worker households for each non-residential building type that fall into the Extremely Low-Income tier (under 30% of Median Income). The detailed methodology used in formulating these estimates is presented in Section III, pages 30 to 32 of this report. As shown below, it is estimated that 18% of hotel and retail worker households fall into the Extremely Low-Income tier. The actual proportion may be higher – the State Employment Development Department (EDD) data utilized in the analysis annualizes all worker incomes based upon the assumption that they have full-time employment (anecdotally we know part-time work to be prevalent especially in the retail sector). Other land use categories also have a small percentage of worker households that fall into the Extremely Low-Income tier. Given the survey information suggesting homeless individuals do participate in the labor force, it follows then that a small portion of jobs added by new workspace buildings are likely to be held by homeless individuals, particularly with jobs near the lower end of the pay scale.

Percent of Worker Households					
	Office	**Hotel**	**Retail**	**R&D/Manufacturing/ Industrial**	**Warehouse/ Storage**
Extremely Low Income	2.8%	18.3%	18.0%	2.7%	5.1%

TABLE II-1

AFFORDABLE UNIT PRODUCTION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

NET INCREASE IN HOUSING UNITS 1990-2012[1]

Year	Total
1990	6,921
1991	4,860
1992	4,570
1993	3,213
1994	2,912
1995	2,233
1996	2,394
1997	3,362
1998	5,646
1999	4,904
2000	2,526
2001	4,107
2002	6,265
2003	4,930
2004	6,448
2005	5,860
2006	3,776
2007	4,668
2008	5,710
2009	1,291
2010	645
2011	1,165
2012	2,096
Total: 1990 - 2012	**90,502**
Annual Avg: 1990 - 2012	**3,935**
Total: 1990 - 2007	**79,595**
Total: 1999 - 2012	**54,391**
Annual Avg: 1999 - 2012	**3,885**

TOTAL UNITS BY AFFORDABILITY LEVEL, 1999-2012[2]

Affordability Level	Total Affordable	
	Units	% Share
Very Low: < 50% Median Income	3,263	53%
Low: 50 - 80% Median Income	2,470	40%
Moderate: 80 - 120% Median Income	444	7%
Total Affordable Units	**6,177**	**100%**
Annual Average	**441**	

Affordable Units as Share of Average Housing Unit Production Rate[3]	**11%**

[1] Source: California Department of Finance.

[2] Affordable unit count is based on two sources: 1999-2004 data represents completed and pipeline units included in the Manager's report dated July 31, 2002 regarding the status of the City's Comprehensive Affordable Housing Strategy. 2005-2012 data is based on permitted units included in the Annual Housing Element Progress Report.

[3] Based on annual average affordable units 1999 through 2012 and annual average net increase in housing units 1999 through 2012.

TABLE II-2

HISTORICAL RELATIONSHIP: EMPLOYMENT GROWTH, RESIDENTIAL UNIT DEMAND
JOBS HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Housing Demand Generated by Working Households			
Job Growth - per SANDAG [1]			
1990 Jobs		673,722	
2008 Jobs		821,521	2008 is SANDAG benchmark year
Net Jobs Added 1990-2007	22%	147,799	jobs
Worker Households @ 1.72		85,930	worker households
Housing Demand Generated by Retiring Workers			
Population Aged 65 - 85:	1990[2,3]	103,292	
Population Aged 65 - 85:	2008[1,3]	121,396	
Increase		18,104	
Not in Labor Force[4,6]	85.20%	15,425	
New Households Not in Labor Force, age 65 and older @[5,6]	1.85	8,345	retired households
Total Housing Demand		**94,274**	
Housing Units Added [7]			
New Units 1990 - 2007		79,595	housing units
Deficit for 1:1 Ratio		0.84	:1

[1] SANDAG 2050 Cities/County Forecast and SANDAG San Diego Profile based on US Census data.

[2] 1990 US Census.

[3] Does not include San Diegans older than 85, recognizing that a significant portion of this population will require additional services such as assisted living, nursing care, living with children, etc.

[4] 2006-2008 American Community Survey.

[5] Average household size, age 65 and older, San Diego County. 2006-2008 American Community Survey

[6] Data from the 2006-2008 American Community Survey (ACS) was used for consistency with the period applicable to the housing demand estimates.

[7] From Table II-1.

TABLE II-3

PROJECTION: EMPLOYMENT GROWTH, RESIDENTIAL UNIT DEMAND
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

I. SANDAG PROJECTIONS

Housing Demand Generated by Worker Households

Projected Job Growth - Per SANDAG [1]				
2008			821,521	2008 is SANDAG benchmark year
2030			928,178	
Increase			106,657	Jobs
Worker Households @	1.72		62,010	Worker Households
Housing Demand Generated by Retiring Workers				
Population Aged 65 - 85:	2008[1,2]		121,396	
Population Aged 65 - 85:	2030[1,2]		266,513	
Increase			145,117	
Not in Labor Force[3]		85.20%	123,640	
New Households Not in Labor Force, age 65 and older @[4]		1.85	66,890	
Total Housing Demand			**128,900**	
Projected Housing Units - Per SANDAG [1]				
2008			508,436	
2030			629,475	
Increase			121,039	Housing Units
Relationship Housing Units to New Households				
Deficit for 1:1 Ratio			0.94	:1

[1] SANDAG 2050 Cities/County Forecast.

[2] Does not include San Diegans older than 85, recognizing that a significant portion of this population will require additional services such as assisted living, nursing care, living with children, etc.

[3] 2006-2008 American Community Survey.

[4] Average household size, age 65 and older, San Diego County. 2006-2008 American Community Survey.

SECTION III – MICRO ECONOMIC JOBS/HOUSING ANALYSIS

This section presents a summary of the analysis of the linkage between five types of workplace buildings and the estimated number of worker households in the income categories that will, on average, be employed within those buildings. This section should not be read or reproduced without the narrative and analysis presented in the previous sections.

Analysis Approach and Framework

The micro analysis establishes the jobs/housing linkages for individual building types or land use activities. This section quantifies the connection between employment growth in San Diego and affordable housing demand.

The analysis approach is to examine the employment associated with the development of 100,000-square-foot building modules. The building size is used solely to facilitate understanding of the analysis by being able to avoid cumbersome fractions. Then, through a series of linkage steps, the number of employees is converted to households and housing units by affordability level. The findings are expressed in terms of numbers of households related to building area. In the final step, we convert the numbers of households for 100,000-square-foot buildings back to the per-square-foot level.

The building types or land use activities addressed in the analysis are:

- Office
- Hotel and other lodging
- Retail/entertainment
- Research and development/manufacturing/industrial
- Warehouse/storage

Section II presented information on the income categories addressed in this analysis. For a four-person household, the maximum qualifying income levels for 2013 are:

- Median Income – $75,900
- Very Low Income – under 50% of Median (up to $41,300)
- Low Income – 50% to 80% of Median (between $41,300 and $66,100)
- Moderate Income – 80% to 120% of Median (between $66,100 and $91,100)

The analysis is conducted using a model that KMA has developed for application in many other jurisdictions for which the firm has conducted similar analyses. The model inputs are all local data to the extent possible, and are fully documented.

Analysis Steps

Tables III-1 through III-4 at the end of this section summarize the nexus analysis steps for the five building types. Following is a description of each step of the analysis:

Step 1 – Estimate of Total New Employees

The first step in Table III-1 identifies the total number of direct employees who will work at or in the building type being analyzed. Average employment density factors are used to make the conversion. The density factors used in this analysis are:

- *Office* – 250 square feet per employee. This figure is right in the middle of typical office densities, which are usually found in the range of 200 to 300 square feet per employee depending on the character of the office activity (corporate headquarters vs. back office to illustrate extremes). The average is based on gross building area and takes into account the lobby, corridors, restrooms, etc.

- *Hotel* – One employee per room and 500 square feet per hotel room, or 500 square feet per employee. This rate covers a cross-section of hotel types from lower service hotels, where rooms may be smaller than 500 square feet, to higher service convention hotels, where average room size (inclusive of lobbies, restaurants, meeting space, etc.) is larger, but the number of employees per room is higher.

- *Retail* – 350 square feet per employee. This category covers a broad range of experience from high service restaurants, where densities are far greater than average, to some retail uses, such as furniture stores, where densities are far lower.

- *Research and Development/Manufacturing/Industrial* – 500 square feet per employee. Manufacturing employment densities are variable and depend on the nature of the manufacturing activity. This classification uses an aggregate density scaled to industries and uses that are appropriate for the San Diego economy including industrial parks, general light industrial uses, research and development, biotech manufacturing, machinery, electrical equipment, defense manufacturing, and transportation equipment.

- *Warehouse /Storage* – 2,000 square feet per employee. This category covers a broad range of facility types incorporating higher employment density facilities engaged in wholesale trade to transportation and storage facilities that tend to have lower employment densities.

All density factors are averages and individual uses can be expected to be fairly divergent from the average from time to time. (An ordinance variance provision usually addresses the possibility of a building that is so divergent from the average so as to need special treatment.)

For ease of analysis and understanding, KMA conducted the analysis on prototype buildings at 100,000 square feet. We have used this size building in order to count jobs and housing units in whole numbers that can be readily communicated and understood. At the conclusion of the analysis, the findings are divided by building size to express the linkages per square foot, which are very small fractions of housing units.

Based on the density factors outlined above, the number of employees in our hypothetical 100,000-square-foot buildings are as follows: Office will house 400 employees; Hotel 200 employees; Retail 286 employees; Research and Development/Manufacturing/Industrial 200 employees; and Warehouse/Storage 50 employees.

Step 2 – Adjustment for Changing Industries

This step is an adjustment to take into account any declines, changes, and shifts within all sectors of the economy and to recognize that new space is not always 100% equivalent to net new employees. As discussed in Sections I and II, a 16% adjustment is utilized to recognize the long-term shifts in employment occurring in San Diego County and the likelihood of continuing changes to the local economy.

Step 3 – Adjustment from Employees to Employee Households

This step (Table III-1) converts the number of employees to the number of employee households that will work at or in the building type being analyzed. This step recognizes that there is, on average, more than one worker per household, and thus the number of housing units in demand for new workers must be reduced. As noted in Section II, all non-working households, such as retired persons, students, and those on public assistance, have been eliminated from the workers per worker household ratio. The San Diego County average is 1.72 workers per worker households.

Step 4 – Occupational Distribution of Employees

The occupational breakdown of employees is the first step to arriving at income levels. Using the 2012 National Industry-Specific Occupational Estimates, a cross matrix of “industries” and occupations,

produced by the Bureau of Labor Statistics (BLS), we are able to estimate the occupational composition of employees in the five types of buildings. The occupations that reflect the expected mix of activities in the new buildings are presented in Appendix B Tables 1, 3, 5, 7, and 9.

- Office buildings' "industry" mix has to be tailored to reflect the types of activities attracted to office space in San Diego. These industries represent a mix of professional service activities including business and financial operations, insurance, architecture and engineering, computer and mathematical, legal, management, health care, and sales. Because there are significant regional differences in the composition of office building employment, KMA weighted the industry mix based on San Diego County employment levels to ensure that it is representative of San Diego's economic base. Office and administrative support occupations (i.e., clerical) comprise 27% of all office-related employment.

- Hotels employ workers primarily from three main occupation categories: building and grounds cleaning and maintenance (maid service, etc.), food preparation and serving related, and office and administrative support, which together make up 73% of hotel workers. Other hotel occupations include personal care, management, and maintenance and repair.

- Retail employment is dominated by three main occupation groups: food preparation and serving (33%), sales (32%), and office and administrative support (11%). These three occupations together account for 75% of retail workers. The remaining 25% of retail workers are in occupations that include transportation, cleaning, maintenance, and production.

- Manufacturing employment is concentrated in production occupations (32%), architecture and engineering occupations (12%), and office and administration occupations (10%). The remaining occupations include management, business and financial, computer and mathematical, and life, physical, and social science occupations.

- Warehouse and storage occupations consist of transportation and material moving occupations (27%), office and administrative support (23%), and sales and related occupations (21%). The remaining 29% is made up of management, business and financial, computer and mathematical, maintenance and repair, and production occupations.

The numbers in Step #4 (Table III-1) indicate both the percentage of total employee households and the number of employee households in our hypothetical 100,000-square-foot buildings.

Step 5 – Estimates of Employee Households Meeting the Lower Income Definitions

In this step, occupation is translated to income based on recent San Diego wage and salary information for the occupations associated with each building type. The wage and salary information indicated in Appendix B Tables 2, 4, 6, 8, and 10 provided the income inputs to the model. This step in the analysis calculates the number of employee households that fall into each income category for each size household.

Individual employee income data was used to calculate the number of households that fall into these income categories by assuming that multiple earner households are, on average, formed of individuals with similar incomes. In addition, the model recognizes that the number of workers is dependent upon household size, and includes a distribution of number of workers by household size. Employee households not falling into one of the major occupation categories per Appendix B Tables 2, 4, 6, 8, and 10 were assumed to have the same income distribution as the major occupation categories.

Step 6 – Estimate of Household Size Distribution

In this step, household size distribution is input into the model in order to estimate the income and household size combinations that meet the income definitions established by the State, as used by the City. The household size distribution utilized in the analysis is that of San Diego County since the City draws workers from throughout the County.

Step 7 – Estimate of Households that meet HUD Size and Income Criteria

For this step, the KMA model incorporates a matrix of household size and income to establish probability factors for the two criteria in combination. For each occupational group a probability factor was calculated for each income and household size level. This step is performed for each occupational category and multiplied by the number of households.

Table III-2 shows the result after completing Steps #5, #6, and #7. The calculated numbers of households that meet size and income criteria shown in Table III-2 are for the Very Low Income or under 50% of Median Income category. The methodology is repeated for each income tier. See Table III-3.

Summary by Income Level

Table III-3 indicates the results of the analysis for the additional income categories for the five prototypical 100,000-square-foot buildings. The table presents the number of households in each affordability category, the total number up to 120% of Median, and the remaining households earning over 120% of Median.

The table below summarizes the percentage of total new worker households that fall into each income category. As indicated, over 90% of retail and hotel worker households are below the 120% of Median Income level. Office worker households have the highest incomes on average, with only 17% of worker households below 50% of Median and 44% earning greater than 120% of Median. Warehouse and Manufacturing worker households are in between these extremes with a moderate number of workers in the Very Low Income category, but a significant share of employees in the Low and Moderate Income categories.

Percent of Worker Households by Income Category

	Office	Hotel	Retail	R&D/Manufacturing/ Industrial	Warehouse/ Storage
Very Low	17%	53%	52%	15%	26%
Low	23%	32%	32%	21%	29%
Moderate	17%	8%	10%	16%	17%
Total <120% AMI	56%	93%	94%	53%	72%

Adjustment for Commute Relationship

Table III-4 indicates the results of the analysis both before and after an adjustment for commute relationship. As discussed in Section II, 58.6% of the jobs in San Diego are estimated to be held by residents of the City. In other words, if the existing commute relationship were to hold for new employee households, 58.6% would be expected to reside in the City of San Diego, with the remainder distributed throughout the region, including across the border in Mexico. The estimates of households for each income category in a prototypical 100,000-square-foot building are adjusted downwards by this commute factor. This adjustment is not technically required for nexus purposes. The City could, for example, choose to include all housing demand in the nexus analysis. The City could also choose to use a factor other than the existing commute relationship that might incorporate policy considerations such as a goal to house a greater or lesser percentage of the work force locally.

Summary by Square Foot Building Area

The analysis thus far has worked with prototypical buildings of 100,000 square feet. In this step, the conclusions are translated to a per-square-foot level and expressed as coefficients. These coefficients state the portion of a household, or housing unit, by affordability level for which each square foot of building area is associated. See Table III-5.

This is the summary of the housing nexus analysis, or the linkage from buildings to employees, to housing demand by income level. We believe that it is a conservative approximation (i.e., it understates at the low end) of the households by income/affordability level associated with these building types.

TABLE III-1

NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION BY BUILDING TYPE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Prototypical 100,000 Sq.Ft. Buildings	OFFICE	HOTEL	RETAIL	MANUF. / INDUSTRIAL	WAREHOUSE / STORAGE
Step 1 - Estimate of Employees per 100,000 Sq.Ft.					
Employee Density Factor (sq.ft./emp)	250	500 *	350	500	2,000
Number of Employees	400	200	286	200	50
Step 2 - Adjustment for Changing Industries and Long Term Declines in Employment (16%)	336	168	240	168	42
Step 3 - Adjustment for Number of Households (1.72)	195	98	140	98	24
Step 4 - Occupation Distribution[1]					
Management Occupations	6.8%	4.2%	2.3%	8.7%	6.2%
Business and Financial Operations	10.5%	1.4%	0.7%	6.9%	4.2%
Computer and Mathematical	7.9%	0.1%	0.2%	6.7%	2.8%
Architecture and Engineering	4.5%	0.0%	0.0%	12.3%	0.9%
Life, Physical, and Social Science	1.0%	0.0%	0.0%	9.1%	0.2%
Community and Social Services	0.3%	0.0%	0.0%	0.2%	0.0%
Legal	2.4%	0.0%	0.0%	0.2%	0.0%
Education, Training, and Library	0.1%	0.0%	0.0%	0.2%	0.0%
Arts, Design, Entertainment, Sports, and Media	1.6%	0.5%	1.4%	0.7%	0.9%
Healthcare Practitioners and Technical	8.2%	0.0%	1.7%	0.8%	0.3%
Healthcare Support	4.3%	0.4%	0.3%	0.2%	0.0%
Protective Service	2.3%	2.3%	0.3%	0.3%	0.1%
Food Preparation and Serving Related	0.3%	25.4%	33.2%	0.2%	0.1%
Building and Grounds Cleaning and Maint.	6.5%	29.3%	0.8%	0.5%	0.6%
Personal Care and Service	0.5%	7.1%	2.6%	0.1%	0.0%
Sales and Related	6.6%	2.5%	31.7%	2.7%	21.1%
Office and Administrative Support	27.1%	18.6%	10.5%	9.9%	23.1%
Farming, Fishing, and Forestry	0.0%	0.0%	0.1%	0.1%	0.8%
Construction and Extraction	0.9%	0.2%	0.2%	1.3%	0.3%
Installation, Maintenance, and Repair	3.0%	4.7%	4.8%	3.5%	6.5%
Production	2.6%	1.9%	2.4%	31.9%	5.3%
Transportation and Material Moving	2.5%	1.3%	6.7%	3.5%	26.5%
Totals	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Management Occupations	13.3	4.1	3.2	8.5	1.5
Business and Financial Operations	20.5	1.4	0.9	6.8	1.0
Computer and Mathematical	15.5	0.1	0.3	6.5	0.7
Architecture and Engineering	8.8	0.0	0.1	12.0	0.2
Life, Physical, and Social Science	1.9	0.0	0.0	8.9	0.0
Community and Social Services	0.7	0.0	0.0	0.2	0.0
Legal	4.6	0.0	0.0	0.2	0.0
Education, Training, and Library	0.3	0.0	0.0	0.2	0.0
Arts, Design, Entertainment, Sports, and Media	3.1	0.5	1.9	0.7	0.2
Healthcare Practitioners and Technical	16.0	0.0	2.4	0.8	0.1
Healthcare Support	8.4	0.4	0.4	0.2	0.0
Protective Service	4.6	2.2	0.4	0.3	0.0
Food Preparation and Serving Related	0.7	24.8	46.4	0.2	0.0
Building and Grounds Cleaning and Maint.	12.7	28.7	1.1	0.5	0.1
Personal Care and Service	1.0	6.9	3.6	0.1	0.0
Sales and Related	12.9	2.4	44.3	2.6	5.2
Office and Administrative Support	53.0	18.2	14.6	9.7	5.6
Farming, Fishing, and Forestry	0.1	0.0	0.1	0.1	0.2
Construction and Extraction	1.7	0.2	0.3	1.3	0.1
Installation, Maintenance, and Repair	5.9	4.6	6.6	3.4	1.6
Production	5.1	1.9	3.4	31.2	1.3
Transportation and Material Moving	4.8	1.3	9.4	3.4	6.5
Totals	**195**	**98**	**140**	**98**	**24**

* 1 employee per room @ 500 sq.ft./room

[1]See Tables in Appendix B for more information on how the percentages were derived.

TABLE III-2

ESTIMATE OF QUALIFYING HOUSEHOLDS BY INCOME LEVEL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Prototypical 100,000 Sq.Ft. Buildings
Analysis for Households Earning Less than 50% Median

	OFFICE	HOTEL	RETAIL	MANUF. / INDUSTRIAL	WAREHOUSE / STORAGE
Step 5, 6, & 7 - Households Earning Less than 50% Median [1]					
Management	0.03	0.05	0.00	0.00	0.00
Business and Financial Operations	0.29	0.00	0.00	0.06	0.02
Computer and Mathematical	0.14	0.00	0.00	0.03	0.00
Architecture and Engineering	0.03	0.00	0.00	0.04	0.00
Life, Physical and Social Science	0.00	0.00	0.00	0.32	0.00
Community and Social Services	0.00	0.00	0.00	0.00	0.00
Legal	0.00	0.00	0.00	0.00	0.00
Education Training and Library	0.00	0.00	0.00	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00	0.00	0.00	0.00
Healthcare Practitioners and Technical	0.12	0.00	0.00	0.00	0.00
Healthcare Support	2.80	0.00	0.00	0.00	0.00
Protective Service	0.00	0.00	0.00	0.00	0.00
Food Preparation and Serving Related	0.00	16.07	29.67	0.00	0.00
Building Grounds and Maintenance	6.76	17.28	0.00	0.00	0.00
Personal Care and Service	0.00	3.94	0.00	0.00	0.00
Sales and Related	3.03	0.00	22.66	0.00	0.70
Office and Admin	13.80	8.12	5.62	2.36	1.82
Farm, Fishing, and Forestry	0.00	0.00	0.00	0.00	0.00
Construction and Extraction	0.00	0.00	0.00	0.00	0.00
Installation Maintenance and Repair	0.00	1.07	1.11	0.00	0.23
Production	0.00	0.00	0.00	9.83	0.43
Transportation and Material Moving	0.00	0.00	4.44	0.00	2.59
HH earning less than 50% Median - major occupations	27.01	46.52	63.51	12.64	5.79
HH earning less than 50% Median - all other occupations	5.75	5.56	9.53	2.13	0.44
Total Households Earning Less than 50% of Median	**32.8**	**52.1**	**73.0**	**14.8**	**6.2**

[1] See Tables in Appendix B for additional information on Major Occupation Categories

TABLE III-3

WORKER HOUSEHOLDS BY AFFORDABILITY LEVEL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Analysis for Households Before Commute Adjustment
Per 100,000 sq. ft. of building area.

	OFFICE	HOTEL	RETAIL	MANUF. / INDUSTRIAL	WAREHOUSE / STORAGE
NUMBER OF HOUSEHOLDS BY INCOME TIER					
Under 50% Median Income	32.8	52.1	73.0	14.8	6.2
50% to 80% Median Income	44.1	30.8	45.4	20.9	7.0
80% to 120% Median Income	33.1	7.9	13.2	15.8	4.2
Subtotal to 120% AMI	**110.0**	**90.8**	**131.6**	**51.5**	**17.5**
Above 120% Median	85.5	7.0	8.0	46.3	6.9
Total New Worker Households	**195.5**	**97.7**	**139.6**	**97.7**	**24.4**
PERCENTAGE OF HOUSEHOLDS BY INCOME TIER					
Under 50% Median Income	16.8%	53.3%	52.3%	15.1%	25.5%
50% to 80% Median Income	22.6%	31.6%	32.5%	21.3%	28.7%
80% to 120% Median Income	16.9%	8.0%	9.5%	16.2%	17.4%
Subtotal to 120% AMI	**56.2%**	**92.9%**	**94.2%**	**52.7%**	**71.6%**
Above 120% Median	43.8%	7.1%	5.8%	47.3%	28.4%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Notes:

[1] Before commute adjustment.

TABLE III-4

WORKER HOUSEHOLDS BY AFFORDABILITY LEVEL AFTER COMMUTE ADJUSTMENT
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

PROTOTYPICAL 100,000 SQ. FT. BUILDINGS

BEFORE COMMUTE ADJUSTMENT

	Number of Households[1]				
	OFFICE	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% of Median Income	32.8	52.1	73.0	14.8	6.2
50% to 80% of Median Income	44.1	30.8	45.4	20.9	7.0
80% to 120% of Median Income	33.1	7.9	13.2	15.8	4.2
Total	**110.0**	**90.8**	**131.6**	**51.5**	**17.5**

AFTER 58.6% Commute Adjustment

	Number of Households[1]				
	OFFICE	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% of Median Income	19.2	30.5	42.8	8.7	3.7
50% to 80% of Median Income	25.9	18.1	26.6	12.2	4.1
80% to 120% of Median Income	19.4	4.6	7.7	9.3	2.5
Total	**64.4**	**53.2**	**77.1**	**30.2**	**10.2**

[1] Per 100,000 sq. ft. of building area

TABLE III-5

HOUSING DEMAND NEXUS FACTORS PER SQ.FT. OF BUILDING AREA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

WITH COMMUTE ADJUSTMENT AT 58.6%

	Number of Housing Units per Square Foot of Building Area[1]				
	OFFICE	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% Median Income	0.00019197	0.00030524	0.00042797	0.00008659	0.00003652
50% to 80% Median Income	0.00025862	0.00018071	0.00026580	0.00012227	0.00004109
80% to 120% Median Income	0.00019374	0.00004607	0.00007734	0.00009274	0.00002487
Total	**0.00064433**	**0.00053202**	**0.00077111**	**0.00030160**	**0.00010249**

[1]Calculated by dividing number of household in bottom of Table III-4 by 100,000 to convert households per 100,000 sq. ft. building to households per 1 sq. ft. of building.

SECTION IV: TOTAL HOUSING LINKAGE COSTS

This section takes the conclusions of the previous section on the number of households in the Very Low, Low, and Moderate Income categories associated with each building type and identifies the total cost of assistance required to make housing affordable. This section puts a cost on the units for each income level to produce the "total nexus cost."

A key component of the analysis is the size of the gap between what households can afford and the cost of producing additional housing in San Diego, known as the "affordability gap." The analysis uses a standard methodology consistent with SDHC's policies to determine what households can afford, and compares that to the cost of providing additional housing. The analysis is conducted for various household sizes in three categories of Area Median Income: under 50% (Very Low Income), 50% to 80% (Low Income), and 80% to 120% (Moderate Income). Income definitions for housing programs are established by the State of California Department of Housing and Community Development (HCD) for varying household sizes, as presented in Section II and summarized in Table IV-1.

For the purposes of the nexus analysis, rental housing is assumed for the Very Low and Low Income categories, while ownership units are assumed for the Moderate Income category.

Project Descriptions

In order to determine the affordability gap, there is a need to match a household at each income level with a unit type and size according to government regulations and policies. The prototypical projects for both rental and ownership units are designed to represent what SDHC is most likely to assist in the future.

SDHC has typically assisted two types of rental development: garden-style apartments and higher density stacked-flats over podium apartments. Similarly, with ownership units, SDHC has assisted both lower density townhomes and higher density stacked-flat condominiums. "Greenfield" sites available for multi-family development are increasingly rare within the City of San Diego, and land values have risen significantly over the past decade as vacant sites have been absorbed. As a result, an increasing proportion of the affordable housing developments assisted by SDHC will involve higher densities as well as structured parking. Therefore, the analysis has assumed that 40% of the affordable units will be developed as garden or townhome units, and 60% will be developed as stacked flat condominiums over podium parking. All units are assumed to have two bedrooms. The average three-person household is assumed to be accommodated in a two-bedroom unit, per local policy.

Detailed descriptions of the development prototypes, including development costs, affordable values, and the affordability gap calculations, can be found in the tables at the end of this section. A brief overview is presented here.

Project descriptions for the development prototypes can be summarized as follows:

- Garden-style apartments are assumed to be wood-frame construction, built at a density of 25 units to the acre, with 950-square-foot two-bedroom units. Parking is provided at 1.50 spaces per unit.

- Stacked-flat apartment units are built at a density of 50 units to the acre, with 800-square-foot two-bedroom units. The buildings are assumed to have four stories of wood-frame construction over a podium. Structured parking is provided at 1.30 spaces per unit.

- Townhome units are assumed to be 1,200-square-foot two-bedroom units, with two parking spaces in an attached garage. The units are built at a density of 20 units to the acre.

- The higher density condominium units are estimated at 1,000 square feet, with 1.75 spaces per unit of structured parking. The building is built at a density of 45 units to the acre, with wood-frame construction over a parking podium.

The parking ratios used for the rental development prototypes reflect the City's recently adopted parking regulations for Reduced Parking Demand Housing (§142.0527, Chapter 14, Article 2, Division 5 of the San Diego Municipal code). The ordinance, which was adopted by the San Diego City Council in November 2012, allows for the application of lower parking requirements for affordable housing rental developments.

Maximum affordability gaps are determined based on the top end of the income categories. This is a conservative assumption, which produces a lower affordability gap average than reality, since not all households have income at the top end of the range. For Very Low Income households, rents are set to be affordable at 50% of Median Income, and for Low Income households, at 80% of Median Income. For Moderate Income households, maximum sales prices are calculated based on 120% of Median Income, with 35% of income set aside for housing (as opposed to 30% for rental units).

Development Costs

The cost of developing new residential units in San Diego was assembled from a number of sources. Land costs were gathered from recent land sale data collected by KMA. KMA is also actively working on a number of rental and condominium projects at various locations in the San Diego area and has recent developer pro forma financial analyses from which to draw cost information. Using these sources, KMA prepared a summary of average total development costs, broken down into the major cost components: land acquisition, direct or construction costs, indirect costs, and financing costs.

Affordability Gap

The KMA financial pro formas estimating the affordability gap for the above prototypes are presented in Appendix C Tables 1-17. Each pro forma contains:

i. A project description;

ii. Estimates of development costs;

iii. Stabilized net operating income for the rental prototypes based on two affordability scenarios: (a) all units affordable to households at 50% AMI (Very Low Income); and (b) all units affordable to households at 80% AMI (Low Income);

iv. Maximum affordable sales price for the ownership prototypes based on all units affordable to households at 120% AMI (Moderate Income);

v. Estimates of maximum warranted investment for the rental prototypes, which include supportable debt and/or equity investment, and tax credit equity investment for the Very Low Income rental prototype; and

vi. The resulting financing gap generated by the development prototype reflective of the difference between warranted investment and development costs for rental units, and the difference between net sales proceeds and development costs for ownership units.

The inputs and assumptions used in the KMA pro formas are based on KMA's experience with comparable developments throughout San Diego. In particular, KMA notes the following:

- The cost estimates do not assume a prevailing wage requirement.

- The City of San Diego is diverse in terms of real estate market factors. Therefore, the KMA pro formas assumed land costs ranging from a low of $25 per square foot to a high of $50 per square foot of land, reflecting project location and achievable density.

- As specific sites have not been defined for this study, KMA assumed an allowance for off-site improvements ranging between $3 and $5 per square foot of site area, and an allowance for on-site improvements ranging from $10 to $15 per square foot of site area.

- It is assumed that Very Low Income units will be financed with tax-exempt bonds combined with the 4% Low Income Housing Tax Credit. KMA did not assume that Very Low Income units could be financed with 9% Low Income Housing Tax Credits due to the highly competitive nature of this funding source.

- Low and Moderate Income units are assumed to be financed using conventional debt and equity financing sources.

- The affordability gap conclusions resulting from the KMA pro forma analyses are summarized as follows:

Rental	**Garden Apartments**	**Stacked Flats Over Podium Parking**	**Average Rental** (1)
Very Low Income (50% AMI)	($108,000)	($139,000)	($127,000)
Low Income (80% AMI)	($105,000)	($164,000)	($140,000)

Ownership	**Townhomes**	**Stacked Flats Over Podium Parking**	**Average Ownership** (1)
Moderate (120% AMI)	($12,000)	($93,000)	($61,000)

(1) Assumes 40% of affordable units delivered in lower density developments (garden apartments) and 60% of affordable units delivered in higher density developments (stacked flats over podium parking).

Total Linkage Costs

The last step in the linkage fee analysis marries the findings on the numbers of households at each of the lower income ranges associated with the five types of buildings to the affordability gaps, or the costs of delivering or housing for them in San Diego.

Table IV-2 summarizes the analysis. The affordability gaps are drawn from the prior discussion. Demand for affordable units at each of the lower income ranges that is generated per square foot of building area is drawn from Table III-5 in the previous section. At the right, the "Nexus Cost Per Square Foot" shows the results of the calculation: affordability gap times the number of units per square foot of building area.

The total nexus costs for the five building types are as follows:

Office	$72.41
Hotel	$66.88
Retail	$96.28
R&D/Manufacturing/Industrial	$33.78
Warehouse/Storage	$11.91

These costs express the total linkage or nexus costs per square foot for the five building types. These total nexus costs represent the ceiling for any requirement placed on new construction for affordable housing. The totals are not recommended levels for fees; they represent only the maximums established by this analysis, below which fees or other requirements may be set.

Conservative Assumptions Underlying the Nexus Cost Estimates

In establishing the total nexus cost, many conservative assumptions were employed in the analysis that result in a total nexus cost that may be understated by a considerable amount. These conservative assumptions are summarized below.

1. Only direct employees are counted in the analysis. Many indirect employees are also associated with each new workspace. Indirect employees in an office building, for example, include janitors, window washers, landscape maintenance people, delivery personnel, and a whole range of others. Hotels do have many of these workers on staff, but hotels also "contract out" a number of services that are not taken into account in the analysis.

2. Annual incomes for workers reflect full time employment based upon the California Employment Development Department's convention for reporting the compensation information. Of course many workers work less than full time; therefore, annual compensations used in the analysis are probably overstated especially for retail which tends to have a high number of part-time employees.

3. Using small households produces lower affordability gaps than larger households in larger units.

4. Affordable rents and sale prices are based upon the top of each income range. For example, units for Very Low Income households (0% to 50% AMI), have rents based on 50% of AMI. This is a particularly conservative assumption, in that the number of households generated at the Extremely Low Income level is significant for certain non-residential building types. KMA estimates that at least 18% of worker households generated by the Hotel and Retail building types are Extremely Low Income Households (30% of AMI). This income level equates to $19,850 for a two-person household, $22,300 for a three-person household, and $24,800 for a four-person household. These

households earn close to the California minimum wage -- $8.00 per hour -- depending on the number of workers in the household. Households at these income levels typically have the fewest housing options, and are most at risk of homelessness.

5. The estimates of affordability gaps for units at 50% of Area Median Income assume the availability of tax-exempt financing and 4% Low Income Housing Tax Credits. This financial assistance is competitively allocated and the investment market for tax credits fluctuates over time. Incorporating this external funding source into the gap analysis results in lower gaps to be funded at the local level.

In completing the 2010 nexus analysis, KMA and SDHC participated in several stakeholder workshops. Based on input received in these workshops, KMA incorporated the following additional modifications to the nexus analysis.

6. Long-term shifts in the regional economy can result in declines in employment in certain industries even as other industries add jobs. An adjustment is included to account for the fact that some new jobs will be filled by workers who are downsized from a declining industry and who already have housing locally. As described in Section I, KMA incorporated a -16% reduction in the nexus analysis to account for long-term unemployment resulting from declining industries.

7. The results of the nexus analysis are adjusted downward to reflect existing commute patterns, including an estimate of workers commuting from Mexico. Only households likely to seek housing in the City are included based on the existing commute pattern. This existing relationship is influenced by the availability of affordable housing in the City. Incorporating this commute adjustment results in a larger reduction in the fee amounts supported by the nexus study.

In summary, many less conservative assumptions could be made that would result in higher linkage costs.

TABLE IV-1

INCOME DEFINITIONS, 2013
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

INCOME - UPPER END FOR EACH CATEGORY

Family Size	Very Low Income 50% AMI	Low Income 80% AMI	Moderate Income 120% AMI
1 Person	$28,900	$46,250	$63,750
2 Persons	$33,050	$52,900	$72,900
3 Persons	$37,150	$59,500	$82,000
4 Persons	$41,300	$66,100	$91,100
5 Persons	$44,600	$71,400	$98,400

Source: California Department of Housing and Community Development.

TABLE IV-2

TOTAL HOUSING NEXUS COST
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

WITH COMMUTE ADJUSTMENT AT 58.6%

	Affordability Gap[1]	Nexus Cost Per Sq. Ft.				
INCOME CATEGORY		**OFFICE**	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% of Median Income[2]	$127,000	$24.38	$38.77	$54.35	$11.00	$4.64
50% to 80% of Median Income[2]	$140,000	$36.21	$25.30	$37.21	$17.12	$5.75
80% to 120% of Median Income[3]	$61,000	$11.82	$2.81	$4.72	$5.66	$1.52
Total		**$72.41**	**$66.88**	**$96.28**	**$33.78**	**$11.91**

1. Assumes two-bedroom units. Affordability gap for under 50% of Median category assumes 4% tax credits.
2. Assumes households are housed in rental units.
3. Assumes households are housed in ownership units.

SECTION V – MATERIALS TO ASSIST IN UPDATING THE FEE PROGRAM

The purpose of this section is to provide guidance to policy makers in setting fee levels and designing the program. A particular focus is devoted to facilitating an understanding of whether the existing linkage fees or proposed fee increases are likely to alter development decisions, or drive activity to other jurisdictions.

As indicated at the end of the previous section, the nexus analysis establishes maximum fee levels supported by the analysis. Recognizing a variety of City objectives, policy makers may set the fees at any level below the maximum, and may design other program features to meet local goals and objectives.

The materials in this section are not part of the nexus analysis. Instead, this section provides an assembly of materials that helps answer the questions frequently asked when designing or updating a fee program:

- How can the fee level be selected?
- What do other cities do in their programs?
- What are some of the options for indexing the fee over time?

Fee Levels

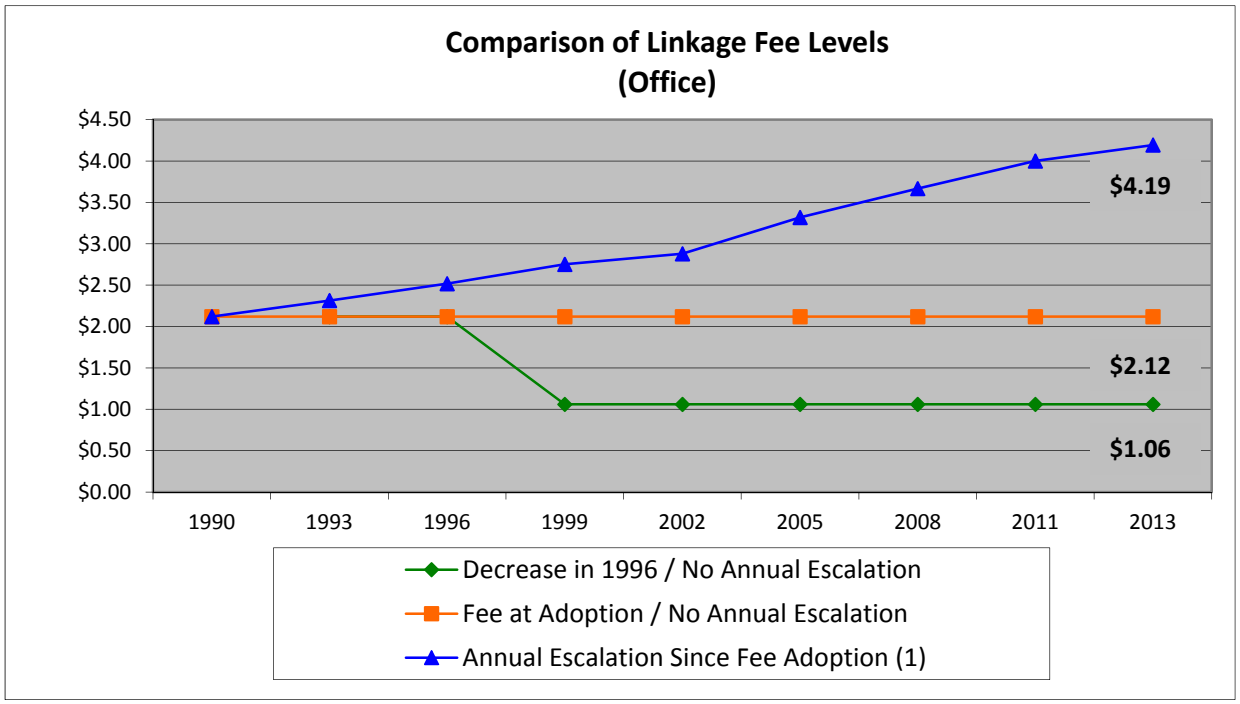
Existing Linkage Fee Levels

Before presenting approaches to fee revisions, it is useful to briefly review linkage fee levels since the original program was adopted. All non-residential building types are subject to the fee. The City's Department of Development Services determines the building type and the applicable fee. In 1996, the City Council reduced the fee by half to spur business development. The fee has not been adjusted since 1996.

	Fee at Adoption	Fee Since 1996
Office	$2.12	$1.06
Hotel	$1.28	$0.64
Retail	$1.28	$0.64
R&D	$1.60	$0.80
Manufacturing	$1.28	$0.64
Warehouse	$0.54	$0.27

As shown in Table V-I, KMA compared the actual linkage fee levels for the years 1990, 1996, and 2013 against: (1) the fee levels if no adjustment had been made in 1996; and (2) the fee levels assuming an annual escalation of the fee based on the Construction ENR Building Cost Index, as allowed under the existing ordinance.

A graphic representation of the KMA comparison for the Office fee appears below. As shown, the Office fee at adoption was $2.12, the fee was decreased by half to $1.06 in 1996, and has remained the same over the past 23 years. Assuming the Office fee was not reduced in 1996 and no other adjustments were made since adoption, the office fee at adoption would have remained constant at $2.12 per square foot between 1990 and 2013. Assuming the fee was subject to an annual escalation factor, as allowed in the ordinance, the fee would have increased from $2.12 per square foot in 1990 to $4.19 per square foot by 2013.



(1) Source: McGraw Hill Construction ENR Building Cost Index.

Historical Fee Collection

The linkage fee represents the primary source of funds for SDHC's Housing Trust Fund, accounting for 77% of the Housing Trust Fund's total revenues since Fiscal Year 1992. To date, SDHC has collected a total of $53.6 million in linkage fee revenues.

Fee revenue collected by SDHC can be examined by type of development. For example, over the past seven years, SDHC has collected a total of $11.3 million in linkage fee revenues from 14.3 million SF of non-residential development. As shown below, the majority of the revenues came from office buildings (60%), followed by research and development buildings (11%), and retail buildings (11%).

	FY 2006 – FY 2012	
Building Type	**Non-Residential Development (SF)**	**Linkage Fee Revenue**
Office	6,300,000 SF	$6,677,000
R&D	1,553,000 SF	$1,242,000
Retail	1,899,000 SF	$1,209,000
Hotel	867,000 SF	$555,000
Warehouse	2,040,000 SF	$548,000
School	685,000 SF	$548,000
Manufacturing	609,000 SF	$390,000
Total [(1)]	**14,258,000 SF**	**$11,290,000**

[(1)] Reflects totals after adjustments and credits.

Source: City of San Diego.

Estimate of Foregone Fee Revenue

As indicated previously, the linkage fee was reduced by half in 1996. For illustrative purposes, KMA estimated the amount of fee revenue foregone under two scenarios:

- Test 1: Linkage fees collected assuming no adjustment to the fee in 1996; and
- Test 2: Linkage fees collected assuming an annual escalation of the fee based on the Construction ENR Building Cost Index.

As presented in Table V-2, and summarized below, Test 1 yielded a total of $92.6 million in linkage fee revenues, and Test 2 yielded a total of $123.9 million, differences of $39.3 million and $70.6 million, respectively, from the actual revenue amount collected.

As shown below, assuming a typical per-unit affordable housing subsidy of $100,000 for the period 1992-2013, an estimate of 393 additional units could have been developed under Test 1 (no adjustment made to the fee in 1996). Similarly, under Test 2 (annual escalation in the fee based on the construction cost index), an estimated additional 705 units could have been developed.

	Actual Collected	Test 1: No Adjustment in 1996	Test 2: No Adjustment in 1996 + Escalation (1)
FY 1992 – 2013	$53.3 mm	$92.6 mm	$123.9 mm
Potential Number of Additional Units Developed @ Typical Subsidy of $100,000/unit(2)		393 units	705 units

(1) Based on annual McGraw Hill Construction ENR Building Cost Index History.

(2) Reflects historic estimate of typical financing gap amounts, 1992-2013.

Linkage Fee Levels in the Context of San Diego Development Economics

When considering fee levels, there are several economic or real estate factors that may be taken into account in recommending or enacting affordable housing requirements. A primary concern is that fee levels not be so onerous that they significantly constrain development.

Survey of Linkage Fee Programs

As part of this study, KMA reviewed linkage fee programs in approximately 25 other cities and counties in California ranging in population from 7,000 to 1.4 million. A relative perspective on how the City's existing linkage fee program compares with programs in other jurisdictions in California is presented in Table V-3 and summarized below:

Current Level of Fee per SF	City of San Diego	State of California (range of findings)		
Office	$1.06	$0.58	-	$22.83
Hotel	$0.64	$0.64 (1)	-	$17.10
Retail	$0.64	$0.64	-	$21.30
R&D	$0.80	$0.57	-	$15.21
Manufacturing	$0.64	$0.28	-	$18.44
Warehouse	$0.27	$0.08	-	$18.44
Thresholds	No minimum threshold	25,000 SF	-	No minimum threshold
Geographic Exemptions	Excludes some geographic areas (enterprise zones)	redevelopment areas	-	No exemptions
Specific Use Exemptions	Development by government entities.	churches, educational facilities, hospitals, child care, non-profits, etc.	-	No exemptions

(1) Excludes jurisdictions where fee paid on a per-room basis.

Note: The chart has been assembled to present an overview, and as a result, terms are simplified.

Ordinance or Program Features

A Housing Impact Fee program often includes features to address a jurisdiction's policy objectives or specific concerns. The most common are:

- *Minimum Threshold Size* – A minimum threshold sets a building size over which fees are in effect. As shown above, San Diego does not have a minimum threshold, while other jurisdictions have thresholds as high as 25,000 square feet. In general, the programs with the highest fees tend to have more significant thresholds. Programs with low fees often have no thresholds and all construction is subject to the fee.

- *Geographic Area Exemptions* – Some cities with linkage fee programs exclude specific areas such as redevelopment areas. San Diego's program previously allowed for the exemption of new businesses developed in San Diego's two enterprise zones: the Metro Zone (formerly the Southeast/Barrio Logan Enterprise Zone) established in 1983 and the South Bay Enterprise Zone established in 1991. These zones have since been incorporated into the San Diego Regional Enterprise Zone. In July 2013, Governor Brown signed Assembly Bill (AB) 93 and Senate Bill (SB) 90 (clean-up legislation to AB 93). The bills eliminate the State's Enterprise Zone (EZ) program effective January 1, 2014 and replace it with sales tax exemptions for the manufacturing and biotech industries, hiring tax credits within former EZ areas, and income tax credits for employers and businesses. As such, the exemption allowed for developments within the San Diego Regional Enterprise Zone would thereby cease on January 1, 2014.

- Specific Use Exemptions – Cities may also choose to exempt specific uses. For example, these may include churches, hospitals, child care centers, and development by non-profits.

Linkage Fees as a Percent of Total Development Costs

Policy makers may establish linkage fees at any level below the maximum nexus cost for the building types addressed in the analysis. One approach to establishing fee levels is based on comparing the linkage fee against the development costs associated with each building. This approach facilitates an evaluation of whether the amount is likely to affect development decisions.

In a city as large as San Diego, there is a broad range of conditions and development "products" that might be built for various building types or land uses. For example, office buildings can range from minimal one-story structures with surface parking, to multiple-story buildings with podium parking, to high-rises with subterranean parking. To cover the range, we have assembled prototypes for each of the major commercial and industrial building types.

KMA prepared base case project descriptions and development budgets for representative non-residential product types currently being developed in the San Diego market. The prototypes are used as a "starting point" on which to test the impact of potential linkage fees on development costs.

Tables V-4 through V-7 provide the development cost estimates for the prototypes analyzed by KMA, as follows:

- Office Prototypes:
  - Garden Office – 3 stories, surface parking
  - Suburban Mid-Rise Office – 5 stories, deck/structured parking
  - Urban High-Rise Office – 15 stories, subterranean parking

- Hotel Prototypes:
  - Extended Stay Hotel – 3 story, surface parking
  - Full-Service Mid-Rise Hotel – 6 stories, structured parking
  - Full-Service High-Rise Hotel – 15+ stories, subterranean parking

- Retail Prototypes:
  - Strip Retail Center – 1 story, surface parking
  - Community Retail Center – 1 story, surface parking
  - Urban Retail Center – 1-2 stories, deck/structured parking

- Industrial Prototypes:
  - Research and Development – 2–3 stories, surface parking
  - Manufacturing/Industrial – 1–2 stories, surface parking
  - Warehouse/Storage – 1 story, surface parking

KMA's experience with financial feasibility analyses for non-residential development proposals in San Diego was a major frame of reference in developing the prototypes and typical development cost estimates. The inputs and assumptions assumed by KMA are as follows (costs have been rounded):

- Acquisition costs were estimated on a per-square-foot basis. For each land use type, acquisition costs were estimated to range as follows (reflecting the multiple scenarios analyzed):

Acquisition Costs	Per Square Foot (SF) Site Area
Office	$25 - $300 /SF
Hotel	$25 - $300 /SF
Retail	$25 - $50 /SF
R&D	$30/SF
Manufacturing	$20/SF
Warehouse	$15 /SF

- Direct construction costs, including site improvements, parking, shell construction, tenant improvements, and furniture/fixtures/equipment, were estimated for each land use type as follows:

Direct Costs	Per Square Foot (SF) Gross Building Area
Office	$150 - $310 /SF
Hotel	$135 - $275 /SF
Retail	$130 - $230 /SF
R&D	$150/SF
Manufacturing	$105/SF
Warehouse	$80/SF

- Indirect and financing costs -- including factors such as architecture and engineering, legal and accounting, taxes and insurance, developer overhead fee, marketing and lease-up, loan fees, and construction interest reserve – were combined and estimated as a percent of total direct costs:

Indirect and Financing Costs	% of Direct Costs
Office	30% of Directs
Hotel	30% - 35% of Directs
Retail	30% of Directs
R&D	30% of Directs
Manufacturing	30% of Directs
Warehouse	30% of Directs

- Cost for public permits and fees were based on KMA's review of permit and fee data provided to KMA for comparable developments within the City of San Diego.

Permits and Fees	***Per Square Foot (SF) Gross Building Area***
Office	$8/SF
Hotel	$10/SF
Retail	$10/SF
R&D	$8/SF
Manufacturing	$8/SF
Warehouse	$8/SF

Overall, total development costs per square foot of building area are summarized below for each non-residential development prototype (ranges in cost reflect multiple scenarios). The columns to the right illustrate possible fee levels calibrated as a percent of total development costs, ranging from a low of 0.5% to a high of 2.0%.

Non-Residential Building Type	**Total Development Costs ($/SF GBA)**	**Average Development Costs ($/SF GBA)**	**Fee Level Per SF @ % of Total Costs**			
			0.5%	**1.0%**	**1.5%**	**2.0%**
Office	$264 - $489	$354	$1.77	$3.54	$5.32	$7.09
Hotel	$216 - $431	$315	$1.58	$3.15	$4.73	$6.30
Retail	$267 - $410	$331	$1.65	$3.31	$4.96	$6.61
R&D	$276	$276	$1.38	$2.76	$4.14	$5.52
Manufacturing	$203	$203	$1.02	$2.03	$3.05	$4.06
Warehouse	$152	$152	$0.76	$1.52	$2.28	$3.04

GBA = Gross Building Area.

For comparison purposes, the current fee and the fee at adoption can also be compared to total development costs for each building type. As shown below, the current fee reflects between 0.2% and 0.3% of current development costs and the fee at adoption reflects between 0.4% and 0.6% of current development costs.

Non-Residential Building Type	Total Development Costs ($/SF GBA)	Average Development Costs ($/SF GBA)	Current Fee (in place since 1996)		Fee at Adoption (in 1990)	
			$/SF GBA	% of Costs	$/SF GBA	% of Costs
Office	$264 - $489	$354	$1.06	0.3%	$2.12	0.6%
Hotel	$216 - $431	$315	$0.64	0.2%	$1.28	0.4%
Retail	$267 - $410	$331	$0.64	0.2%	$1.28	0.4%
R&D	$276	$276	$0.80	0.3%	$1.60	0.6%
Manufacturing	$203	$203	$0.64	0.3%	$1.28	0.6%
Warehouse	$152	$152	$0.27	0.2%	$0.54	0.4%

GBA = Gross Building Area.

Fee as Percent of Nexus Cost

Policy makers may establish fees at any level below the maximum fee for the building types identified in the KMA nexus analysis – Office, Hotel, Retail/Entertainment, Manufacturing/Industrial, Warehouse/Storage – (1) in the same proportion to the nexus conclusions, or (2) independently selecting the fee for each building type based on weighing policy considerations separately for each building type.

When the City adopted housing impact fees initially, fees were set at between 5% and 20% of the calculated nexus costs (depending on land use), which included only Very Low and Low Income tiers, or up to 80% of Area Median Income. The current analysis assumes up to 120% of Area Median Income, resulting in higher total nexus costs. In the event the City wishes to continue using this approach, the following table illustrates potential fee levels set at 10% of the nexus amounts for each building type:

Non-Residential Building Type	Nexus Costs	Potential Fee @ 10% of Nexus Cost
Office	$72.41	$7.24
Hotel	$66.88	$6.69
Retail	$96.28	$9.63
R&D/Manufacturing/Industrial	$33.78	$3.38
Warehouse/Storage	$11.91	$1.19

The principal advantage of this approach lies in its simplicity and avoidance of addressing each fee independently. The disadvantage is that there could be a disproportionate burden on one building type. Alternately, there could be lost opportunity in not charging a fee on a building type that could sustain a higher fee level.

Impact of Fee on Development

This section reviews historic construction activity and employment growth in the City of San Diego since the linkage fee was adopted. It also provides a qualitative assessment of the likelihood of the fee preventing construction from occurring in San Diego, and/or redirecting development to other jurisdictions.

Overview of Construction Activity

Table V-8 summarizes construction activity by land use type for the City of San Diego, the balance of San Diego County, and the State of California for the period from 1990 through 2012. Construction activity can be measured in terms of building permit valuation data compiled by the Construction Industry Research Board. Since 1990, approximately $4.8 billion in hotel, office, retail, and industrial development has been permitted in the City of San Diego. This represents average annual permit valuation of $207.5 million. The largest category of permit valuation was office use, representing $2.3 billion in valuation during 1990-2012.

Within the balance of the County, approximately $4.3 billion in development valuation was permitted in these land use categories during 1990-2012, representing approximately $189 million in average annual permit valuation. The largest categories were retail ($1.7 billion) and industrial ($1.5 billion).

The measure of construction activity in the City of San Diego can also be compared to the balance of the County on a proportionate share basis. The table below summarizes total permit valuation in the City of San Diego as a percent of the County total (inclusive of the City):

Building Permit Valuation, 1990-2012 Total	**City of San Diego**	**County of San Diego (including City)**	**City as Percent of County**
Office	$2,317.9 mm	$3,063.7 mm	76%
Hotel	$672.6 mm	$1,074.4 mm	63%
Retail	$946.8 mm	$2,643.2 mm	36%
Industrial	$835.6 mm	$2,326.3 mm	36%
Total	**$4,772.8 mm**	**$9,107.5 mm**	**52%**

As shown in the table, the City accounted for the majority of office and hotel development in the County during the time period. This finding suggests that the City of San Diego has continued to capture a greater share of new office and hotel development than the rest of the County. On the other hand, industrial and retail uses have developed more rapidly in the balance of the County than the City of San Diego. This trend is not surprising in light of the greater land availability which largely explains the significant expansion of business parks, as well as new residential communities with supporting retail uses, in suburban areas such as Carlsbad, San Marcos, and Chula Vista over the time period.

Overview of Employment Growth

Table V-9 summarizes trends in employment growth for the City of San Diego, the balance of San Diego County, and State of California for the period 1990 to 2011. To ensure a consistent data source, KMA relied on U.S. Census and State of California Employment Development Department (EDD) data to calculate employment growth. (Note that the employment figures in Section II are slightly different as they are based on SANDAG estimates). As shown in the table, the rates of job growth in all three areas over the time period are relatively similar. Total employment in the City of San Diego increased from 681,218 jobs in 1990 to 811,364 jobs in 2011. This represents a total increase of 130,146 jobs, and an average annual increase of 6,197 jobs or 0.8%.

The rates of employment growth in the balance of San Diego County and the State were similar to the City's growth rate, as shown in the table below. It should be noted that population growth within the City of San Diego lagged behind population growth in the balance of the County by an even greater amount. In other words, the lower employment growth rate for the City as versus the County is not meaningful when considered in context of the slower population growth occurring in the City during this same time period.

Change in Employment by Place of Work, 1990-2011	Average Annual Growth in Employment	Average Annual Growth in Population
City of San Diego	0.8%	0.8%
County of San Diego (excluding City)	2.0%	1.3%
State of California	0.6%	1.1%

Source: U.S. Census Bureau, State of California Employment Development Department, and State of California Department of Finance

The Burden of Paying for Impact Fees

The question is sometimes raised as to "who pays" for the housing impact fee. For example, does the burden fall on developers, end user/tenants, or landowners. Of course, the developer pays the fee at the time of building permit issuance. The question is focused on whether the fee is ultimately passed through to end users or tenants, results in reduced developer profits, or results in a reduction in land value achieved by the landowner who sells a development site to a developer.

It is the KMA view based on our experience with real estate economics that an impact fee charged for affordable housing functions similarly to any other development exaction. In other words, it is absorbed over time into the market for buying and selling of development sites. Whether this is true in the case of every development project depends on economic cycles, timing of land acquisition and entitlement,

and numerous other external factors. Obviously, if a proposed development site is already in use for another economically viable purpose, any increase in developer exactions will tend to delay the feasibility of implementing new development on the site.

Timing of Fee Payment

The question has been raised whether there is a measurable benefit to allowing the payment of the linkage fee to occur later than building permit issuance, e.g., at certificate of occupancy. The objective of this approach would be to offer an offsetting economic incentive to developers to help reduce the impact of the fee obligation. However, the reverse impact also holds – the City would receive the linkage fee revenue at a later date, and it would experience delays in implementing its affordable housing program.

The economic benefit to developer of paying a fee at certificate of occupancy, rather than building permit issuance, can be estimated in the form of savings in cost of funds or interest carrying costs. The chart below provides an illustration of the potential magnitude of interest carry savings to a developer for various fee levels. For this illustration, KMA has used an office building, ranging from a garden office to an urban high-rise. We have assumed construction periods ranging from a low of 12 months to a high of 24 months. In each case, we have assumed an annualized carrying cost of 9.0%, reflecting the blended cost of debt and equity needed for construction.

		Office		
		Garden	**Suburban Mid-Rise**	**Urban High-Rise**
Total Development Costs ($/SF GBA)		$264/SF	$310/SF	$489/SF
Construction Period		12 months	18 months	24 months
Fee Level		**Potential Interest Carry Savings**		
Existing Fee @	$1.06 /SF	$0.10 /SF	$0.14 /SF	$0.19 /SF
Fee @ 1.0% of Costs	$2.64 – $4.89/SF	$0.24 /SF	$0.42 /SF	$0.88 /SF
Fee @ 2.0% of Costs	$5.27 - $9.79 /SF	$0.47/SF	$0.84 /SF	$1.76 /SF

As shown above, depending on the type of office building, potential interest carry savings is estimated to range between $0.10/SF and $0.19/SF for the existing fee, $0.24/SF and $0.88/SF for a potential fee at 1.0% of costs, and between $0.47/SF and $1.76/SF for a potential fee at 2.0% of costs. As shown, the absolute savings for the existing fee is relatively minor because the existing fee itself is less than 0.5% of development costs.

In addition to the potential interest carry savings, it should also be recognized that the last dollars to raise in equity are often the most difficult to obtain and the most costly. As a result, for some projects the savings could be somewhat greater than that indicated above.

Discussion of Potential Indices for Fee Level Adjustment

There are a number of potential indices that could be used to adjust fee levels in the future. Some potential objectives that could potentially be taken into consideration in selecting an appropriate index for the fee are as follows:

Administrative Objectives

- Simple and easily administered
- Clear and objective, not subject to interpretation
- Tied to readily accessible and neutral third party published source

Potential Policy Objectives

- Maintain ability to mitigate impacts/fund affordable housing over long-term
- Maintain consistent fee burden over long-term
- Respond to economic cycles: fee relief during economic downturn, increased fees with a strong economy

The following chart reviews a range of potential indices that could be used to adjust the fee in the future.

Index	Concept / Description	Advantages	Disadvantages
#1 Building Cost Index (BCI)	Fees go up or down based on building construction costs. Published by Engineering News Record (ENR). Available at national average and for 20 cities (not San Diego; Los Angeles is nearest city available).	Very well established and the current index established in the ordinance. Consistent fee burden over time relative to construction costs.	May not trend with changes in non-construction development costs (land, other soft costs). May not trend with cost to produce affordable units. Only addresses cost side of the equation.

Index	Concept / Description	Advantages	Disadvantages
#2 Construction Costs Index (CCI)	Also published by ENR and similar to Building Cost Indices but with different weighting of labor and material cost categories.	Very well established. Consistent fee burden over time relative to construction costs.	May not trend with changes in non-construction development costs (land, other soft costs). May not trend with cost to produce affordable units. Only addresses cost side of the equation.
#3 Consumer Price Index (CPI)	Published by the U.S. Bureau of Labor Statistics. Available for major metro areas including San Diego.	Very well established. Generally tracks with inflation. Available for San Diego specifically.	May not trend with: - Construction costs (consistent fee burden) or - Cost to produce affordable units (consistent ability to mitigate impacts)
#4 Bureau of Labor Statistics (BLS) Construction Indices	BLS publishes "producer price indices" for a long list of industries.	Opportunity for index tied to specific types of construction.	Different indices for different uses somewhat more complicated.

Index	Concept / Description	Advantages	Disadvantages
#5 Housing Affordability Index	Metric tied to housing affordability. Fees go up as housing becomes less affordable. Based on what median household can afford versus median housing cost	Maintains consistent level of mitigation. Revenue increase as cost to produce unit increases.	Would not maintain consistent fee burden. Requires special calculation by the City and not produced by a neutral third party.

Recommendations

The decision to amend the City's Housing Impact Fees is a policy matter in which multiple City objectives are likely to be taken into consideration in addition to the goal of creating more affordable housing. Legally the City may select fees at any level up to the maximum supported by the nexus analysis; however, as a practical matter, most cities do not desire to set fees so high they become a deterrent to development. Accordingly, the focus of KMA's recommendations as outlined below is on bracketing an upper end of the range or maximum within which the City can have a reasonable degree of confidence that new development will not be significantly impaired.

Maximum Fee Levels

KMA's recommendation is that potential amended Housing Impact Fees be set within a range of up to 1.5% of total development costs. The recommended maximums are based on KMA's evaluation as to the fee increase that could be absorbed without a significant impact on development decisions. KMA further notes that the fees initially adopted in 1990 were set at a level equivalent to approximately 1.5% of development costs.

KMA's recommendations and other relevant benchmarks are summarized in the table below including: the current fee in place since 1996 (half the 1990 fees); the original 1990 fees; the fees today had the 1990 fees been indexed in accordance with the ENR index per the current ordinance; and the recommended maximum fee levels equivalent to 1.5% of development costs (using the development prototypes and cost estimates described earlier in this section). As noted previously, the current fee levels equate to 0.2% to 0.3% of development costs. All figures are expressed per square foot of gross building area.

Recommended Maximum Fee Levels for Consideration and Relevant Benchmarks

	Current Fee (Since 1996)	Fee as Adopted (in 1990)	Fee if Index the 1990 fees to today (ENR Index per Current Ordinance)	Recommended Maximum Fee Levels for Consideration (up to 1.5% of Development Costs)
Office	$1.06	$2.12	$4.19	$5.32
Hotel	$0.64	$1.28	$2.53	$4.73
Retail	$0.64	$1.28	$2.53	$4.96
Research & Development	$0.80	$1.60	$3.16	$4.14
Manufacturing/Industrial	$0.64	$1.28	$2.53	$3.05
Warehouse/Storage	$0.27	$0.54	$1.07	$2.28

Note: The nexus analysis combined research and development uses with manufacturing/industrial uses although research and development has a separate fee level in the ordinance.

Housing impact fees, like other development impact fees and exactions, ultimately become a factor in the price developers are willing to pay for development sites. A fee increase will, generally speaking, increase development costs and reduce the price developers will pay for sites. KMA's evaluation regarding the ability to absorb a fee increase up to the recommended maximum is based upon all the various criteria and considerations outlined above and a calibration of potential fee levels relative to land values. If fees are established at 1.5% of estimated development costs, it is estimated that a market adjustment in the value of development sites in the range of 5% to 10% could result for most non-residential building types. In our evaluation, the market will be able to adjust to such a change in a relatively short period. For example, if land values appreciated at an average rate comparable to inflation, then a 5% to 10% adjustment in value could be absorbed in two to three years. Fee levels higher than 1.5% of development costs will have a more significant impact on land value, and have the potential to delay or discourage new non-residential development.

As noted previously, the current Housing Impact Fees reflect between 0.2% and 0.3% of current estimated total development costs. Thus, new fees at 1.5% of development costs would represent an increase on the order of 1.2% to 1.3% of development costs.

Annual Escalation Index

Application of an annual index to the fee level is necessary to maintain the ability to mitigate impacts over time. KMA recommends leaving in place the current index: the Building Cost Index for twenty cities published by ENR. However, we recommend that the ordinance be modified to make application

of the index automatic rather than subject to a discretionary action by the City Council each year. As noted earlier, the Building Cost Index is well established, readily available, and would provide for a consistent fee burden over time relative to construction cost.

TABLE V-1

LINKAGE FEE LEVELS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	1990	1996	2013
I. Decrease in 1996 / No Annual Escalation			
Office	$2.12	$1.06	$1.06
Hotel	$1.28	$0.64	$0.64
Retail	$1.28	$0.64	$0.64
Research and Development	$1.60	$0.80	$0.80
Manufacturing	$1.28	$0.64	$0.64
Warehouse	$0.54	$0.27	$0.27
II. Fee at Adoption / No Annual Escalation			
Office	$2.12	$2.12	$2.12
Hotel	$1.28	$1.28	$1.28
Retail	$1.28	$1.28	$1.28
Research and Development	$1.60	$1.60	$1.60
Manufacturing	$1.28	$1.28	$1.28
Warehouse	$0.54	$0.54	$0.54
III. Annual Escalation Since Fee Adoption (1)			
Building Cost Index (1)	*2,634*	*3,128*	*5,210*
% Change from Previous Year		*0.6%*	*1.9%*
Office	$2.12	$2.52	$4.19
Hotel	$1.28	$1.52	$2.53
Retail	$1.28	$1.52	$2.53
Research and Development	$1.60	$1.90	$3.16
Manufacturing	$1.28	$1.52	$2.53
Warehouse	$0.54	$0.64	$1.07

(1) Source: McGraw Hill Construction ENR Building Cost Index.

TABLE V-2

TOTAL LINKAGE FEE REVENUES, FY 1992 - 2013
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Linkage Fee Revenues			
Fiscal Year	Actual Collected	Test 1: No Adjustment in 1996		Test 2: No Adjustment in 1996 plus Escalation (1)
1992	$6,211,000	$6,211,000		$6,211,000
1993	$1,899,000	$1,899,000	3.3%	$1,961,000
1994	$1,432,000	$1,432,000	5.9%	$1,567,000
1995	$2,242,000	$2,242,000	2.1%	$2,505,000
1996	$2,885,000	$2,885,000	0.6%	$3,241,000
1997	$1,859,000	$3,718,000	5.9%	$4,422,000
1998	$3,283,000	$6,566,000	1.8%	$7,948,000
1999	$5,398,000	$10,796,000	1.5%	$13,258,000
2000	$4,953,000	$9,906,000	2.3%	$12,443,000
2001	$3,382,000	$6,764,000	1.5%	$8,620,000
2002	$2,425,000	$4,850,000	0.8%	$6,231,000
2003	$1,645,000	$3,290,000	1.8%	$4,302,000
2004	$1,448,000	$2,896,000	3.2%	$3,908,000
2005	$2,262,000	$4,524,000	9.7%	$6,700,000
2006	$3,520,000	$7,040,000	5.0%	$10,947,000
2007	$2,949,000	$5,898,000	2.6%	$9,408,000
2008	$2,389,000	$4,778,000	2.6%	$7,819,000
2009	$677,000	$1,354,000	5.3%	$2,333,000
2010	$333,000	$666,000	0.0%	$1,147,000
2011	$662,000	$1,324,000	3.6%	$2,364,000
2012	$1,463,000	$2,926,000	2.9%	$5,376,000
2013	$307,000	$614,000	1.9%	$1,149,000
Total	**$53,317,000**	**$92,579,000**		**$123,860,000**
Potential Number of Additional Units Developed @ Typical Subsidy of $100,000 /Unit		**393 Units**		**705 Units**

(1) Based on annual McGraw Hill Construction ENR Building Cost Index History.

TABLE V-3

COMPARISON OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Jurisdiction	Yr. Adopted/ Updated	Current Fee Levels per SF	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
High Fee Cities						
City and County of San Francisco Population: 797,983	1981 Updated in 2002, 07	• Office $22.83 • Hotel $17.10 • Retail & Entertainment $21.30 • R&D $15.21 • Integrated PDR $17.95 • Small Enterprise $17.95	25,000 GSF threshold	Yes May contribute land for housing	Very Substantial	Fee is adjusted annually based on the construction cost increases
City of Palo Alto Population: 63,475	1984 Updated in 2002	• Commercial & Industrial $18.44	No Minimum threshold Churches; colleges and universities; commercial recreation; hospitals, convalescent facilities; private clubs, lodges, fraternal organizations, private education facilities; and public facilities are exempt	Yes	Very Substantial	Fee is adjusted annually based on CPI
City of Menlo Park Population: 31,669	1998	• Office & R&D $14.71 • All other commercial and industrial $7.98	10,000 gross SF threshold Churches, private clubs, lodges, fraternal orgs, public facilities and projects with few or no employees are exempt	Yes, preferred May provide housing on- or off-site	Very Substantial	Fee is adjusted annually based on CPI
Medium Fee Cities						
County of Marin Population: 250,666	2003	• Office & R&D $7.19 • Retail & Restaurant $5.40 • Warehouse $1.94 • Manufacturing $3.74 • Hotel/Motel (/Room) $1,745	No minimum threshold	Yes, preferred	Substantial	
City of St. Helena Population: 5,838	2004	• Office $3.61 • Commercial & Retail $4.57 • Hotel $3.33 • Winery & Industrial $1.11	Small childcare facilities, churches, non-profits, vineyards, and public facilities are exempt	Yes, subject to city council approval	Substantial	
Town of Corte Madera Population: 9,191	2001	• Office $4.79 • R&D lab $3.20 • Light Industrial $2.79 • Warehouse $0.40 • Retail $8.38 • Com Services $1.20 • Restaurant $4.39 • Hotel $1.20 • Health Club & Rec $2.00 • Training facility/ School $2.39	No minimum threshold	N/A	Substantial	
City of Santa Monica Population: 89,153	1984 Updated in 2002	Office only • First 15,000 SF $5.06 • 15,000 + SF $11.24	15,000 sf exemption for new construction, 10,000 sf exemption for additions	Yes	Very Substantial	Includes fee for open space as well. Fees adjusted quarterly based on CPI. No comprehensive update since adoption.
City of Sunnyvale Population: 138,436	1984 Updated in 2003	• Industrial & Office $9.08	Applies only to the portion of the project that is in excess of allowable FAR (typically 0.35:1)	N/A	Very Substantial	
City of Mountain View Population: 73,394	2001 Updated in 2012	• Industrial, Office & High Tech $10.00 • Hotel, Retail & Entertainment $2.37	Fee is 50% less if building meets threshold: Office <10,000 SF Hotel <25,000 SF Retail <25,000 SF	Yes	Very Substantial	

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V-3

COMPARISON OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Jurisdiction	Yr. Adopted/ Updated	Current Fee Levels per SF		Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
Medium Fee Cities (Continued)							
City of Walnut Creek Population: 64,168	2005	• Office, retail, hotel and medical	$5.00	First 500 SF no fee applied	Yes	Very Substantial	Reviewed every five years
City of Oakland Population: 389,397	2002	• Office & Warehouse	$4.00	25,000 SF exemption	Yes Can build units equal to total eligible SF times 0.0004	Moderate	Fee due in 3 installments. Fee adjusted with an annual escalator tied to residential construction cost increases.
City of Cupertino Population: 57,459	1993	• Industrial, Office, Hotel, Retail, R&D • Planned Industrial Park Zones	$5.23 $2.62	No minimum threshold	N/A	Very Substantial	Fee is adjusted annually based on CPI
City of Berkeley Population: 111,008	1993	• All Commercial • Industrial	$4.00 $2.00	7,500 SF threshold	Yes	Substantial	Fee has not changed since 1993; may negotiate fee downward based on hardship or reduced impact
Low Fee Cities							
City of Napa Population: 76,560	1999	• Office • Hotel • Retail • Industrial & Wine Pdn & Small Warehouse • Warehouse (30-100K SF) • Warehouse (100K+ SF)	$1.00 $1.40 $0.80 $0.50 $0.30 $0.20	No minimum threshold Non-profits are exempt	Units or land dedication; on a case by case basis	Moderate/ Substantial	Fee has not changed since 1999
County of Napa Population: 135,377	Updated 2004	• Office • Hotel • Retail • Industrial • Warehouse	$2.00 $3.00 $2.00 $1.00 $0.80	No minimum threshold Non-profits are exempt	Units or land dedication; on a case by case basis	Moderate/ Substantial	There is a companion fee of 1% of construction costs on all residential construction
City of Petaluma Population: 57,265	2003	• Commercial • Industrial • Retail	$2.08 $2.15 $3.59	Fee is 50% less if located in redevelopment project area Schools and churches exempt	N/A	Moderate/ Substantial	
County of Sonoma Population: 478,551	2005	• Office • Hotel • Retail • Services • Industrial • Warehousing • Ag Processing	$2.40 $2.40 $4.15 $4.15 $2.48 $2.48 $2.48	First 2,000 SD exempt Non-profits, redevelopment areas are exempt	Yes Program specifies number of units per 1,000 SF	Moderate	Fee adjusted annually by ENR construction cost index
City of Cotati Population: 7,154	2006	• Commercial • Industrial • Retail	$2.08 $2.15 $3.59	First 2,000 SF exempt Non-profits exempt	Yes Program specifies number of units per 1,000 SF	Moderate	Fee adjusted annually by ENR construction cost index
City of Alameda Population: 73,239	1989	• Office • Retail • Warehouse • Manufacturing • Hotel/Motel (/Room)	$4.21 $2.14 $0.73 $0.73 $1,081	No minimum threshold	Yes Program specifies number of units per 100,000 SF	Moderate	Fee may be adjusted by CPI
City of West Hollywood Population: 34,564	1986	• Non-Residential	$2.85	N/A	N/A	Substantial	Fees adjusted by CPI annually

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V-3

COMPARISON OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Jurisdiction	Yr. Adopted/ Updated	Current Fee Levels per SF	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
Low Fee Cities (Continued)						
City of Pleasanton Population: 69,220		• Commercial, Office & Industrial $2.83	No minimum threshold	N/A	Moderate	Fee adjusted annually
City of Sacramento Population: 463,537	1989 Most recent update, 2005	• Office $2.25 • Hotel $2.14 • R&D $1.91 • Commercial $1.80 • Manufacturing $1.41 • Warehouse/Office $0.82	No minimum threshold Mortuary, parking lots, garages, RC storage, Christmas tree lots, B&Bs, mini-storage, alcoholic beverage sales, reverse vending machines, mobile recycling, and small recyclable collection facilities	Pay 20% fee plus build at reduced nexus (not meaningful given amount of fee)	Moderate	North Natomas area has separate fee structure
City of San Diego Population: 1,296,437	1990 Fees reduced in 1996; have not been readjusted	• Office $1.06 • Hotel $0.64 • R&D $0.80 • Retail $0.64 • Manufacturing $0.64 • Warehouse $0.27	No minimum threshold Development by government entities. No exempted uses.	Can dedicate land or air rights in lieu of fee	Substantial	
City of Livermore Population: 79,710	1999	• Retail $0.90 • Service Retail $0.678 • Office $0.579 • Hotel (Per Room) $442 • Manufacturing $0.277 • Warehouse $0.08 • Business Park $0.574 • Heavy Industrial $0.2 • Light Industrial $0.18	No minimum threshold Church; private or public schools	Yes Negotiated on case-by-case basis	Moderate	
City of Folsom Population: 70,564	2002	• Office, Retail, Light Industrial, and Manufacturing $1.20 Up to 200,000 SF, 100% of fee; 200,000-250,000 SF, 75% of fee; 250,000-300,000 SF, 50% of fee; 300,000 and up, 25% of fee.	No minimum threshold Select nonprofits, small child care centers, churches, mini storage, parking garages, private garages, private schools, etc.	Yes Provide new or rehab housing affordable to very low income households. Also, land dedication	Moderate/ Substantial	Fee is adjusted annually based on construction cost index
County of Sacramento Population: 1,408,480	1989	• Office $0.97 • Hotel $0.92 • R&D $0.82 • Commercial $0.77 • Manufacturing $0.61 • Indoor Recreational Centers $0.50 • Warehouse $0.26	No minimum threshold Service uses operated by non-profits are exempt	Pay 20% fee plus build at reduced nexus (not meaningful given amount of fee)	Moderate	Currently in the process of updating
City of Elk Grove Population: 146,537	1988 (inherited from County when incorporated)	$30 flat fee plus: • Office $0.97 • Hotel $0.92 • R&D $0.82 • Commercial $0.77 • Manufacturing $0.61 • Indoor Recreational Centers $0.50 • Warehouse $0.26	No minimum threshold Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt	Pay 20% fee plus build at reduced nexus (not meaningful given amount of fee)	Moderate	City may update fee after County of Sacramento updates its fee. Rancho Cordova and Citrus Heights have identical or very similar fee structures

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V-4

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: OFFICE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Garden Office		Suburban Mid-Rise Office		Urban High-Rise Office	
I. Project Description						
Site Size (Acres)	3.50 Acres		2.00 Acres		1.00 Acres	
Floor Area Ratio (FAR)	0.40		1.50		4.00	
Gross Building Area	61,000 SF		131,000 SF		174,000 SF	
Density						
Number of Stories	3 Stories		5 Stories		15 Stories	
Number of Rooms	N/A Rooms		N/A Rooms		N/A Rooms	
Parking Spaces	244 Spaces		524 Spaces		435 Spaces	
Parking Ratio	4.0 Spaces/1,000 SF		4.0 Spaces/1,000 SF		2.5 Spaces/1,000 SF	
Type	Surface		Deck / Structured		Subterranean	
II. Development Costs						
Land Acquisition	$25 /SF	$3,812,000	$50 /SF	$4,356,000	$300 /SF	$13,068,000
Sitework	$5 /SF	$762,000	$10 /SF	$871,000	$20 /SF	$871,000
Parking	$1,500 /Space	$366,000	$10,000 /Space	$5,240,000	$35,000 /Space	$15,225,000
Shell Construction	$100 /SF	$6,100,000	$125 /SF	$16,375,000	$180 /SF	$31,320,000
Tenant Improvements/FF&E	$30 /SF	$1,830,000	$35 /SF	$4,585,000	$40 /SF	$6,960,000
Subtotal Direct Costs	$148 /SF	$9,058,000	$207 /SF	$27,071,000	$313 /SF	$54,376,000
Add: Indirect/Financing Costs (1)	30% of Directs	$2,717,000	30% of Directs	$8,121,000	30% of Directs	$16,313,000
Add: Permits and Fees	$8 /SF	$488,000	$8 /SF	$1,048,000	$8 /SF	$1,392,000
Total Development Costs	$264 /SF	$16,075,000	$310 /SF	$40,596,000	$489 /SF	$85,149,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-5

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: HOTEL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Extended Stay Hotel		Full-Service Mid-Rise Hotel		Full-Service High-Rise Hotel	
I. Project Description						
Site Size (Acres)	3.00 Acres		2.00 Acres		1.00 Acres	
Floor Area Ratio (FAR)	0.80		2.00		6.00	
Gross Building Area	105,000 SF		174,000 SF		261,000 SF	
Density						
Number of Stories	3 Stories		6 Stories		15+ Stories	
Number of Rooms	175 Rooms		230 Rooms		300 Rooms	
Parking Spaces	126 Spaces		174 Spaces		196 Spaces	
Parking Ratio	1.2 Spaces/Room		1.0 Spaces/Room		0.8 Spaces/Room	
Type	Surface		Structured		Subterranean	
II. Development Costs						
Land Acquisition	$25 /SF	$3,267,000	$50 /SF	$4,356,000	$300 /SF	$13,068,000
Sitework	$5 /SF	$653,000	$8 /SF	$697,000	$15 /SF	$653,000
Parking	$1,500 /Space	$189,000	$15,000 /Space	$2,610,000	$35,000 /Space	$6,851,000
Shell Construction	$110 /SF	$11,550,000	$150 /SF	$26,100,000	$200 /SF	$52,200,000
Tenant Improvements/FF&E	$10,000 /Room	$1,750,000	$25,000 /Room	$5,750,000	$40,000 /Room	$12,000,000
Subtotal Direct Costs	$135 /SF	$14,142,000	$202 /SF	$35,157,000	$275 /SF	$71,704,000
Add: Indirect/Financing Costs (1)	30% of Directs	$4,243,000	30% of Directs	$10,547,000	35% of Directs	$25,096,000
Add: Permits and Fees	$10 /SF	$1,050,000	$10 /SF	$1,740,000	$10 /SF	$2,610,000
Total Development Costs	$216 /SF	$22,702,000	$298 /SF	$51,800,000	$431 /SF	$112,478,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-6

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: RETAIL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Strip Retail Center		Community Retail Center		Urban Retail Center	
I. Project Description						
Site Size (Acres)	2.50 Acres		10.00 Acres		4.00 Acres	
Floor Area Ratio (FAR)	0.30		0.25		0.50	
Gross Building Area	33,000 SF		109,000 SF		87,000 SF	
Density						
Number of Stories	1 Stories		1 Stories		1 - 2 Stories	
Number of Rooms	N/A Rooms		N/A Rooms		N/A Rooms	
Parking Spaces	165 Spaces		545 Spaces		348 Spaces	
Parking Ratio	5.0 Spaces/1,000 SF		5.0 Spaces/1,000 SF		4.0 Spaces/1,000 SF	
Type	Surface		Surface		Deck / structured	
II. Development Costs						
Land Acquisition	$25 /SF	$2,723,000	$25 /SF	$10,890,000	$50 /SF	$8,712,000
Sitework	$5 /SF	$545,000	$5 /SF	$2,178,000	$8 /SF	$1,394,000
Parking	$1,500 /Space	$248,000	$1,500 /Space	$818,000	$15,000 /Space	$5,220,000
Shell Construction	$90 /SF	$2,970,000	$105 /SF	$11,445,000	$125 /SF	$10,875,000
Tenant Improvements/FF&E	$20 /SF	$660,000	$25 /SF	$2,725,000	$30 /SF	$2,610,000
Subtotal Direct Costs	$134 /SF	$4,423,000	$157 /SF	$17,166,000	$231 /SF	$20,099,000
Add: Indirect/Financing Costs (1)	30% of Directs	$1,327,000	30% of Directs	$5,150,000	30% of Directs	$6,030,000
Add: Permits and Fees	$10 /SF	$330,000	$10 /SF	$1,090,000	$10 /SF	$870,000
Total Development Costs	$267 /SF	$8,803,000	$315 /SF	$34,296,000	$410 /SF	$35,711,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-7

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: INDUSTRIAL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Research & Development		Manufacturing / Industrial		Warehouse / Storage	
I. Project Description						
Site Size (Acres)	4.00	Acres	3.50	Acres	5.00	Acres
Floor Area Ratio (FAR)	0.40		0.35		0.35	
Gross Building Area	70,000	SF	53,000	SF	76,000	SF
Density						
Number of Stories	2 - 3	Stories	1 - 2	Stories	1	Stories
Number of Rooms	N/A	Rooms	N/A	Rooms	N/A	Rooms
Parking Spaces	280	Spaces	212	Spaces	190	Spaces
Parking Ratio	4.0	Spaces/1,000 SF	4.0	Spaces/1,000 SF	2.5	Spaces/1,000 SF
Type	Surface		Surface		Surface	
II. Development Costs						
Land Acquisition	$30 /SF	$5,227,000	$20 /SF	$3,049,000	$15 /SF	$3,267,000
Sitework	$5 /SF	$871,000	$5 /SF	$762,000	$5 /SF	$1,089,000
Parking	$1,500 /Space	$420,000	$1,500 /Space	$318,000	$1,500 /Space	$285,000
Shell Construction	$90 /SF	$6,300,000	$60 /SF	$3,180,000	$50 /SF	$3,800,000
Tenant Improvements/FF&E	$40 /SF	$2,800,000	$25 /SF	$1,325,000	$10 /SF	$760,000
Subtotal Direct Costs	$148 /SF	$10,391,000	$105 /SF	$5,585,000	$78 /SF	$5,934,000
Add: Indirect/Financing Costs (1)	30% of Directs	$3,117,000	30% of Directs	$1,676,000	30% of Directs	$1,780,000
Add: Permits and Fees	$8 /SF	$560,000	$8 /SF	$424,000	$8 /SF	$608,000
Total Development Costs	$276 /SF	$19,295,000	$203 /SF	$10,734,000	$152 /SF	$11,589,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-8

NON-RESIDENTIAL BUILDING PERMIT VALUATION
TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

(in millions)	1990	1991	1992	1993	1994	1995	1996	1997	1998
City of San Diego									
Office	$100.8	$46.5	$14.9	$8.7	$9.8	$1.1	$67.1	$102.0	$137.7
Hotel	$48.8	$29.6	$6.2	$5.7	$0.0	$0.0	$0.5	$8.0	$25.8
Retail (1)	$98.7	$16.2	$40.2	$27.5	$24.5	$46.1	$34.9	$29.6	$36.5
Industrial	$53.8	$27.0	$61.2	$9.5	$16.0	$33.0	$38.7	$51.9	$62.7
Total, City	$302.1	$119.3	$122.4	$51.5	$50.2	$80.2	$141.2	$191.6	$262.7
Percent Change	N/A	-60.5%	2.6%	-57.9%	-2.4%	59.6%	76.1%	35.7%	37.1%
County of San Diego - Excl. City									
Office	$47.1	$48.8	$5.9	$6.2	$4.5	$68.4	$8.4	$28.8	$57.0
Hotel	$40.6	$33.3	$4.1	$0.0	$0.5	$8.4	$10.9	$22.9	$17.5
Retail (1)	$85.7	$79.2	$48.5	$86.9	$57.6	$73.7	$73.7	$78.8	$102.4
Industrial	$57.9	$44.5	$21.1	$14.4	$17.6	$25.2	$63.0	$133.8	$209.2
Total, County - Excl. City	$231.3	$205.8	$79.6	$107.5	$80.1	$175.8	$156.0	$264.3	$386.1
Percent Change	N/A	-11.0%	-61.3%	35.1%	-25.5%	119.5%	-11.3%	69.4%	46.1%
State of California									
Office	$1,931.9	$1,178.0	$647.1	$624.8	$479.1	$619.6	$772.5	$1,655.3	$1,922.6
Hotel	$441.9	$294.7	$83.7	$73.9	$63.3	$49.6	$120.1	$341.4	$516.8
Retail (1)	$2,161.0	$1,512.2	$1,460.6	$1,210.0	$1,308.8	$1,334.2	$1,488.8	$1,751.2	$1,959.2
Industrial	$1,591.4	$892.0	$626.0	$489.2	$649.6	$732.9	$1,140.6	$1,598.4	$2,466.5
Total, State	$6,126.2	$3,877.0	$2,817.4	$2,397.9	$2,500.9	$2,736.3	$3,521.9	$5,346.3	$6,865.1
Percent Change	N/A	-36.7%	-27.3%	-14.9%	4.3%	9.4%	28.7%	51.8%	28.4%

(1) Includes Stores and Other Merchandise and Service Stations.

Source: Construction Industry Research Board
Prepared by: Keyser Marston Associates, Inc.
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TABLE V-8

NON-RESIDENTIAL BUILDING PERMIT VALUATION
TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

(in millions)	1999	2000	2001	2002	2003	2004	2005	2006	2007
City of San Diego									
Office	$191.0	$126.4	$127.7	$73.5	$72.7	$196.3	$225.5	$142.9	$266.1
Hotel	$41.8	$43.7	$56.7	$95.7	$12.9	$28.6	$61.1	$133.9	$24.8
Retail (1)	$95.4	$113.5	$82.4	$41.5	$18.5	$43.2	$43.1	$20.5	$35.0
Industrial	$52.2	$47.0	$47.3	$24.9	$53.2	$62.1	$68.8	$66.7	$38.1
Total, City	$380.3	$330.6	$314.1	$235.6	$157.3	$330.3	$398.4	$364.1	$364.0
Percent Change	44.8%	-13.1%	-5.0%	-25.0%	-33.2%	109.9%	20.6%	-8.6%	0.0%
County of San Diego - Excl. City									
Office	$31.5	$27.2	$41.7	$49.0	$37.3	$40.5	$41.1	$50.2	$54.3
Hotel	$12.0	$34.4	$15.6	$1.5	$8.7	$11.4	$8.1	$64.3	$18.2
Retail (1)	$58.0	$65.9	$63.0	$102.3	$179.2	$91.7	$96.5	$132.2	$74.0
Industrial	$141.4	$118.0	$42.9	$103.2	$77.8	$55.0	$101.4	$86.7	$80.3
Total, County - Excl. City	$242.9	$245.6	$163.2	$256.0	$302.9	$198.6	$247.2	$333.4	$226.8
Percent Change	-37.1%	1.1%	-33.5%	56.9%	18.3%	-34.4%	24.4%	34.9%	-32.0%
State of California									
Office	$1,927.5	$3,185.9	$2,551.4	$1,387.6	$1,132.6	$1,626.6	$1,881.9	$2,661.1	$3,384.8
Hotel	$561.7	$723.4	$664.5	$540.8	$218.4	$273.2	$384.4	$829.2	$894.1
Retail (1)	$2,269.0	$2,325.0	$2,229.4	$2,611.8	$2,306.3	$2,621.9	$2,984.9	$3,019.1	$3,328.9
Industrial	$2,256.2	$2,206.2	1548.119	$1,216.8	$1,320.2	$1,456.3	$1,693.4	$1,756.6	$1,446.1
Total, State	$7,014.4	$8,440.5	$6,993.4	$5,757.0	$4,977.5	$5,978.0	$6,944.6	$8,266.0	$9,053.9
Percent Change	2.2%	20.3%	-17.1%	-17.7%	-13.5%	20.1%	16.2%	19.0%	9.5%

Source: Construction Industry Research Board
Prepared by: Keyser Marston Associates, Inc.
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TABLE V-8

NON-RESIDENTIAL BUILDING PERMIT VALUATION
TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

							Change, 1990-2012	
	(in millions)	**2008**	**2009**	**2010**	**2011**	**2012**	**Total**	**Average Annual**
City of San Diego								
Office		$107.6	$2.0	$14.6	$72.6	$210.6	$2,317.9	$100.8
Hotel		$28.5	$0.0	$0.0	$8.8	$11.4	$672.6	$29.2
Retail (1)		$36.7	$8.3	$9.1	$18.9	$26.3	$946.8	$41.2
Industrial		$10.1	$0.0	$0.0	$0.0	$11.3	$835.6	$36.3
Total, City		$182.9	$10.3	$23.8	$100.3	$259.6	$4,772.8	$207.5
Percent Change		-49.7%	-94.4%	130.2%	322.2%	158.9%		
County of San Diego - Excl. City								
Office		$43.4	$20.6	$7.0	$17.7	$9.1	$745.8	$32.4
Hotel		$12.3	$3.8	$9.0	$44.1	$20.2	$401.8	$17.5
Retail (1)		$75.2	$12.8	$23.6	$22.7	$12.8	$1,696.4	$73.8
Industrial		$47.0	$25.7	$7.9	$3.6	$13.0	$1,490.7	$64.8
Total, County - Excl. City		$177.9	$62.9	$47.6	$88.2	$55.1	$4,334.7	$188.5
Percent Change		-21.5%	-64.7%	-24.4%	85.5%	-37.5%		
State of California								
Office		$2,014.4	$511.0	$626.6	$669.4	$1,447.4	$34,839.3	$1,514.8
Hotel		$604.7	$120.1	$97.1	$163.8	$160.3	$8,221.3	$357.4
Retail (1)		$2,811.5	$936.0	$895.9	$947.6	$958.1	$44,431.3	$1,931.8
Industrial		$938.1	$359.9	$358.3	$469.2	$1,409.8	$28,621.8	$1,244.4
Total, State		$6,368.6	$1,927.0	$1,978.0	$2,250.1	$3,975.6	$116,113.7	$5,048.4
Percent Change		-29.7%	-69.7%	2.6%	13.8%	76.7%		

Source: Construction Industry Research Board
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TABLE V-9

EMPLOYMENT BY PLACE OF WORK, TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

			1990 - 2011		
	1990	2011	Total Change	Average Annual Change	Average Annual Rate of Increase
City of San Diego (1)	681,218	811,364	130,146	6,197	0.8%
County of San Diego (2) (excluding City of San Diego)	296,182	446,536	150,354	7,160	2.0%
State of California (2)	12,863,800	14,672,800	1,809,000	86,143	0.6%

(1) Source: U.S. Census Bureau American Community Survey.
(2) Source: State of California Employment Development Department.

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APPENDIX A

Additional Discussion of Nexus Concepts and Assumptions

APPENDIX A – ADDITIONAL DISCUSSION OF NEXUS CONCEPTS AND ASSUMPTIONS

Matrix of Key Nexus Analysis Concepts and Assumptions

For ease of reference, we have organized the major assumptions of the nexus analysis into a matrix format with a brief description of each.

	Key Assumption	***Description***
A. Employment		
1.	Relationship Between Construction and Job Growth	Construction of new work space buildings results in new jobs added to the region.
2.	Substitution Factor	Although some / all jobs in a given new building may be relocated from elsewhere in the region, this relocation makes other space available so that somewhere in the chain new jobs are added.
3.	Multiplier Effects	Multiplier effects are not included in the analysis. This is one of many conservative assumptions we make in the analysis.
4.	Adjustment for Declining Industries	Long-term shifts in the regional economy can result in declines in employment in certain industries even as other industries add jobs. An adjustment is included to account for the fact that some new jobs will be filled by workers who are downsized from a declining industry and who already have housing locally.
5.	Unemployment / Excess Labor Force Capacity	Conditions of high unemployment / excess labor force capacity may occur temporarily as a result of economic cycles. However, temporary conditions do not undermine the underlying assumption that new work space buildings accommodate added jobs over the long term. Long-term shifts in employment are recognized under item 4 above.
6.	Labor Force Participation	Labor force participation rates are assumed to be stable for purposes of the analysis. This is a conservative assumption given labor force participation rates for men have been on a downward trajectory since 1970 while increases in participation rates by women have stabilized recently and even declined slightly.
7.	Employment Density	The analysis is based upon assumptions about employment density or the number of square feet of building area per employee (Table III-1).

	Key Assumption	*Description*
B. Worker Occupation and Compensation Level		
1.	Worker Occupations	Worker occupations are based on U.S. Bureau of Labor Statistics data. For uses such as office and manufacturing, it is necessary to identify a mix of industries representative of San Diego's economic base in order to arrive at occupational distribution. See Appendix B for more information.
2.	Compensation Levels	Compensation levels are based on 2012 data from the California Employment Development Department (EDD). The EDD data assumes hourly employees have full-time employment (another conservative assumption). See Appendix B for more information.
C. Households		
1.	Population and household growth is linked to employment growth	Workers would not come to the area if they could not expect to find a job. Existing workers would not stay in the region over the long term without jobs.
2.	Non-working Households are Excluded	Only population growth arising from new employment is included in the analysis. Non-working households such as retirees and students are not included.
3.	Existing Housing Needs	The analysis does not address existing housing needs. Only housing needs arising from employment growth are included.
4.	Multiple Earner Households	Given that most households have more than one worker, the analysis uses a distribution of workers by household size based on 2009-2011 Census data (American Community Survey). Workers in multiple earner households are assumed to have similar incomes. While there are many exceptions to this, demographic studies in recent years have shown this to be the trend.
5.	Household size distribution	Household size distribution is based on 2009-2011 Census data (American Community Survey).
6.	Variations in income by household size	No distinction is made between the incomes of workers in different size households. This assumption likely understates the number of households falling into the lower income tiers. Census data indicates average household income for five and six person households is actually less than three and four person households.

	Key Assumption	*Description*
7.	Commute Adjustment	The results of the nexus are adjusted downward to reflect existing commute patterns, including an estimate of workers commuting from Mexico. Only households likely to seek housing in the City are included based on the existing commute pattern. This existing relationship is influenced by the availability of affordable housing in the City.
D. Affordability Gaps		
1.	Rents and Sale Prices	Affordable rents and sale prices are based upon the top of each income range. For example, units for Very Low Income households (0% to 50% AMI), have rents based on 50% of AMI. This is another one of the conservative assumptions incorporated into the analysis.
2.	Rental Unit Prototype	Very Low and Low Income households are assumed to be housed in rental units. Forty percent of the affordable rental units are assumed to be provided as garden apartments, and 60% as stacked flats over podium parking. Low Income Housing Tax Credit financing (4%) is assumed for Very Low Income units.
3.	Ownership Prototype	Moderate Income households are assumed to be housed in for sale units. Forty percent of the affordable units are assumed to be provided as townhomes, and 60% as stacked flats over podium parking.

Discussion of Specific Factors in Relation to the Nexus Concept

1. Multiplier Effects

The multiplier effect refers to the concept that the income generated by a new job recycles through the economy and results in additional jobs. The total number of jobs generated is broken down into three categories – direct, indirect, and induced. In the case of the nexus analysis, the direct jobs are those located in the new workplace buildings that would be subject to the linkage fee. Multiplier effects encompass indirect and induced employment. Indirect jobs are generated by suppliers to the businesses located in the new workplace buildings. Finally, induced jobs are generated by local spending on goods and services by employees.

Multiplier effects vary by industry. Industries that draw heavily on a network of local suppliers tend to generate larger multiplier effects. Industries that are labor-intensive also tend to have larger multiplier effects as a result of the induced effects of employee spending.

Theoretically, a jobs/housing nexus analysis could consider multiplier effects although the potential for double-counting exists. The potential for double counting exists to the extent indirect and induced jobs

are added in other new buildings in the City of San Diego subject to the linkage fee. KMA chooses to omit the multiplier effects (the indirect and induced employment impacts), as it avoids potential double-counting and makes the analysis more conservative.

2. Population Growth Resulting from Non-Employment Factors

Not all population growth in San Diego is the result of new jobs in the region. Retirees, students, and others who are not part of the work force all generate demand for housing. However, non-working households are not included in the analysis since the purpose is to demonstrate the linkage between new buildings, new workers and new worker households, and demand for housing. Since only working households are part of this equation, non-working households are excluded.

SANDAG projections anticipate significant growth in the population over the age of 65 over the next 20 years; retired households are expected to represent a significant component of future household growth and overall housing demand in the region.

3. Likelihood of Different Job Categories to Attract New Population from Outside the Region

An underlying concept in the analysis is that there is a relationship between job growth and population growth. Workers from outside the region would not come without an expectation that they could find a job. People born locally and entering the work force, or for example, who came to attend college, would not stay without jobs. However, the analysis does not assume employers are recruiting from outside the region to fill specific jobs or job categories. The analysis also does not assume workers are relocating to fill specific openings.

4. Differences in Number of Workers and Household Size by Occupation Category

The analysis accounts for multiple earner households based on Census data. The Census provides data on the number of workers in households of different sizes. The Census does not provide data to show whether there are differences in this pattern by occupational category. Given this data constraint, the model does not differentiate by occupational category when incorporating information on the distribution of household sizes and number of workers per household.

Anecdotally, one can observe some workers at the lower end of the pay scale address the issue of housing affordability by means of shared living situations which result in more workers in a given size household. However, we can also find examples of workers at the lower end of the pay scale who have larger families with children. If these examples could be quantified, they would tend to push the results of the nexus in opposite directions (the first would drive the results down, while the second would drive them up). The relative importance of these two factors cannot be determined based on the data available.

5. Accounting for Demolition of Existing Buildings

For demolition of existing structures, some programs provide an offset to any impacts of the proposed construction; however, we understand that San Diego's ordinance does not provide such an exemption. Buildings are charged the fee once during their useful lives in order to mitigate the impacts. The affordable units that are assisted also have a limited useful life and eventually need to be rehabbed or replaced. Replacing older or obsolete employment space "renews" the impacts over the life of a new building and collecting the fee on the new building "renews" the mitigation of those impacts.

6. Consistency with SANDAG Projections

The nexus analysis methodology is consistent with the approach that SANDAG uses in their projections. The nexus assumes employment growth is a key driver of growth in the number of working households. Similarly, one of the key features of SANDAG's models is the integration of demographic projections with economic models and job growth forecasts in recognition of the linkage that exists.[5]

7. Upward Mobility of Workers

New employment spaces add jobs across a distribution of occupational categories. Over time, some workers will move up the career ladder, for example into managerial occupations. However, not all workers will "move up" and those that do leave a position that is usually filled by a new worker. Occupational and income composition are not affected in the aggregate by the upward mobility of particular workers.

8. Housing New Worker Households in Existing Housing Units

The analysis assumes that the existing housing stock in San Diego is needed to meet the housing needs of the existing population. New worker households, including those needing affordable housing, will need to be accommodated by adding to the existing housing stock.

[5] 2050 Regional Growth Forecast Process and Model Documentation, SANDAG, June 10, 2010.

APPENDIX B

Worker Occupations and Incomes

APPENDIX B TABLE 1

2012 NATIONAL OFFICE WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (4% or more)	2012 National Office Industry Occupation Distribution	
Management Occupations	1,971,207	6.8%
Business and Financial Operations Occupations	3,033,492	*10.5%*
Computer and Mathematical Occupations	2,284,908	*7.9%*
Architecture and Engineering Occupations	1,305,897	*4.5%*
Healthcare Practitioners and Technical Occupations	2,356,591	*8.2%*
Healthcare Support Occupations	1,241,460	*4.3%*
Building and Grounds Cleaning and Maintenance Occupations	1,873,044	*6.5%*
Sales and Related Occupations	1,901,881	*6.6%*
Office and Administrative Support Occupations	7,833,621	*27.1%*
All Other Office Related Occupations	5,066,839	*17.6%*
INDUSTRY TOTAL	28,868,940	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Office_v2;7/30/2013; dd

APPENDIX B TABLE 2

AVERAGE ANNUAL COMPENSATION, 2012
OFFICE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Office Workers
Management Occupations			
Chief Executives	$194,800	4.2%	0.3%
General and Operations Managers	$130,300	28.8%	2.0%
Marketing Managers	$132,300	4.8%	0.3%
Sales Managers	$117,300	5.1%	0.4%
Administrative Services Managers	$86,000	4.3%	0.3%
Computer and Information Systems Managers	$135,900	9.5%	0.6%
Financial Managers	$128,400	12.2%	0.8%
Architectural and Engineering Managers	$142,200	4.7%	0.3%
Property, Real Estate, and Community Association Managers	$64,000	8.6%	0.6%
Managers, All Other	$119,700	4.9%	0.3%
All Other Management Occupations (Avg. All Categories)	$119,100	13.0%	0.9%
Weighted Mean Annual Wage	***$123,700***	**100.0%**	**6.8%**
Business and Financial Operations Occupations			
Claims Adjusters, Examiners, and Investigators	$59,600	4.6%	0.5%
Human Resources Specialists	$65,700	5.6%	0.6%
Management Analysts	$81,700	10.7%	1.1%
Market Research Analysts and Marketing Specialists	$66,400	7.7%	0.8%
Business Operations Specialists, All Other	$71,300	9.9%	1.0%
Accountants and Auditors	$75,200	22.2%	2.3%
Financial Analysts	$92,500	5.9%	0.6%
Personal Financial Advisors	$79,800	5.4%	0.6%
Loan Officers	$67,700	6.0%	0.6%
All Other Business and Financial Operations Occupations (Avg. All Categories)	$71,600	21.8%	2.3%
Weighted Mean Annual Wage	***$73,600***	**100.0%**	**10.5%**
Computer and Mathematical Occupations			
Computer Systems Analysts	$87,900	13.9%	1.1%
Computer Programmers	$77,200	10.3%	0.8%
Software Developers, Applications	$100,800	18.9%	1.5%
Software Developers, Systems Software	$104,600	12.1%	1.0%
Network and Computer Systems Administrators	$78,100	8.6%	0.7%
Computer Network Architects	$91,700	4.4%	0.3%
Computer User Support Specialists	$51,000	12.7%	1.0%
Computer Network Support Specialists	$51,000	4.6%	0.4%
All Other Computer and Mathematical Occupations (Avg. All Categories)	$86,000	14.4%	1.1%
Weighted Mean Annual Wage	***$83,900***	**100.0%**	**7.9%**
Architecture and Engineering Occupations			
Architects, Except Landscape and Naval	$91,500	9.3%	0.4%
Civil Engineers	$87,400	17.9%	0.8%
Electrical Engineers	$100,600	5.8%	0.3%
Electronics Engineers, Except Computer	$103,500	4.9%	0.2%
Mechanical Engineers	$89,900	7.6%	0.3%
Architectural and Civil Drafters	$56,500	8.4%	0.4%
Civil Engineering Technicians	$61,900	4.1%	0.2%
All Other Architecture and Engineering Occupations (Avg. All Categories)	$84,700	42.0%	1.9%
Weighted Mean Annual Wage	***$84,700***	**100.0%**	**4.5%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Office_v2;7/30/2013; dd

APPENDIX B TABLE 2

AVERAGE ANNUAL COMPENSATION, 2012
OFFICE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Office Workers
Healthcare Practitioners and Technical Occupations			
Dentists, General	$164,100	4.6%	0.4%
Family and General Practitioners	$176,900	4.1%	0.3%
Physicians and Surgeons, All Other	$194,100	8.1%	0.7%
Physical Therapists	$89,700	4.2%	0.3%
Registered Nurses	$86,000	13.5%	1.1%
Dental Hygienists	$85,600	9.7%	0.8%
Licensed Practical and Licensed Vocational Nurses	$48,900	6.4%	0.5%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories)	$86,700	49.4%	4.0%
Weighted Mean Annual Wage	***$100,100***	**100.0%**	**8.2%**
Healthcare Support Occupations			
Nursing Assistants	$26,600	4.4%	0.2%
Dental Assistants	$37,700	28.2%	1.2%
Medical Assistants	$32,100	39.7%	1.7%
Veterinary Assistants and Laboratory Animal Caretakers	$28,100	5.2%	0.2%
All Other Healthcare Support Occupations (Avg. All Categories)	$30,900	22.5%	1.0%
Weighted Mean Annual Wage	***$33,000***	**100.0%**	**4.3%**
Building and Grounds Cleaning and Maintenance Occupations			
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$27,000	51.7%	3.4%
Maids and Housekeeping Cleaners	$21,400	8.4%	0.5%
Landscaping and Groundskeeping Workers	$26,800	27.1%	1.8%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Categories)	$27,100	12.8%	0.8%
Weighted Mean Annual Wage	***$26,500***	**100.0%**	**6.5%**
Sales and Related Occupations			
Counter and Rental Clerks	$30,700	7.1%	0.5%
Insurance Sales Agents	$86,200	11.9%	0.8%
Securities, Commodities, and Financial Services Sales Agents	$75,700	9.5%	0.6%
Sales Representatives, Services, All Other	$69,300	19.3%	1.3%
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	$87,500	4.2%	0.3%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$63,400	4.0%	0.3%
Real Estate Sales Agents	$44,600	10.0%	0.7%
Telemarketers	$25,600	8.4%	0.6%
All Other Sales and Related Occupations (Avg. All Categories)	$39,700	25.6%	1.7%
Weighted Mean Annual Wage	***$56,000***	**100.0%**	**6.6%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	7.0%	1.9%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	7.7%	2.1%
Tellers	$27,700	5.0%	1.4%
Customer Service Representatives	$38,100	13.3%	3.6%
Receptionists and Information Clerks	$29,300	7.9%	2.1%
Executive Secretaries and Executive Administrative Assistants	$49,300	4.1%	1.1%
Medical Secretaries	$35,100	5.1%	1.4%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	9.5%	2.6%
Office Clerks, General	$31,300	12.3%	3.3%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	28.0%	7.6%
Weighted Mean Annual Wage	***$37,600***	**100.0%**	**27.1%**
			82.4%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the California Employment Development Department 2012 wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Office_v2;7/30/2013; dd

APPENDIX B TABLE 3

2012 NATIONAL HOTEL WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (3% or more)	2012 National Hotel Industry Occupation Distribution	
Management Occupations	73,430	4.2%
Food Preparation and Serving Related Occupations	442,000	*25.4%*
Building and Grounds Cleaning and Maintenance Occupations	510,530	*29.3%*
Personal Care and Service Occupations	123,270	*7.1%*
Office and Administrative Support Occupations	323,780	*18.6%*
Installation, Maintenance, and Repair Occupations	81,930	*4.7%*
All Other Hotel Related Occupations	185,970	*10.7%*
INDUSTRY TOTAL	1,740,910	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Hotel_v2 7/30/2013; dd

APPENDIX B TABLE 4

AVERAGE ANNUAL COMPENSATION, 2012
HOTEL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Hotel Workers
Management Occupations			
General and Operations Managers	$130,300	20.1%	0.8%
Sales Managers	$117,300	9.5%	0.4%
Financial Managers	$128,400	4.7%	0.2%
Food Service Managers	$58,700	11.8%	0.5%
Lodging Managers	$56,200	36.2%	1.5%
All Other Management Occupations (Avg. All Categories)	$119,100	17.7%	0.7%
Weighted Mean Annual Wage	***$91,700***	**100.0%**	**4.2%**
Food Preparation and Serving Related Occupations			
First-Line Supervisors of Food Preparation and Serving Workers	$31,800	4.9%	1.2%
Cooks, Restaurant	$25,700	13.3%	3.4%
Bartenders	$21,600	8.5%	2.2%
Waiters and Waitresses	$20,100	29.8%	7.6%
Food Servers, Nonrestaurant	$23,200	7.4%	1.9%
Dining Room and Cafeteria Attendants and Bartender Helpers	$19,100	9.9%	2.5%
Dishwashers	$19,500	6.7%	1.7%
All Other Food Prep and Serving Related Occupations (Avg. All Categories)	$22,200	19.5%	4.9%
Weighted Mean Annual Wage	***$22,000***	**100.0%**	**25.4%**
Building and Grounds Cleaning and Maintenance Occupations			
First-Line Supervisors of Housekeeping and Janitorial Workers	$40,500	5.9%	1.7%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$27,000	8.8%	2.6%
Maids and Housekeeping Cleaners	$21,400	82.4%	24.2%
All Other Bldg & Grounds Cleaning & Maintenance Occup. (Avg. All Categories)	$27,100	3.0%	0.9%
Weighted Mean Annual Wage	***$23,200***	**100.0%**	**29.3%**
Personal Care and Service Occupations			
Gaming Supervisors	$53,100	9.1%	0.6%
Gaming Dealers	$20,100	29.7%	2.1%
Amusement and Recreation Attendants	$20,800	8.9%	0.6%
Baggage Porters and Bellhops	$22,600	18.9%	1.3%
Concierges	$28,100	9.2%	0.6%
Recreation Workers	$26,300	4.6%	0.3%
All Other Personal Care and Service Occupations (Avg. All Categories)	$26,000	19.6%	1.4%
Weighted Mean Annual Wage	***$25,800***	**100.0%**	**7.1%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	7.6%	1.4%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	6.0%	1.1%
Hotel, Motel, and Resort Desk Clerks	$24,300	66.6%	12.4%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	19.8%	3.7%
Weighted Mean Annual Wage	***$30,300***	**100.0%**	**18.6%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Hotel_v2;7/30/2013; dd

APPENDIX B TABLE 4

AVERAGE ANNUAL COMPENSATION, 2012
HOTEL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Hotel Workers
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$72,000	7.9%	0.4%
Maintenance and Repair Workers, General	$37,100	86.5%	4.1%
All Other Install., Maintenance, and Repair Occupations (Avg. All Categories)	$46,800	5.6%	0.3%
Weighted Mean Annual Wage	***$40,400***	**100.0%**	**4.7%**
			89.3%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2012 California Employment Development Department wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Hotel_v2;7/30/2013; dd

APPENDIX B TABLE 5

2012 NATIONAL RETAIL WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (3% or more)		2012 National Retail Industry Occupation Distribution	
Food Preparation and Serving Related Occupations		9,469,680	33.2%
Sales and Related Occupations		9,039,490	*31.7%*
Office and Administrative Support Occupations		2,986,880	*10.5%*
Installation, Maintenance, and Repair Occupations		1,355,950	*4.8%*
Transportation and Material Moving Occupations		1,920,590	*6.7%*
All Other Retail Related Occupations		3,715,580	*13.0%*
	INDUSTRY TOTAL	28,488,170	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Retail_v2;7/30/2013; dd

APPENDIX B TABLE 6

AVERAGE ANNUAL COMPENSATION, 2012
RETAIL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Retail Workers
Food Preparation and Serving Related Occupations			
First-Line Supervisors of Food Preparation and Serving Workers	$31,800	7.1%	2.4%
Cooks, Fast Food	$20,300	5.2%	1.7%
Cooks, Restaurant	$25,700	9.5%	3.1%
Food Preparation Workers	$20,800	6.1%	2.0%
Bartenders	$21,600	4.3%	1.4%
Combined Food Preparation and Serving Workers, Including Fast Food	$20,900	28.3%	9.4%
Waiters and Waitresses	$20,100	21.6%	7.2%
Dishwashers	$19,500	4.4%	1.5%
All Other Food Preparation and Serving Related Occupations (Avg. All Categories)	$22,200	13.6%	4.5%
Weighted Mean Annual Wage	***$22,100***	**100.0%**	**33.2%**
Sales and Related Occupations			
First-Line Supervisors of Retail Sales Workers	$44,800	12.6%	4.0%
Cashiers	$22,700	34.0%	10.8%
Retail Salespersons	$27,000	45.0%	14.3%
All Other Sales and Related Occupations (Avg. All Categories)	$39,700	8.3%	2.6%
Weighted Mean Annual Wage	***$28,800***	**100.0%**	**31.7%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	6.3%	0.7%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	7.7%	0.8%
Customer Service Representatives	$38,100	9.9%	1.0%
Shipping, Receiving, and Traffic Clerks	$31,300	6.0%	0.6%
Stock Clerks and Order Fillers	$24,900	42.4%	4.5%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	4.5%	0.5%
Office Clerks, General	$31,300	9.9%	1.0%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	13.4%	1.4%
Weighted Mean Annual Wage	***$32,700***	**100.0%**	**10.5%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Retail_v2;7/30/2013; dd

APPENDIX B TABLE 6

AVERAGE ANNUAL COMPENSATION, 2012
RETAIL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Retail Workers
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$72,000	8.3%	0.4%
Automotive Body and Related Repairers	$43,500	9.3%	0.4%
Automotive Service Technicians and Mechanics	$44,100	38.1%	1.8%
Tire Repairers and Changers	$27,100	6.6%	0.3%
Maintenance and Repair Workers, General	$37,100	4.8%	0.2%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	$46,800	33.0%	1.6%
Weighted Mean Annual Wage	***$45,800***	**100.0%**	**4.8%**
Transportation and Material Moving Occupations			
Driver/Sales Workers	$30,800	10.1%	0.7%
Heavy and Tractor-Trailer Truck Drivers	$41,600	4.2%	0.3%
Light Truck or Delivery Services Drivers	$36,200	20.1%	1.4%
Parking Lot Attendants	$22,500	4.8%	0.3%
Automotive and Watercraft Service Attendants	$23,600	5.2%	0.4%
Cleaners of Vehicles and Equipment	$22,600	11.4%	0.8%
Laborers and Freight, Stock, and Material Movers, Hand	$27,000	24.2%	1.6%
Packers and Packagers, Hand	$21,200	8.7%	0.6%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	$32,500	11.3%	0.8%
Weighted Mean Annual Wage	***$29,100***	**100.0%**	**6.7%**
			87.0%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2012 California Employment Development Department wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Retail_v2;7/30/2013; dd

APPENDIX B TABLE 7

2012 NATIONAL MANUFACTURING WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (4% or more)		2012 National Manufacturing Industry Occupation Distribution	
Management Occupations		373,190	8.7%
Business and Financial Operations Occupations		297,431	*6.9%*
Computer and Mathematical Occupations		286,109	*6.7%*
Architecture and Engineering Occupations		527,548	*12.3%*
Life, Physical, and Social Science Occupations		392,351	*9.1%*
Office and Administrative Support Occupations		426,666	*9.9%*
Production Occupations		1,368,616	*31.9%*
All Other Manufacturing Related Occupations		620,068	*14.4%*
	INDUSTRY TOTAL	4,291,980	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Manufacturing_v2;7/30/2013; dd

APPENDIX B TABLE 8

AVERAGE ANNUAL COMPENSATION, 2012
MANUFACTURING WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Manufacturing Workers
Management Occupations			
General and Operations Managers	$130,300	22.9%	2.0%
Marketing Managers	$132,300	4.4%	0.4%
Sales Managers	$117,300	4.7%	0.4%
Computer and Information Systems Managers	$135,900	7.5%	0.7%
Financial Managers	$128,400	5.9%	0.5%
Industrial Production Managers	$101,600	11.2%	1.0%
Architectural and Engineering Managers	$142,200	13.7%	1.2%
Natural Sciences Managers	$172,000	8.4%	0.7%
Managers, All Other	$119,700	6.3%	0.5%
All Other Management Occupations (Avg. All Categories)	$119,100	15.0%	1.3%
Weighted Mean Annual Wage	***$129,600***	**100.0%**	**8.7%**
Business and Financial Operations Occupations			
Purchasing Agents, Except Wholesale, Retail, and Farm Products	$68,700	14.6%	1.0%
Compliance Officers	$75,300	6.0%	0.4%
Human Resources Specialists	$65,700	5.3%	0.4%
Logisticians	$81,400	6.6%	0.5%
Management Analysts	$81,700	8.5%	0.6%
Training and Development Specialists	$64,400	4.5%	0.3%
Market Research Analysts and Marketing Specialists	$66,400	8.7%	0.6%
Business Operations Specialists, All Other	$71,300	16.5%	1.1%
Accountants and Auditors	$75,200	14.4%	1.0%
Financial Analysts	$92,500	5.8%	0.4%
All Other Business and Financial Operations Occupations (Avg. All Categories)	$71,600	9.1%	0.6%
Weighted Mean Annual Wage	***$73,500***	**100.0%**	**6.9%**
Computer and Mathematical Occupations			
Computer Systems Analysts	$87,900	9.6%	0.6%
Computer Programmers	$77,200	7.6%	0.5%
Software Developers, Applications	$100,800	19.7%	1.3%
Software Developers, Systems Software	$104,600	27.6%	1.8%
Network and Computer Systems Administrators	$78,100	7.0%	0.5%
Computer User Support Specialists	$51,000	7.6%	0.5%
All Other Computer and Mathematical Occupations (Avg. All Categories)	$86,000	20.9%	1.4%
Weighted Mean Annual Wage	***$90,400***	**100.0%**	**6.7%**
Architecture and Engineering Occupations			
Aerospace Engineers	$96,200	8.2%	1.0%
Computer Hardware Engineers	$103,500	7.8%	1.0%
Electrical Engineers	$100,600	9.0%	1.1%
Electronics Engineers, Except Computer	$103,500	7.3%	0.9%
Industrial Engineers	$83,900	14.3%	1.8%
Mechanical Engineers	$89,900	12.5%	1.5%
Engineers, All Other	$100,600	5.3%	0.7%
Electrical and Electronics Engineering Technicians	$62,700	7.9%	1.0%
Industrial Engineering Technicians	$51,700	5.0%	0.6%
All Other Architecture and Engineering Occupations (Avg. All Categories)	$84,700	22.6%	2.8%
Weighted Mean Annual Wage	***$87,900***	**100.0%**	**12.3%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Manufacturing_v2;7/30/2013; dd

APPENDIX B TABLE 8

AVERAGE ANNUAL COMPENSATION, 2012
MANUFACTURING WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Manufacturing Workers
Life, Physical, and Social Science Occupations			
Biochemists and Biophysicists	$97,800	8.2%	0.7%
Microbiologists	$64,000	4.7%	0.4%
Medical Scientists, Except Epidemiologists	$84,000	19.4%	1.8%
Chemists	$88,700	16.7%	1.5%
Biological Technicians	$47,500	11.8%	1.1%
Chemical Technicians	$57,500	6.3%	0.6%
Social Science Research Assistants	$40,400	4.4%	0.4%
Life, Physical, and Social Science Technicians, All Other	$54,000	4.2%	0.4%
All Other Life, Physical, and Social Science Occupations (Avg. All Categories)	$76,000	24.4%	2.2%
Weighted Mean Annual Wage	***$73,900***	**100.0%**	**9.1%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	5.5%	0.5%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	8.4%	0.8%
Customer Service Representatives	$38,100	9.0%	0.9%
Production, Planning, and Expediting Clerks	$51,300	9.5%	0.9%
Shipping, Receiving, and Traffic Clerks	$31,300	11.5%	1.1%
Stock Clerks and Order Fillers	$24,900	6.1%	0.6%
Executive Secretaries and Executive Administrative Assistants	$49,300	9.5%	0.9%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	11.7%	1.2%
Office Clerks, General	$31,300	13.5%	1.3%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	15.1%	1.5%
Weighted Mean Annual Wage	***$39,000***	**100.0%**	**9.9%**
Production Occupations			
First-Line Supervisors of Production and Operating Workers	$60,700	7.6%	2.4%
Electrical and Electronic Equipment Assemblers	$30,300	7.8%	2.5%
Team Assemblers	$26,800	10.9%	3.5%
Machinists	$43,300	9.7%	3.1%
Welders, Cutters, Solderers, and Brazers	$41,500	4.2%	1.3%
Inspectors, Testers, Sorters, Samplers, and Weighers	$39,200	8.1%	2.6%
Packaging and Filling Machine Operators and Tenders	$26,800	5.6%	1.8%
All Other Production Occupations (Avg. All Categories)	$35,100	46.0%	14.7%
Weighted Mean Annual Wage	***$36,700***	**100.0%**	**31.9%**
			85.6%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the California Employment Development Department 2012 wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Manufacturing_v2;7/30/2013; dd

APPENDIX B TABLE 9

2012 NATIONAL WAREHOUSING & STORAGE WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (3% or more)	2012 National Warehousing & Storage Industry Occupation Distribution	
Management Occupations	335,130	6.2%
Business and Financial Operations Occupations	230,090	*4.2%*
Sales and Related Occupations	1,149,520	*21.1%*
Office and Administrative Support Occupations	1,258,200	*23.1%*
Installation, Maintenance, and Repair Occupations	355,730	*6.5%*
Production Occupations	287,870	*5.3%*
Transportation and Material Moving Occupations	1,441,660	*26.5%*
All Other Warehousing & Storage Related Occupations	384,280	*7.1%*
INDUSTRY TOTAL	5,442,480	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Warehousing & Storage_v2; 7/30/2013; dd

APPENDIX B TABLE 10

AVERAGE ANNUAL COMPENSATION, 2012
WAREHOUSING & STORAGE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Warehousing & Storage Workers
Management Occupations			
Chief Executives	$194,800	4.8%	0.3%
General and Operations Managers	$130,300	45.0%	2.8%
Sales Managers	$117,300	16.4%	1.0%
Financial Managers	$128,400	6.0%	0.4%
Transportation, Storage, and Distribution Managers	$93,400	7.0%	0.4%
All Other Management Occupations (Avg. All Categories)	$119,100	20.9%	1.3%
Weighted Mean Annual Wage	***$126,200***	**100.0%**	**6.2%**
Business and Financial Operations Occupations			
Wholesale and Retail Buyers, Except Farm Products	$64,000	17.3%	0.7%
Purchasing Agents, Except Wholesale, Retail, and Farm Products	$68,700	7.1%	0.3%
Human Resources Specialists	$65,700	5.6%	0.2%
Logisticians	$81,400	4.2%	0.2%
Management Analysts	$81,700	4.9%	0.2%
Market Research Analysts and Marketing Specialists	$66,400	13.5%	0.6%
Business Operations Specialists, All Other	$71,300	11.9%	0.5%
Accountants and Auditors	$75,200	20.8%	0.9%
All Other Business and Financial Operations Occupations (Avg. All Categories)	$71,600	14.6%	0.6%
Weighted Mean Annual Wage	***$70,700***	**100.0%**	**4.2%**
Sales and Related Occupations			
First-Line Supervisors of Non-Retail Sales Workers	$72,400	6.5%	1.4%
Parts Salespersons	$34,000	4.5%	0.9%
Retail Salespersons	$27,000	4.4%	0.9%
Sales Reps, Wholesale and Manufacturing, Technical and Scientific Products	$87,500	13.3%	2.8%
Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	$63,400	61.2%	12.9%
All Other Sales and Related Occupations (Avg. All Categories)	$39,700	10.1%	2.1%
Weighted Mean Annual Wage	***$61,900***	**100.0%**	**21.1%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	5.6%	1.3%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	9.3%	2.2%
Customer Service Representatives	$38,100	13.2%	3.0%
Order Clerks	$31,500	4.8%	1.1%
Shipping, Receiving, and Traffic Clerks	$31,300	13.9%	3.2%
Stock Clerks and Order Fillers	$24,900	17.7%	4.1%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	7.3%	1.7%
Office Clerks, General	$31,300	12.1%	2.8%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	16.1%	3.7%
Weighted Mean Annual Wage	***$34,800***	**100.0%**	**23.1%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Warehousing & Storage_v2; 7/30/2013; dd

APPENDIX B TABLE 10

AVERAGE ANNUAL COMPENSATION, 2012
WAREHOUSING & STORAGE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Warehousing & Storage Workers
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$72,000	8.1%	0.5%
Computer, Automated Teller, and Office Machine Repairers	$39,500	8.6%	0.6%
Automotive Service Technicians and Mechanics	$44,100	4.1%	0.3%
Bus and Truck Mechanics and Diesel Engine Specialists	$52,700	10.2%	0.7%
Farm Equipment Mechanics and Service Technicians	$38,800	7.2%	0.5%
Mobile Heavy Equipment Mechanics, Except Engines	$53,900	8.6%	0.6%
Industrial Machinery Mechanics	$55,200	8.8%	0.6%
Maintenance and Repair Workers, General	$37,100	13.9%	0.9%
Installation, Maintenance, and Repair Workers, All Other	$35,900	5.0%	0.3%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	$46,800	25.4%	1.7%
Weighted Mean Annual Wage	***$47,600***	**100.0%**	**6.5%**
Production Occupations			
First-Line Supervisors of Production and Operating Workers	$60,700	8.9%	0.5%
Team Assemblers	$26,800	19.0%	1.0%
Assemblers and Fabricators, All Other	$30,900	4.2%	0.2%
Machinists	$43,300	6.0%	0.3%
Welders, Cutters, Solderers, and Brazers	$41,500	5.7%	0.3%
Inspectors, Testers, Sorters, Samplers, and Weighers	$39,200	10.5%	0.6%
Packaging and Filling Machine Operators and Tenders	$26,800	10.2%	0.5%
All Other Production Occupations (Avg. All Categories)	$35,100	35.5%	1.9%
Weighted Mean Annual Wage	***$36,100***	**100.0%**	**5.3%**
Transportation and Material Moving Occupations			
Driver/Sales Workers	$30,800	8.5%	2.2%
Heavy and Tractor-Trailer Truck Drivers	$41,600	15.5%	4.1%
Light Truck or Delivery Services Drivers	$36,200	10.3%	2.7%
Industrial Truck and Tractor Operators	$35,900	10.5%	2.8%
Laborers and Freight, Stock, and Material Movers, Hand	$27,000	36.0%	9.5%
Packers and Packagers, Hand	$21,200	8.5%	2.3%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	$32,500	10.8%	2.9%
Weighted Mean Annual Wage	***$31,600***	**100.0%**	**26.5%**
			92.9%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2009 Occupational Employment Survey data for San Diego County updated by the California Employment Development Department to 2010 wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Warehousing & Storage_v2; 7/30/2013; dd

APPENDIX B TABLE 11

WORKERS COMMUTING FROM MEXICO TO SAN DIEGO
JOBS HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Year	2012
Total North-Bound Border Crossings: San Ysidro and Otay Mesa[1]	41,330,000
Percent of crossings that are Commute Trips to Work[2]	25.7%
Estimate of Border Crossings that are Commute Trips	10,622,000
Number of Annual Work Days[3]	245
Estimated Number of Workers Crossing the Border	43,400
San Diego Share of Total Employment in County[4]	56%
Estimate of Number of Workers Crossing the Border for Work in City of San Diego	24,200

[1] U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, based on the U.S. Department of Homeland Security, Customs and Border Protection. Includes passengers and pedestrians.
[2] SANDAG 2011. Cross-Border travel behavior survey.
[3] Assumes an average of 5 days per week and 49 weeks per year.
[4] 2009-2011 Amercian Community Survey 3-Year Estimates

APPENDIX C
Affordability Gap Analysis

RENTAL PROTOTYPES

Affordability Gap Analysis
Jobs-Housing Nexus Study

APPENDIX C TABLE 1

GARDEN APARTMENTS

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Garden Apartments		
	Construction Type		Type V		
	Tenure		Rental		
II.	**Site Area**		174,240	SF	
			4.0	Acres	
III.	**Number of Stories**		2 - 3	Stories	
IV.	**Unit Mix**				
		# of Units	Unit Size		
	Two Bedroom	100 Units	950	SF	
V.	**Density**		25.0	Units/Acre	
VI.	**Gross Building Area**				
	Residential Net Building Area		95,000	SF	95%
	Building Efficiency		5,000	SF	5%
	Total Gross Building Area (GBA)		100,000	SF	100%
VII.	**Floor Area Ratio (FAR)**		0.57		
VIII.	**Parking**				
	Type		Surface		
	Parking Spaces		Parking Ratio (1)		
	Residents	130 Spaces	1.30	Spaces/Unit	
	Visitor	15 Spaces	0.15	Spaces/Unit	
	Staff	5 Spaces	0.05	Spaces/Unit	
	Total	150 Spaces			

(1) Reflects parking requirements for Reduced Parking Demand Housing. Assumes development is designated as a High parking demand development.

APPENDIX C TABLE 2

GARDEN APARTMENTS

ESTIMATED DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Low Income (80% AMI)				Very Low Income (50% AMI) (4% Tax Credits)			
		Totals	Per Unit		Comments	Totals	Per Unit		Comments
I.	**Acquisition Costs**	$4,356,000	$43,560	$25	Per SF Site	$4,356,000	$43,560	$25	Per SF Site
II.	**Direct Costs** (1)								
	Off-Site Improvements	$523,000	$5,230	$3	Per SF Site	$523,000	$5,230	$3	Per SF Site
	On-Sites/Landscaping	$1,742,000	$17,420	$10	Per SF Site	$1,742,000	$17,420	$10	Per SF Site
	Shell Construction	$10,000,000	$100,000	$100	Per SF GBA	$10,000,000	$100,000	$100	Per SF GBA
	Parking	$0	$0		Included above	$0	$0		Included above
	Amenities/FF&E	$250,000	$2,500		Allowance	$250,000	$2,500		Allowance
	Contingency	$626,000	$6,260	5.0%	of Directs	$626,000	$6,260	5.0%	of Directs
	Total Direct Costs	$13,141,000	$131,410	$131	Per SF GBA	$13,141,000	$131,410	$131	Per SF GBA
III.	**Indirect Costs**								
	Architecture & Engineering	$788,000	$7,880	6.0%	of Directs	$788,000	$7,880	6.0%	of Directs
	Permits & Fees (2)	$2,000,000	$20,000	$20	Per SF GBA	$2,000,000	$20,000	$20	Per SF GBA
	Legal & Accounting	$263,000	$2,630	2.0%	of Directs	$263,000	$2,630	2.0%	of Directs
	Taxes & Insurance	$263,000	$2,630	2.0%	of Directs	$263,000	$2,630	2.0%	of Directs
	Developer Fee	$526,000	$5,260	4.0%	of Directs	$2,500,000	$25,000	19.0%	of Directs
	Marketing/Lease-Up	$150,000	$1,500		Allowance	$150,000	$1,500		Allowance
	Contingency	$200,000	$2,000	5.0%	of Indirects	$298,000	$2,980	5.0%	of Indirects
	Total Indirect Costs	$4,190,000	$41,900	31.9%	of Directs	$6,262,000	$62,620	47.7%	of Directs
IV.	**Financing Costs**								
	Loan Fees	$227,000	$2,270	1.7%	of Directs	$592,000	$5,920	4.5%	of Directs
	Interest During Construction	$682,000	$6,820	5.2%	of Directs	$493,000	$4,930	3.8%	of Directs
	Interest During Lease-Up	$455,000	$4,550	3.5%	of Directs	$329,000	$3,290	2.5%	of Directs
	TCAC/Syndication Fees	$0	$0	0.0%	of Directs	$150,000	$1,500	1.1%	of Directs
	Operating Lease-Up/Reserves	$244,000	$2,440	1.9%	of Directs	$286,000	$2,860	2.2%	of Directs
	Total Financing Costs	$1,608,000	$16,080	12.2%	of Directs	$1,850,000	$18,500	14.1%	of Directs
V.	**Total Development Costs**	**$23,295,000**	**$232,950**	**$233**	**Per SF GBA**	**$25,609,000**	**$256,090**	**$256**	**Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Section IV and Appendix C_v2; 7/30/2013;rks

APPENDIX C TABLE 3

GARDEN APARTMENTS

AFFORDABLE RENTS AND UNIT VALUES AND NET OPERATING INCOME
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% of AMI)			Very Low Income (50% of AMI)		
I. Affordable Rent - Per Unit						
Family Size			3.0			3.0
Number of Bedrooms			2			2
Household Income			$59,500			$37,150
Income Allocation to Housing			30%			30%
Monthly Housing Cost			$1,488			$929
(Less) Utility Allowance (1)			($51)			($51)
Maximum Monthly Rent			**$1,437**			**$878**
		Total	**Per Unit**		**Total**	**Per Unit**
II. Net Operating Income (NOI)						
Units		100	1		100	1
Gross Scheduled Income (GSI)						
Monthly		$143,650	$1,437		$87,775	$878
Annual		$1,724,000	$17,240		$1,053,000	$10,530
Other Income	$15	$18,000	$180	$10	$12,000	$120
(Less) Vacancy	5.0%	($86,000)	($860)	5.0%	($53,000)	($530)
Effective Gross Income (EGI)		$1,656,000	$16,560		$1,012,000	$10,120
(Less) Operating Expenses (2)		($495,000)	($4,950)		($495,000)	($4,950)
(Less) Property Taxes		($200,000)	($2,000) (3)		$0	$0 (4)
Net Operating Income (NOI)		**$961,000**	**$9,610**		**$517,000**	**$5,170**

(1) Assumes San Diego Housing Commission (SDHC) 2013 utility allowances of $51/month.
(2) Includes replacement reserves, monitoring fee, assessments, etc.
(3) Based on capitalized income approach: assumes a 1.25% tax rate and a 6.0% cap rate.
(4) Assumes development is tax-exempt based on partnership with non-profit developer.

APPENDIX C TABLE 4

GARDEN APARTMENTS

AFFORDABILITY GAP FOR RENTAL UNITS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% AMI)		Very Low Income (50% AMI)	
	Total	**Per Unit**	**Total**	**Per Unit**
I. Net Operating Income (NOI)	$961,000	$9,610	$517,000	$5,170
II. Target Return on Investment	7.5%	7.5%	N/A	N/A
III. Sources of Funds				
Supportable Debt	N/A	N/A	$6,978,000	$70,000
Market Value of Tax Credits	N/A	N/A	$7,626,000	$76,000
Deferred Developer Fee	N/A	N/A	$250,000	$3,000
IV. Warranted Investment	$12,813,000	$128,000	$14,854,000	$149,000
V. (Less) Total Development Costs	($23,295,000)	($233,000)	($25,609,000)	($256,000)
VI. Affordability Gap	**($10,482,000)**	**($105,000)**	**($10,755,000)**	**($108,000)**

Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Section IV and Appendix C_v2; 7/30/2013;rks

APPENDIX C TABLE 5

GARDEN APARTMENTS

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Low Income (80% AMI)		Very Low Income (50% AMI)
I.	**Loan Fees**			
	Total Development Costs (1)	$18,939,000		
	Loan to Cost Ratio (LTC)	80.0%		
	Construction Loan Amount	$15,151,000		
	Eligible Basis			$19,552,000
	Add: Land			$4,356,000
	Aggregate Basis			$23,908,000
	Minimum Required Tax-Exempt Bond		55%	$13,149,000
	Construction Loan Fees:			
	Loan Amount	$15,151,000		$13,149,000
	Points / Issuance Costs	1.5		4.5%
	Total Loan Fees	227,000		$592,000
II.	**Interest During Construction**			
	Interest Rate	6.0%		5.0%
	Term (Months)	15		15
	Average Balance Out	60.0%		60.0%
	Interest During Construction	$682,000		$493,000
III.	**Interest During Lease-Up**			
	Interest Rate	6.0%		5.0%
	Term (Months)	6		6
	Average Balance Out	100.0%		100.0%
	Interest During Lease-Up	$455,000		$329,000
IV.	**TCAC Fees**			
	Application Fee			$2,000
	Compliance Monitoring Fee		$410 /Unit	$41,000
	One Year of Tax Credit Value @		4.0%	$32,000
	Total TCAC Fees			$75,000
	Syndication Fees			$75,000
	Total TCAC/Syndication Fees			$150,000
V.	**Operating Lease-Up/Reserves**			
	Operating Expenses	3 months	$174,000	$124,000
	Debt Service	3 months		$112,000
	10% of Op Expenses	10.0%	$70,000	$50,000
	Total Operating Reserves		$244,000	$286,000

(1) Excluding acquisition costs.

Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Section IV and Appendix C_v2;7/30/2013;rks

APPENDIX C TABLE 6

GARDEN APARTMENTS

AFFORDABILITY GAP FOR RENTAL UNITS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

					Very Low - 50% AMI (4% Tax Credits)
(1)	Supportable Debt				
	NOI				$517,000
	Interest Rate				5.00%
	Term				30
	Debt Coverage				1.15
	Annual Debt Service				$449,565
	Supportable Debt				$6,978,000
(2)	Low Income Housing Tax Credits				
	Threshold Basis Limits		Effective: January 2013		
	Two Bedroom	100 Units @	$268,000 /Unit		$26,800,000
	Add: Basis Adjustment			14.0% *	$3,752,000
	Add: Local Development Impact Fees			20.0%	$400,000
	Add: Affordability <50%	100 Units		1.0%	$26,800,000
	Total Threshold Basis Limit				$57,752,000
	* Assumes 10% for projects with elevator service and 4% for projects with energy efficient features.				
	Estimate of Eligible Basis				
	Total Development Costs				$25,609,000
	(Less) Ineligible Costs				($6,057,000)
	Eligible Basis				$19,552,000
	Maximum Eligible Basis				$19,552,000
	Tax Credit Qualified Units			100.0%	$19,552,000
	Impacted Bonus Factor			130.0%	$25,417,600
	Tax Credit Rate			3.19%	$810,821
	Total Tax Credits			10	$8,108,214
	Limited Partner Share			99.0%	$8,027,132
	Present Market Value			95.0%	$7,626,000
(3)	Estimate of Deferred Developer Overhead Fee				
	Eligible Basis				$19,552,000
	(Less) Developer Fee				($2,500,000)
	Unadjusted Eligible Basis				$17,052,000
	Total Developer Overhead Fee			14.7%	$2,500,000
	Developer Overhead Fee				$2,500,000
	Total Deferred Developer Overhead Fee			10.0%	$250,000

APPENDIX C TABLE 7

STACKED FLATS OVER PODIUM PARKING

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Stacked Flats		
	Construction Type		Type V		
	Tenure		Rental		
II.	**Site Area**		87,120	SF	
			2.0	Acres	
III.	**Number of Stories**		4	Stories	
IV.	**Unit Mix**				
		# of Units	Unit Size		
	Two Bedroom	100 Units	800	SF	
V.	**Density**		50.0	Units/Acre	
VI.	**Gross Building Area**				
	Residential Net Building Area		80,000	SF	85%
	Building Efficiency		14,100	SF	15%
	Total Gross Building Area (GBA)		94,100	SF	100%
VII.	**Floor Area Ratio (FAR)**		1.08		
VIII.	**Parking**				
	Type		Podium/Subterranean		
	Parking Spaces		Parking Ratio (1)		
	Residents	110 Spaces	1.10	Spaces/Unit	
	Visitor	15 Spaces	0.15	Spaces/Unit	
	Staff	5 Spaces	0.05	Spaces/Unit	
	Total	130 Spaces			

(1) Reflects parking requirements for Reduced Parking Demand Housing. Assumes development is designated as a Medium parking demand development.

APPENDIX C TABLE 8

ESTIMATED DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

STACKED FLATS OVER
PODIUM PARKING

	Low Income (80% AMI)			Very Low Income (50% AMI) (4% Tax Credits)		
	Totals	**Per Unit**	**Comments**	**Totals**	**Per Unit**	**Comments**
I. Acquisition Costs	$4,356,000	$43,560	$50 Per SF Site	$4,356,000	$43,560	$50 Per SF Site
II. Direct Costs (1)						
Off-Site Improvements	$436,000	$4,360	$5 Per SF Site	$436,000	$4,360	$5 Per SF Site
On-Sites/Landscaping	$1,307,000	$13,070	$15 Per SF Site	$1,307,000	$13,070	$15 Per SF Site
Shell Construction	$11,763,000	$117,630	$125 Per SF GBA	$11,763,000	$117,630	$125 Per SF GBA
Parking	$3,250,000	$32,500	$25,000 Per Space	$3,250,000	$32,500	$25,000 Per Space
Amenities/FF&E	$250,000	$2,500	Allowance	$250,000	$2,500	Allowance
Contingency	$850,000	$8,500	5.0% of Directs	$850,000	$8,500	5.0% of Directs
Total Direct Costs	$17,856,000	$178,560	$190 Per SF GBA	$17,856,000	$178,560	$190 Per SF GBA
III. Indirect Costs						
Architecture & Engineering	$1,071,000	$10,710	6.0% of Directs	$1,071,000	$10,710	6.0% of Directs
Permits & Fees (2)	$1,882,000	$18,820	$20 Per SF GBA	$1,882,000	$18,820	$20 Per SF GBA
Legal & Accounting	$357,000	$3,570	2.0% of Directs	$357,000	$3,570	2.0% of Directs
Taxes & Insurance	$357,000	$3,570	2.0% of Directs	$357,000	$3,570	2.0% of Directs
Developer Fee	$714,000	$7,140	4.0% of Directs	$2,500,000	$25,000	14.0% of Directs
Marketing/Lease-Up	$150,000	$1,500	Allowance	$150,000	$1,500	Allowance
Contingency	$227,000	$2,270	5.0% of Indirects	$316,000	$3,160	5.0% of Indirects
Total Indirect Costs	$4,758,000	$47,580	26.6% of Directs	$6,633,000	$66,330	37.1% of Directs
IV. Financing Costs						
Loan Fees	$298,000	$2,980	1.7% of Directs	$592,000	$5,920	3.3% of Directs
Interest During Construction	$1,072,000	$10,720	6.0% of Directs	$592,000	$5,920	3.3% of Directs
Interest During Lease-Up	$596,000	$5,960	3.3% of Directs	$329,000	$3,290	1.8% of Directs
TCAC/Syndication Fees	$0	$0	0.0% of Directs	$159,000	$1,590	0.9% of Directs
Operating Lease-Up/Reserves	$244,000	$2,440	1.4% of Directs	$286,000	$2,860	1.6% of Directs
Total Financing Costs	$2,210,000	$22,100	12.4% of Directs	$1,958,000	$19,580	11.0% of Directs
V. Total Development Costs	**$29,180,000**	**$291,800**	**$310 Per SF GBA**	**$30,803,000**	**$308,030**	**$327 Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

APPENDIX C TABLE 9

STACKED FLATS OVER
PODIUM PARKING

AFFORDABLE RENTS AND UNIT VALUES AND NET OPERATING INCOME
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% of AMI)			Very Low Income (50% of AMI)		
I. Affordable Rent - Per Unit						
Family Size			3.0			3.0
Number of Bedrooms			2			2
Household Income			$59,500			$37,150
Income Allocation to Housing			30%			30%
Monthly Housing Cost			$1,488			$929
(Less) Utility Allowance (1)			($51)			($51)
Maximum Monthly Rent			**$1,437**			**$878**
		Total	**Per Unit**		**Total**	**Per Unit**
II. Net Operating Income (NOI)						
Units		100	1		100	1
Gross Scheduled Income (GSI)						
Monthly		$143,650	$1,437		$87,775	$878
Annual		$1,724,000	$17,240		$1,053,000	$10,530
Other Income	$15	$18,000	$180	$10	$12,000	$120
(Less) Vacancy	5.0%	($86,000)	($860)	5.0%	($53,000)	($530)
Effective Gross Income (EGI)		$1,656,000	$16,560		$1,012,000	$10,120
(Less) Operating Expenses (2)		($495,000)	($4,950)		($495,000)	($4,950)
(Less) Property Taxes		($200,000)	($2,000) (3)		$0	$0 (4)
Net Operating Income (NOI)		**$961,000**	**$9,610**		**$517,000**	**$5,170**

(1) Assumes San Diego Housing Commission (SDHC) 2013 utility allowances at $51/month.
(2) Includes replacement reserves, monitoring fee, assessments, etc.
(3) Based on capitalized income approach: assumes a 1.25% tax rate and a 6.0% cap rate.
(4) Assumes development is tax-exempt based on partnership with non-profit developer.

APPENDIX C TABLE 10

STACKED FLATS OVER PODIUM PARKING

AFFORDABILITY GAP FOR RENTAL UNITS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% AMI)		Very Low Income (50% AMI)	
	Total	**Per Unit**	**Total**	**Per Unit**
I. Net Operating Income (NOI)	$961,000	$9,610	$517,000	$5,170
II. Target Return on Investment	7.5%	7.5%	N/A	N/A
III. Sources of Funds				
Supportable Debt	N/A	N/A	$6,978,000	$70,000
Market Value of Tax Credits	N/A	N/A	$9,682,000	$97,000
Deferred Developer Fee	N/A	N/A	$250,000	$3,000
IV. Warranted Investment	$12,813,000	$128,000	$16,910,000	$170,000
V. (Less) Total Development Costs	($29,180,000)	($292,000)	($30,803,000)	($308,000)
VI. Affordability Gap	**($16,367,000)**	**($164,000)**	**($13,893,000)**	**($139,000)**

Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Section IV and Appendix C_v2; 7/30/2013;rks

APPENDIX C TABLE 11

STACKED FLATS OVER PODIUM PARKING

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Low Income (80% AMI)		Very Low Income (50% AMI)
I.	**Loan Fees**			
	Total Development Costs (1)	$24,824,000		
	Loan to Cost Ratio (LTC)	80.0%		
	Construction Loan Amount	$19,859,000		
	Eligible Basis			$19,552,000
	Add: Land			$4,356,000
	Aggregate Basis			$23,908,000
	Minimum Required Tax-Exempt Bond		55%	$13,149,000
	Construction Loan Fees:			
	Loan Amount	$19,859,000		$13,149,000
	Points / Issuance Costs	1.5		4.5%
	Total Loan Fees	298,000		$592,000
II.	**Interest During Construction**			
	Interest Rate	6.0%		5.0%
	Term (Months)	18		18
	Average Balance Out	60.0%		60.0%
	Interest During Construction	$1,072,000		$592,000
III.	**Interest During Lease-Up**			
	Interest Rate	6.0%		5.0%
	Term (Months)	6		6
	Average Balance Out	100.0%		100.0%
	Interest During Lease-Up	$596,000		$329,000
IV.	**TCAC Fees**			
	Application Fee			$2,000
	Compliance Monitoring Fee		$410 /Unit	$41,000
	One Year of Tax Credit Value @		4.0%	$41,000
	Total TCAC Fees			$84,000
	Syndication Fees			$75,000
	Total TCAC/Syndication Fees			$159,000
V.	**Operating Lease-Up/Reserves**			
	Operating Expenses 3 months	$174,000		$124,000
	Debt Service 3 months			$112,000
	10% of Op Expenses 10.0%	$70,000		$50,000
	Total Operating Reserves	$244,000		$286,000

(1) Excluding acquisition costs.

APPENDIX C TABLE 12

STACKED FLATS OVER PODIUM PARKING

AFFORDABILITY GAP FOR RENTAL UNITS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

				Very Low - 50% AMI (4% Tax Credits)
(1) Supportable Debt				
NOI				$517,000
Interest Rate				5.00%
Term				30
Debt Coverage				1.15
Annual Debt Service				$449,565
Supportable Debt				$6,978,000
(2) Low Income Housing Tax Credits				
Threshold Basis Limits		Effective: January 2013		
Two Bedroom	100 Units @	$268,000 /Unit		$26,800,000
Add: Basis Adjustment			21.0% *	$5,628,000
Add: Local Development Impact Fees			20.0%	$500,000
Add: Affordability <50%	100 Units		1.0%	$26,800,000
Total Threshold Basis Limit				$59,728,000
Estimate of Eligible Basis				
Total Development Costs				$30,803,000
(Less) Ineligible Costs				($5,979,000)
Eligible Basis				$24,824,000
Maximum Eligible Basis				$24,824,000
Tax Credit Qualified Units			100.0%	$24,824,000
Impacted Bonus Factor			130.0%	$32,271,200
Tax Credit Rate			3.19%	$1,029,451
Total Tax Credits			10	$10,294,513
Limited Partner Share			99.0%	$10,191,568
Present Market Value			95.0%	$9,682,000
(3) Estimate of Deferred Developer Overhead Fee				
Eligible Basis				$24,824,000
(Less) Developer Fee				($2,500,000)
Unadjusted Eligible Basis				$22,324,000
Total Developer Overhead Fee			11.2%	$2,500,000
Developer Overhead Fee				$2,500,000
Total Deferred Developer Overhead Fee			10.0%	$250,000

* Assumes 10% for projects with elevator service, 7% for projects with parking beneath residential units, and 4% for projects with energy efficient features.

OWNERSHIP PROTOTYPES

Affordability Gap Analysis
Jobs-Housing Nexus Study

APPENDIX C TABLE 13

TOWNHOMES
WITH ATTACHED GARAGES

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Townhome	
	Construction Type		Type V - Wood-frame with attached garages	
	Tenure		For-Sale	
II.	**Site Area**		43,560	SF
			1.0	Acres
III.	**Number of Stories**		2	Stories
IV.	**Unit Mix**	# of Units	Unit Size	
	Two Bedroom	20 Units	1,200	SF
V.	**Density**		20.0	Units/Acre
VI.	**Gross Building Area (GBA)**			
	Residential		24,000 SF	100%
	Common Areas		0 SF	0%
	Total Gross Building Area		24,000 SF	100%
VII.	**Floor Area Ratio (FAR)**		0.55	
VIII.	**Parking**			
	Type		Attached Garage	
	Parking Ratio - Residential		2.00	Spaces/Unit
	Total Number of Spaces		40	Spaces

APPENDIX C TABLE 14

TOWNHOMES
WITH ATTACHED GARAGES

ESTIMATED DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)			
		Totals	**Per Unit**		**Comments**
I.	**Acquisition Costs**	$1,089,000	$54,450	$25	Per SF Site
II.	**Direct Costs** (1)				
	Off-Site Improvements	$131,000	$6,550	$3	Per SF Site
	On-Sites/Landscaping	$436,000	$21,800	$10	Per SF Site
	Shell Construction	$2,400,000	$120,000	$100	Per SF GBA
	Parking	$0	$0		Included above
	Amenities/FF&E	$20,000	$1,000		Allowance
	Contingency	$149,000	$7,450	5.0%	of Directs
	Total Direct Costs	$3,136,000	$156,800	$131	Per SF GBA
III.	**Indirect Costs**				
	Architecture & Engineering	$188,000	$9,400	6.0%	of Directs
	Permits & Fees (2)	$480,000	$24,000	$20	Per SF GBA
	Legal & Accounting	$63,000	$3,150	2.0%	of Directs
	Taxes & Insurance	$63,000	$3,150	2.0%	of Directs
	Developer Fee	$125,000	$6,250	4.0%	of Directs
	Marketing/Sales	$40,000	$2,000		Allowance
	Contingency	$48,000	$2,400	5.0%	of Indirects
	Total Indirect Costs	$1,007,000	$50,350	32.1%	of Directs
IV.	**Financing Costs**				
	Loan Fees	$56,000	$2,800	1.8%	of Directs
	Interest During Construction	$134,000	$6,700	4.3%	of Directs
	Interest During Sales	$30,000	$1,500	1.0%	of Directs
	HOA Dues on Unsold Units	$10,000	$500	0.3%	of Directs
	Total Financing Costs	$230,000	$11,500	7.3%	of Directs
V.	**Total Development Costs**	**$5,462,000**	**$273,100**	**$228**	**Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

APPENDIX C TABLE 15

TOWNHOMES
WITH ATTACHED GARAGES

MAXIMUM AFFORDABLE PURCHASE PRICE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)
I.	Family Size	3
	Number of Bedrooms	2
II.	Household Income (Rounded)	$82,000
	Income Allocation to Housing	35.0%
	Amount Available for Housing	$28,700
III.	Annual HOA (1)	$3,900
	Taxes & Assessment	1.25%
	Annual Taxes (2)	$3,838
IV.	Available for Mortgage	$20,963
V.	Interest Rate	6.0%
	Down Payment	5.0%
VI.	Supportable Mortgage	$291,364
	Add: Down Payment	$15,350
VII.	**Maximum Affordable Unit Price (Rounded)**	**$307,000**

(1) KMA estimate.
(2) Based on affordable sales price.

APPENDIX C TABLE 16

TOWNHOMES
WITH ATTACHED GARAGES

ESTIMATE OF AFFORDABILITY GAP
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

				Moderate Income (120% of AMI)
I.	Maximum Unit Price Per Unit			$307,000
II.	Gross Sales Proceeds	20	Units	$6,140,000
	(Less) Cost of Sale	3.0%	of Value (1)	($184,000)
	(Less) Developer Profit	12.0%	of Value (1)	($737,000)
	Net Sales Proceeds			$5,219,000
III.	(Less) Development Costs			($5,462,000)
IV.	**Affordability Gap**			**($243,000)**
	Per Unit			**($12,000)**

(1) Based on affordable sales price.

APPENDIX C TABLE 17

TOWNHOMES
WITH ATTACHED GARAGES

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I. Construction Loan Fees

Total Development Costs (1)	$4,373,000
Loan to Cost Ratio (LTC)	85.0%
Construction Loan Amount	$3,717,000
Points	1.5
Loan Fees	$56,000

II. Interest During Construction

Construction Loan Amount	$3,717,000
Interest Rate	6.0%
Average Balance Out	60.0%
Term (Months)	12
Interest During Construction	$134,000

III. Interest During Sales

Interest Rate	6.0%
Term (Months)	4
Average Balance Out	40.0%
Interest During Sales	$30,000

IV. HOA Dues on Unsold Units

Monthly Dues	$325
Number of Units	20
Average Balance Out	40.0%
Term	4
HOA Dues on Unsold Units	$10,000

(1) Excluding acquisition costs.

APPENDIX C TABLE 18

STACKED FLATS OVER PODIUM PARKING

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Stacked Flat	
	Construction Type		Type V - Wood-frame over parking podium	
	Tenure		For-Sale	
II.	**Site Area**		43,560	SF
			1.0	Acres
III.	**Number of Stories**		3	Stories over parking podium
IV.	**Unit Mix**	# of Units	Unit Size	
	Two Bedroom	45 Units	1,000	SF
V.	**Density**		45.0	Units/Acre
VI.	**Gross Building Area (GBA)**			
	Residential		45,000 SF	85%
	Common Areas		7,900 SF	15%
	Total Gross Building Area		52,900 SF	100%
VII.	**Floor Area Ratio (FAR)**		1.21	
VIII.	**Parking**			
	Type		Structured	
	Parking Ratio - Residential		1.75	Spaces/Unit
	Total Number of Spaces		79	Spaces

APPENDIX C TABLE 19

STACKED FLAT OVER PODIUM PARKING

ESTIMATE DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)		
		Totals	**Per Unit**	**Comments**
I.	**Acquisition Costs**	$2,178,000	$48,400	$50 Per SF Site
II.	**Direct Costs** (1)			
	Off-Site Improvements	$218,000	$4,844	$5 Per SF Site
	On-Sites/Landscaping	$653,000	$14,511	$15 Per SF Site
	Shell Construction	$6,613,000	$146,956	$125 Per SF GBA
	Parking	$1,969,000	$43,756	$25,000 Per Space
	Amenities/FF&E	$113,000	$2,500	Allowance
	Contingency	$478,000	$10,622	5.0% of Directs
	Total Direct Costs	$10,044,000	$223,200	$190 Per SF GBA
III.	**Indirect Costs**			
	Architecture & Engineering	$603,000	$13,400	6.0% of Directs
	Permits & Fees (2)	$1,058,000	$23,511	$20 Per SF GBA
	Legal & Accounting	$201,000	$4,467	2.0% of Directs
	Taxes & Insurance	$201,000	$4,467	2.0% of Directs
	Developer Fee	$402,000	$8,933	4.0% of Directs
	Marketing/Sales	$113,000	$2,500	Allowance
	Contingency	$129,000	$2,867	5.0% of Indirects
	Total Indirect Costs	$2,707,000	$60,156	27.0% of Directs
IV.	**Financing Costs**			
	Loan Fees	$175,000	$3,889	1.7% of Directs
	Interest During Construction	$630,000	$14,000	6.3% of Directs
	Interest During Sales	$140,000	$3,111	1.4% of Directs
	HOA Dues on Unsold Units	$35,000	$778	0.3% of Directs
	Total Financing Costs	$980,000	$21,778	9.8% of Directs
V.	**Total Development Costs**	**$15,909,000**	**$353,533**	**$301 Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Section IV and Appendix C_v2; 7/30/2013;rks

APPENDIX C TABLE 20

STACKED FLATS OVER PODIUM PARKING

AFFORDABLE PURCHASE PRICE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)
I.	Family Size	3
	Number of Bedrooms	2
II.	Household Income (Rounded)	$82,000
	Income Allocation to Housing	35.0%
	Amount Available for Housing	$28,700
III.	Annual HOA (1)	$3,900
	Taxes & Assessment	1.25%
	Annual Taxes (2)	$3,838
IV.	Available for Mortgage	$20,963
V.	Interest Rate	6.0%
	Down Payment	5.0%
VI.	Supportable Mortgage	$291,364
	Add: Down Payment	$15,350
VII.	**Maximum Affordable Unit Price (Rounded)**	**$307,000**

(1) Estimate.
(2) Based on affordable sales price.

APPENDIX C TABLE 21

STACKED FLATS OVER PODIUM PARKING

ESTIMATE OF AFFORDABILITY GAP
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

			Moderate Income (120% of AMI)
I.	Maximum Unit Price Per Unit		$307,000
II.	Gross Sales Proceeds	45 Units	$13,815,000
	(Less) Cost of Sale	3.0% of Value (1)	($414,000)
	(Less) Developer Profit	12.0% of Value (1)	($1,658,000)
	Net Sales Proceeds		$11,743,000
III.	(Less) Development Costs		($15,909,000)
IV.	**Affordability Gap**		**($4,166,000)**
	Per Unit		**($93,000)**

(1) Based on affordable sales price.

APPENDIX C TABLE 22

STACKED FLATS OVER PODIUM PARKING

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I. Construction Loan Fees

Total Development Costs (1)	$13,731,000
Loan to Cost Ratio (LTC)	85.0%
Construction Loan Amount	$11,671,000
Points	1.5
Loan Fees	$175,000

II. Interest During Construction

Construction Loan Amount	$11,671,000
Interest Rate	6.0%
Average Balance Out	60.0%
Term (Months)	18
Interest During Construction	$630,000

III. Interest During Sales

Interest Rate	6.0%
Term (Months)	6
Average Balance Out	40.0%
Interest During Sales	$140,000

IV. HOA Dues on Unsold Units

Monthly Dues	$325
Number of Units	45
Average Balance Out	40.0%
Term	6
HOA Dues on Unsold Units	$35,000

(1) Excluding acquisition costs.

Att. J

f



bae urban economics

In association with PlaceWorks

Los Angeles Affordable Housing Linkage Fee Nexus Study

Prepared for City of Los Angeles
September 21, 2016

Photo Credit: Steve Lacap, KSA Design Studio

September 21, 2016

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Rushmore D. Cervantes, General Manager
Los Angeles Housing + Community Investment Department
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Los Angeles, CA 90017

Dear Mr. Bertoni and Mr. Cervantes:

We are pleased to submit the Los Angeles Affordable Housing Linkage Fee Nexus Study. The Study analyzes the relationship between new development and affordable housing impacts for two kinds of fees: those that could be charged to new commercial development, and those that could be charged to new market-rate residential development. We have also profiled how these fees are structured and implemented in numerous other "case study" cities, provided feasibility testing across common land uses in Los Angeles segmented by market condition, and suggested methods for structuring a fee program to implement both kinds of fees over the next few years in the City of Los Angeles.

We have enjoyed working with your staff and members of the development and affordable housing communities. Please let us know if you have any comments or questions regarding this report.

Sincerely,

Janet Smith-Heimer, MBA
President, BAE

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Introduction

The City of Los Angeles faces an extraordinary housing crisis. In recent years, economic growth and strong demand for housing in Los Angeles have created substantial price and rent increases, causing more and more middle and lower income households to be priced out of the marketplace. The result has been an ever-widening gap for many households, between the cost of their housing and their incomes. This cycle has led to the need to produce more affordable housing units, at the same time that funding to subsidize affordable housing, has fallen.

A few key statistics tell the story:

- Over 61 percent of renter households in the City of Los Angeles pay more than 30 percent of their income on housing (rent and utilities), per the 2010-2014 American Community Survey. These approximately 490,000 households are considered cost-burdened and in need of affordable housing to lower this cost to an affordable level.[1]
- Between 2006 and 2013, the median renter household income decreased by nearly four percent after adjusting for inflation. This means that on average, the median renter household in Los Angeles received a pay cut of nearly $200 every year between 2006 and 2013. At the same time, LA median rents went the opposite direction, rising by almost 11 percent for the period after inflation. This mismatch between incomes and rents in LA grew more rapidly than any other major US city in the 2006 – 2013 period.[2]
- In 2014, the median LA household income ($54,440) could afford a $179,000 house, compared to the median home sale price in that same year of $560,000.[3]
- The 2016 Homeless Count found 28,464 homeless persons in the City of Los Angeles, and increase of almost 11 percent over 2015.[4]

These statistics are exacerbated by the fact that the City of Los Angeles has also lost much of its affordable housing funding in recent years, shrinking from $100 million in 2010 to $26 million in 2014. The decline in funding was primarily due to the demise of redevelopment (CRA/LA), as well as a drop in federal housing funds. Notably, Los Angeles is also the only large California city without a permanent source of local funding for production of affordable housing, which means that funding declines and the growing housing crisis have impacted Los Angeles dramatically.

---

[1] US Census, American Community Survey, 2010-2014
[2] *Renting in America's Largest Cities*: *NYU Furman Center/Capital One National Affordable Rental Housing Landscape* (NYU Furman Center, 2015)
[3] *Housing Element 2013 – 2021* (City of Los Angeles, Adopted December 3, 2013)
[4] *2016 Greater Los Angeles Homeless County* (Los Angeles Homeless Services Authority, 2016)

As part of addressing the affordable housing crisis, Mayor Garcetti proposed that this study be prepared so that both a commercial affordable housing fee and a residential affordable housing fee can be fully considered.

Purpose of Nexus Study

The purpose of the Nexus Study is to conduct a legally defensible analysis of the relationships between commercial and market-rate housing development projects, the new employment generated, the new worker households, their income distributions, and an estimate of those households that will need affordable housing. The analysis also evaluates the cost to provide this housing for households earning up to 120 percent of Area Median Income, and analyzes the maximum fee per square foot of new development necessary to provide this housing.

The Study also evaluates the these "maximum legal" fees in terms of their feasibility by land use prototype across three market conditions to reflect the range and diversity of real estate economics in the City of Los Angeles. This analysis also accommodates current and proposed other impact fees and their effects on project feasibility. Finally, the Study estimates potential revenues if fees were adopted, and analyzes considerations for implementation.

Three additional issues are also considered in this report: the effects of the planned increase in Los Angeles's minimum wage by 2021, the option to provide affordable units on-site within market rate projects instead of a fee payment, and how the affordable housing fee might interact with the provision of units on-site in the case of density bonus projects.

Study Process and Approach

Process

This study was commissioned in late spring 2016 by the City of Los Angeles. The consultant team of BAE Urban Economics, specialists in urban economics, along with PlaceWorks, specialists in public engagement, were engaged to conduct a nexus study for both commercial and residential fees along with outreach to the development and advocacy communities in Los Angeles.

For each step in the study process, BAE conducted extensive research and analysis, as cited and documented in this report. Wherever possible, BAE developed data to support assumptions, as identified herein. In addition, BAE used a blend of standard methodologies to analyze nexus for employment generating uses, culled from court-tested and related analysis conducted across California during the past 20 years. In addition, wherever possible, this study's methodologies have sought to expand and more comprehensively document many of the foundational variables utilized by other cities, to tailor this study specifically to the Los Angeles real estate, employment, and housing markets.

To obtain input and preview preliminary findings from the study, a series of three workshops were held. Over 60 development companies, industry representatives, and policy advocates were invited. A list if attendees is included in the preface to this report.

Approach

This study includes extensive analysis of real estate project feasibility, to ensure that fees are set at levels that do not unduly constrain market rate projects. The feasibility analysis was prepared in an intentionally conservative manner, to accommodate the wide variation in project economics across Los Angeles. Wherever possible, the lower end of the range of revenue-related variables, and the higher end of the range of cost-related variables, was used. This approach was taken for two reasons: arguably, Los Angels is at the peak of the real estate cycle in 2016, and also, deeming a fee amount as feasible without a conservative approach would mean the fee could create downward pressure on market rate development.

It is also important to note that Los Angeles, a major city without a permanent mechanism to fund affordable housing, will be essentially "starting from scratch." Real estate economic theory suggests that over the long term, external costs such as impact fees, are absorbed by lower-than-otherwise land values (i.e., "land residual"), so imposing an affordable housing fee, over time, will likely have this effect. For many markets, this is experienced as a slower than otherwise land value appreciation trend, and is often offset by the land residual derived from rising rents/sale prices. Nevertheless, that change of moving from no fee to a fee, will strike some as an undue burden, especially in the short run. This report highlights how this situation has been addressed in other cities, including strategies such as exempting all projects already in the entitlement pipeline (which would have been organized and initiated without knowledge of the fee), phasing in the fee over several years so that the market can adjust, and providing for targeted waivers and exemptions to accommodate cases where the fee may have unintended negative consequences.

Overview of Report

The following report is divided into two halves: a commercial fee study and a residential fee study. For each development type, the report follows a similar outline. First, case studies of other California cities as well as selected major cities elsewhere in the US with these fees, are summarized. Next, the "nexus" or relationship between new development in employment-generating uses, the resulting affordable housing need, and the translation of these findings to a maximum legal fee, are presented. Maximum fees are then tested for financial feasibility across three levels of market conditions affecting Los Angeles. Several potential fee structures and corresponding estimates of potential annual fee revenues are provided. The report also analyzes several additional considerations for fee structuring and implementation.

About Commercial Fees

Overview of Commercial Fees

Commercial impact fees for affordable housing have a long, established history in major cities across the US. The concept of a commercial linkage fee, in general, is to charge a fee on new commercial development projects over a specific size, to mitigate the impacts of new jobs created by the project within high-cost local housing markets. For some types of commercial development, these impacts can be substantial: new workers who cannot find affordable housing must commute long distances, or pay more than 30 percent of their household's income for housing, or double up in overcrowded units, or even live with all of these conditions present at once.

Fees collected in many cities with established programs provide a significant local funding source for new affordable housing production. Although it may not technically be required, given recent court cases, this study was structured to comply with the California Mitigation Fee Act. This means this study demonstrates the direct relationship ("nexus") between the fees charged and the new workers' impacts. In addition, fees can not make up deficiencies in the local housing market created by other factors.

Summary of Case Studies

Appendix A profiles commercial linkage fee programs established in cities throughout California, including larger cities (e.g., San Francisco, Sacramento, Oakland, and San Diego), as well as smaller cities such as West Hollywood and Palo Alto. In addition, outside of California, the cities of Boston and Seattle are profiled.

It should be noted that these profiles are not exhaustive; numerous other smaller cities in California have adopted or are currently considering adopting commercial impact fees for affordable housing. However, given the large size of the City of Los Angeles, but with real estate markets specific to its economic base, the selected case studies seek to profile both large city experiences, along with smaller cities located nearby facing similar affordable housing challenges.

The table on the next page summarizes the case studies, with detail provided in Appendix A.

TABLE 1: SUMMARY OF COMMERCIAL FEES FOR AFFORDABLE HOUSING

	Popoulation (a)	Fee/ Sq.Ft.	Threshold	Fees Collected	Annual Rev. Per Capita (b)	Notes
Large Cities in CA with Fee						
San Francisco (1996/2015)	829,072		25,000 sq. ft.	$3.4 M/year	$4.04	Original program established in 1981
Entertainment		$22.42		(avg since 1988)		Exempts certain projects with
Hotel		$17.99		$27 million		pharmacy or grocery
Integrated PDR		$18.89		in FY 14/15		
Institutional		$0.00				
Office		$24.03				
PDR		$0.00				
R&D		$16.01				
Retail		$22.42				
Small Enterprise Workspace		$18.89				
San Diego (1990/2016)	1,341,510			$1.6 M/year	$1.16	New fee rates effective January 2017
Office		$2.12		(avg 2006-2014)		
Hotel		$1.28				
R&D		$0.80				
Retail		$1.28				
Oakland (2002)	402,339		25,000 sq. ft.	$171,000/year	$0.42	Fees became effective in 2005
Office		$5.44		(avg since 2005)		City anticipates approx. $2.5 M
Warehouse		$5.44				in the next 12-18 months
Sacramento (1989)	476,075			$1.0 M/year	$2.19	
Citywide				(avg 1989-2013)		
Office		$2.50				
Hotel		$2.38				
R&D		$2.12				
Commercial		$2.00				
Manufacturing		$1.57				
Warehouse/Office		$0.91				
Warehouse		$0.68				
North Natomas						
Highway Commercial		$2.74				
Community/Neighborhood Commercial		$2.06				
Office/Business		$2.06				
M-50		$1.74				
M-20		$1.44				
Light Industrial		$1.12				
Smaller CA Cities with Fee						
West Hollywood (1989/2014)	35,053		10,000 sq. ft.	$214,000 / year	$6.11	
Commercial Development		$8.00		(avg since 2002)		
Palo Alto (1984/2016)	65,998		1,500 sq. ft.,	$2.3 M/year	$34.85	Updated nexus study in 2016
Office/R&D		$35.00		(in FY 2014-15)		
Hotel		$30.00				
Retail/Restaurant/Other		$19.85				
Major Cities Outside of CA with Fee						
Boston (1986/2013)	639,594		100,000 sq. ft.	$5.1 M/year	$8.05	
Commercial Development		$8.34		(avg 1986-2012)		
Seattle (2015) (c)	637,850			NA (new)		Incentive zoning program structured
Downtown Harborfront 1		$0.00				to generate units. Many exemptions
Downtown Harborfront 2		$14.83				for desired projects.
Downtown Mixed Commercial		$9.78				
Downtown Office Core		$14.50				
Downtown Retail Core		$13.50				
Downtown Mixed Residential		$14.34				
International District Mixed		$8.00				
International District Residential		$9.30				
Pike Market Mixed		$0.00				
Pioneer Square Mixed		$11.08				
Seattle Mixed		$6.69				
Industrial Commercial		$8.00				
Commercial 2		$0.00				
Industrial Commercial 85-160 (Low/Med/High)		$10.00				
All other zones (Low)		$5.00				
All other zones (Medium)		$7.00				
All other zones (High)		$8.00				

Notes:
(a) All population figures from 2010-2014 American Community Survey.
(b) Per capita annual average revenue based on 2010-2014 ACS population estimates. Revenues are not adjusted for inflation, changes in fee rates, or other factors.
(c) Amounts shown are averages for each general zone type. The complete fee schedule is contained in Section 23.58B.040 of the Seattle Municipal Code.
Source: BAE, 2016.

Key points which emerge from the case studies include:

Fee Charges and Structure

- Commercial fees for affordable housing charged by larger cities with a diverse real estate market range from a low of $0.68 per square foot for warehouse space in the City of Sacramento, to a high of $24.03 per square foot for office space in San Francisco.
- Palo Alto, a smaller city with very strong market conditions, charges $35.00 per square foot for office space, and is considering raising this charge to $60.00 per square foot.
- Each city has tailored its commercial fees to match its typical commercial development project categories. The categories of land use subject to commercial fees are typically small in number (e.g., 4 or 5 categories).
- Some cities have a "fee zone" approach, with fees for the same land use category varying by location. Others have a single fee per land use category.
- Some cities avoid the challenges of land use categorization by charging a flat fee for all commercial uses. West Hollywood, the only city in the set of commercial fee case studies in the greater Los Angeles region, uses this approach (e.g., a flat fee, with a recent increase that was phased in over a two-year period).
- In general, cities collect these types of fees either prior to, or at the point of building permit issuance. Several cities allow partial payment at permit issuance, with the balance paid at Certificate of Occupancy.
- Many cities have built-in annual increases for commercial fees, tied to the CPI or the Construction Cost Index published by *Engineering News Record*. Staff generally report a preference for this approach, instead of relying on a city council's periodic review.

Waivers, Exemptions, and Refunds

- Most cities waive the fee for 100 percent affordable housing projects.
- Most cities offer a "units in lieu of fee" and/or land donation in lieu of fee option.
- All cities waive publicly-owned projects.
- Some cities waive non-profit buildings, and/or churches, schools (public and private), universities and colleges, and other similar categories of land use.
- Some cities exempt smaller buildings. For example, San Francisco does not charge a fee on commercial buildings smaller than 25,000 square feet.
- Many cities have created lower fees or offer exemptions to decrease the potential dampening effects of fees on certain types of development that are strongly desired to meet other policy objectives. An example of this approach includes San Francisco's exemptions for local grocery stores and pharmacies that provide needed neighborhood services.
- Some cities have established clear refund processes if projects are subsequently not constructed, while others allow for refund requests decided on a case-by-case basis.

- During economic downturns, cities have either created special deferral programs or lowered fees across the board. These approaches demonstrate that these kinds of fees can be customized to adapt to downturns in the economic cycle.
- All cities in California have a "hardship" exemption available per legal requirements. Some cities render a hardship decision administratively; others have a more formal process.

Revenues and Reporting

- Estimates of revenues collected from commercial fees range from less than $1 million to over $5 million per year, depending on the city's fee structure, size, and amount of commercial development activity.
- When analyzed on a per-capita basis to normalize for a particular city's size, fee revenues range from a low of $0.42 per capita in Sacramento (which has a very low fee schedule), to a mid-range of $6.11 in West Hollywood, to a high of $34.85 per capita in Palo Alto (which has a very active commercial development market with high real estate values).
- Most cities do not specifically track the use of the fees to build affordable housing projects, because the funds go into a trust fund and are used in combination with other sources that may have varying AMI targets or restrictions.
- San Francisco last reported its sources and uses of commercial linkage fees along with other revenue sources comprising its Affordable Housing Fund as part of a larger annual report for FY 2014-2015. Its reporting does clearly show both source and use of each funding stream within its Affordable Housing Fund, along with remaining balances at year end.
- Sacramento has the clearest public information source of the cities profiled. Sacramento produces an online map showing commercial linkage fees' resulting funded project locations.
- Most cities have general guidelines for use of commercial fee funds such as maximum AMI levels that can be served in new affordable units, rather than targeting the funds specifically to serve households with the greatest need (e.g., at-risk of homelessness/extremely low income/very low income). The City of Los Angeles, with great need for new affordable units serving extremely low and very low income households, may wish to develop policies to target commercial fee funds.

Los Angeles Commercial Fee Nexus Analysis

Overview of Methodology

The commercial fee analysis conducted for this report is based on the premise that new commercial land uses generate new employment for workers that will have a range of household incomes. Due to high housing costs in Los Angeles, new workers with extremely low, very low, low, or moderate household incomes will be unable to afford most market-rate housing in the City without incurring substantial cost burdens. This situation – the increment of growth in new worker households facing the lack of affordable housing options - is considered the impact of new commercial development. The commercial fee would mitigate these impacts by generating revenue to support the construction of housing affordable to the new lower-income worker households.

This section provides an overview of the steps used to determine the maximum legal commercial fee, based on the relationship ("nexus") between new commercial space and the worker households generated by it who face affordable housing challenges in the City of Los Angeles. Each step is summarized below and discussed in more detail in the following sections.

Step 1: Define Land Uses

Based on City of Los Angeles building permit data and data from the California Employment Development Department, the Nexus Analysis identifies eight commercial land uses that comprise the vast majority of probable future employment-generating commercial land uses in the City, each of which are analyzed in the subsequent steps.

Step 2: Determine Employment Densities

For each land use identified in Step 1, the Nexus Analysis determines the average employment density and resulting number of workers per 100,000 square feet of each land use type.

Step 3: Estimate Worker Households

Since most households in Los Angeles include more than more worker, the Nexus Analysis grouped the employees generated by each land use into households to determine the total number of worker households generated by each land use type.

Step 4: Identify Industry Sectors by Land Use

The Nexus Analysis identifies the industry sectors that would occupy each of the eight commercial land uses covered in the analysis.

Step 5: Estimate Income Distribution for Worker Households

Based on the industry sectors identified in Step 4, the analysis uses a data set published by the US Census (the Public Use Microdata Sample or PUMS) to construct the likely household income distribution for each land use.

Step 6: Estimate New Worker Households by Household Income

This step estimates the number of new worker households by income level by applying the worker household income distribution for each land use from Step 5 to the total number of worker households from Step 3.

Step 7: Calculate Financing Gap per Affordable Unit

This step determines the per unit "financing gap" that affordable housing developers encounter when securing a permanent loan for their projects. Step 7 of the Nexus Study calculates the net operating income (NOI) generated by units affordable to extremely low-, very low-, low-, and moderate-income households. Using conventional financing assumptions, the analysis determines the supportable permanent loan amount based on the NOI from units at each income level.

The cost to house a lower-income household is the difference between the cost to develop an affordable unit and the amount the of the permanent loan that the developer can borrow to finance the unit. Using data on recent affordable housing developments in the City of Los Angeles, the Nexus Analysis determines the average cost to build an affordable rental unit in the City. The supportable permanent loan amounts (by AMI income band) as identified in Step 7 are deducted from the average per-unit development cost to determine the financing gap for units serving households at each income level up to 120 percent of AMI.

Step 8: Calculate the Maximum Legal Fee

The final step in calculating the impact fee is to apply the financing gap per unit for each income level (from Step 7) to the total housing need by income level (from Step 6). The resulting sum constitutes the maximum legal commercial fee.

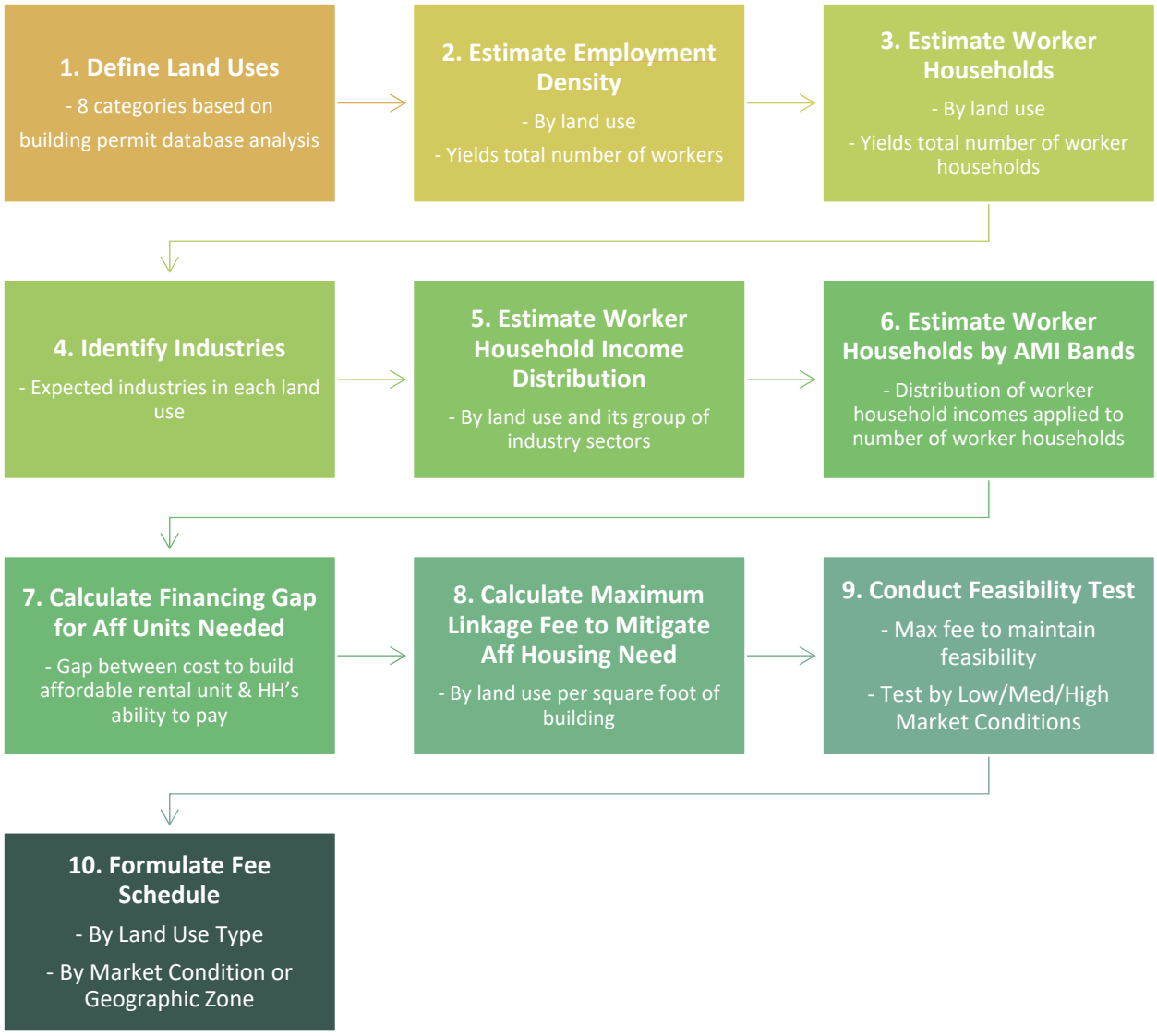
Step 9 Test Feasibility of Maximum Legal Fee Under Different Market Conditions

The City of Los Angeles has a wide range of neighborhoods and corresponding market conditions. In order to ensure that market-rate commercial development is not effected by any fee that may be adopted, this step identifies three general levels of market condition throughout the City, and analyzes the financial return from a development project, in order to identify "feasible" levels of fee by land use.

10: Formulate Feasible Fee Schedule

This step involves a summary fee schedule tested for feasibility, along with policy recommendations for phasing it in, administration, and other options for consideration.

FIGURE 1: SUMMARY OF COMMERCIAL FEE NEXUS METHODOLOGY



Commercial Land Uses

Step 1: Define Land Uses

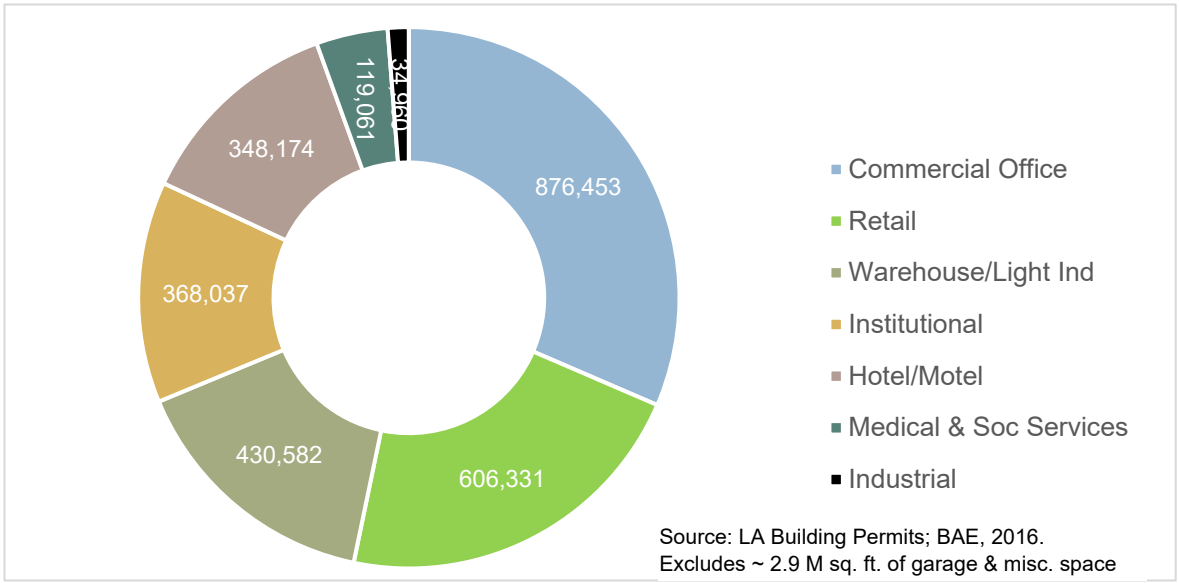
In order to formulate commercial land use categories that reflect actual development in Los Angeles, the City's building permit data was analyzed for the 2011 to 2015 period (see Appendix B for summary data). The City permitted an average of approximately 5.7 million square feet of commercial space per year, including an average pf 2.8 million square feet per year in employment-generating commercial uses. The balance of 2.9 million square feet was permitted for public and private garage space, which is not generally considered an employment-generating use, and thus excluded from the following analysis.

Based on a review of employment by industry sector for Los Angeles County, the categories of commercial fees used by other cities in California (see Case Studies chapter), and permit trends for Los Angeles, commercial employment-generating land uses were classified into eight categories including.

- Office
- Retail
- Hotel/Motel
- Industrial
- Warehouse/Utility/Light Industrial
- Medical &Social Services (including hospitals)
- Institutional (churches and schools)

The graph below shows annual average of new construction, employment-generating space permitted by the categories of land use within the past five years, in order of amount of space.

FIGURE 2: AVERAGE ANNUAL PERMITTED NEW SPACE IN EMPLOYMENT-GENERATING USES, CITY OF LA, 2011 - 2015



Step 2: Determine Employment Densities

For the purposes of the following analysis leading to the maximum fee calculations, the Nexus Study assumes a building totaling 100,000 square feet for each commercial land use. This is not intended to portray a typical building permitted or developed in the City of Los Angeles; it is a method to allow for per square foot comparisons across commercial land uses.

For each land use identified in Step 1, the Nexus Study determined the average employment density (i.e., square feet of building area per employee), in order to determine the number of workers per 100,000 square feet of each land use type. BAE reviewed several studies to estimate average employment densities for each land use type, including the City of Los Angeles Affordable Housing Benefit Study (2011), the Southern California Association of Governments Employment Density Study (2001), Environmental Impact Reports for several recent projects in the City of Los Angeles, and the commercial linkage fee nexus studies for each of the commercial linkage fees discussed in the best practices section of this report. These studies demonstrated wide variation in the assumed employment density for each land use type. The employment densities assumed in this study are generally based on either the median value or most common value for each land use type, with some outlier values omitted. In some cases, the employment densities used in this study may be slightly lower than would typically be expected for new construction in order to avoid overstating the number of workers that would be generated by new development, thereby maintaining a more conservative analysis.

In particular, many office tenants are demonstrating a preference for more open floor plans with fewer square feet per employee than is typical of more traditional office space, some occupying 150 square feet per employee or less. However, while employment densities in some new office space in Los Angeles will be in line with this trend, other new developments will be configured with a more traditional layout with lower employment densities. The Nexus Study assumes 350 square feet per office employee, as is common in more traditional office space, in order to reflect the higher end of the range of potential configurations among new office developments and avoid overestimating the number of employees per 100,000 square feet of office development.

As shown below, the assumed average employment density for each of the eight commercial land uses ranges from 350 square feet per employee for office uses to 1,100 square feet per employee for construction, warehousing, and wholesale trade land uses.

New Worker Households and Affordable Housing Need

Step 3: Estimate Worker Households

Since most households in Los Angeles include more than one worker, the Nexus Study groups the employees generated by each land use into households to determine the total number of worker households generated by each land use type. According to the US Census American Community Survey, as of 2014 the City of Los Angeles had 1,849,845 workers living in households and 1,047,928 households with at least one worker, averaging approximately 1.77 workers per household with workers. Therefore, the Nexus Study estimates the number of employee households that each land use generates by dividing the total number of workers by 1.77. As shown below, the estimated number of households per 100,000 square feet ranges from 51.5 for construction, warehousing, and wholesale trade uses to 161.9 for office uses.

TABLE 2: EMPLOYEES AND HOUSEHOLDS PER 100,000 SQUARE FEET

	Office	Retail	Industrial	Hotel/ Motel	Warehouse	Hospital	Institutional
Average Sq. Ft./employee	350	450	900	1,000	1,100	500	500
Total Employees	285.7	222.2	111.1	100.0	90.9	200.0	200.0
Total Employee Households	**161.9**	**125.9**	**62.9**	**56.6**	**51.5**	**113.3**	**113.3**
Assumptions							
Building Size		100,000					
Employees per Household (a)		1.77					

Note:
(a) Employees per household from 2014 ACS reported average number of workers per household in the City of Los Angeles.
Sources: ACS, 2014; BAE, 2016.

Step 4: Identify Industry Sectors by Land Use

Worker occupations, salaries, and associated household incomes tend to vary between industries, and therefore the Nexus Study identifies the industry sectors that would occupy each of the eight commercial land uses as a first step in identifying affordable housing need among worker households.

Federal, State, and local governmental agencies typically categorize business establishments based on the North American Industry Classification System (NAICS), which assigns numerical codes to each industry sector. NAICS codes group all industries into 20 major industry categories, each identified with a two-digit code. Within each two-digit NAICS sector, more detailed sub-categories of industries are identified by three-digit NAICS codes, which are themselves comprised of more detailed subcategories of industries, up to the six-digit NAICS code level, with more digits associated with more detailed subcategories. For example, NAICS sector 72, Accommodation and Food Services, is comprised of NAICS code sectors 721 (Accommodation) and 722 (Food Services and Drinking Places). NAICS codes 721 and 722

are comprised of more detailed industries, identified by NAICS codes with four to six digits, depending on the level of specificity of the subcategories.

BAE analyzed each two-digit NAICS code and each subcategory to determine the industry sectors most likely to occupy each of the eight commercial land uses. To the extent possible, the Nexus Study places each two-digit NAICS code into one of the eight land uses. However, some two-digit NAICS codes are too broad to fall into one of the eight uses, and were split at the three-digit level to between two land uses. The industry sectors that are expected to occupy each commercial land use type are shown in Table 3.

In addition, the analysis excludes several industry sectors that were not grouped into any of the eight land uses, as shown in Table 3. These uses include sectors that are not expected to generate a significant amount of future new development in Los Angeles (i.e., Agriculture, Forestry, Fishing, and Hunting; Mining, Quarrying, and Oil and Gas Extraction; and Utilities), and do not fit within any of the eight land uses. In addition, the analysis excludes the Public Administration industry on the basis that the City will not charge a fee for space that it will occupy. The "Other Services" industry was excluded because it includes a large range of industries that vary widely in types of employment and likely incomes of workers. However, to the extent that the industries within the "Other Services" sector may occupy any of the eight analyzed commercial land uses, the employment and income profile of workers in these industries is assumed to be similar to the employment and income profile of workers in other industries within each land use type.

TABLE 3: INDUSTRIES BY LAND USE TYPE AND TOTAL EMPLOYMENT, LA COUNTY, 2014

NAICS Number	NAICS Industry Name	2014 LA County Employment	% of Employees in Land Use Type
Office			
51	Information	200,536	20.1%
52	Finance and Insurance	132,161	13.2%
53	Real Estate and Rental and Leasing	75,867	7.6%
54	Professional, Scientific, and Technical Services	276,431	27.7%
55	Management of Companies and Enterprises	58,823	5.9%
561	Administrative and Support Services	255,191	25.5%
Total		999,009	100.0%
Retail			
44-45	Retail Trade (not including industry 454, non-store retailers)	399,641	53.9%
722	Food Services and Drinking Places	341,173	46.1%
Total		740,814	100.0%
Industrial			
31-33	Manufacturing	361,187	97.3%
562	Waste Management and Remediation Services	9,839	2.7%
Total		371,026	100.0%
Hotel/Motel			
721	Accommodation	44,483	100.0%
Total		44,483	100.0%
Warehouse			
23	Construction	120,360	23.2%
42	Wholesale Trade	220,465	42.5%
48-49	Transportation and Warehousing	177,920	34.3%
Total		518,745	100.0%
Hospital			
62	Health Care and Social Assistance	657,846	100.0%
Total		657,846	100.0%
Institutional			
61	Educational Services	355,512	80.1%
71	Arts, Entertainment, and Recreation	88,498	19.9%
Total		444,010	100.0%
SUBTOTAL - ALL CLASSIFIED INDUSTRIES		**3,775,933**	
Industries Not Classified			
11	Agriculture, Forestry, Fishing and Hunting	5,194	
21	Mining, Quarrying, and Oil and Gas Extraction	4,646	
22	Utilities	28,269	
81	Other Services (except Public Administration)	147,919	
92	Public Administration	163,290	
Total		349,318	
TOTAL - ALL INDUSTRIES		**4,125,251**	

Sources: California Employment Development Department, Quarterly Census of Employment and Wages, 2014; BAE, 2016.

Step 5: Estimate Household Income Distribution of New Worker Households

As discussed above, worker households[5] in Los Angeles often have more than one employed person. In some instances, economists estimate household income for workers by simply multiplying worker earnings by industry by the average number of workers per worker household. This methodology relies on the unsatisfactory assumption that on average workers make the same amount of money as other workers in their household. Given the diversity of household composition, this assumption is not appropriate. For example, a household may have a teacher and a doctor, with significantly different individual earnings.

To address this issue, this analysis makes use of a detailed and rich data set published by the U.S. Census known as the Public Use Microdata Sample (PUMS). Derived from a five percent sample of all households per the American Community Survey, and available for certain defined areas of 100,000 or more of population, this data allows one to cross tabulate variables such as industry of employment and household income. The analysis here uses the most recent available data, from the 2010 through 2014 five-year period.

The PUMS data set was queried to identify the number of households by income category for the groups of industries assumed to be associated with the different non-residential building types (controlling for household size) to construct a household income distribution for each of these industry groupings. The distribution was constructed based on the income categories defined by the California Department of Housing and Community Development (HCD). These HCD income categories are defined by a formula based largely on the percentage of the Area Median Income (AMI), adjusted for household size and income levels relative to housing costs. Table 4 below presents the distribution of households by HCD income level for each of the eight commercial land uses.

[5] A worker household is defined as a household with one or more employed persons. They may be wage and salary workers, or self-employed/sole proprietors.

TABLE 4: DISTRIBUTION OF NEW WORKER HOUSEHOLDS BY INCOME

		Estimated Household Income as a Percent of AMI (a)					
NAICS Code	Land Use	Up to 30% AMI	30% to 50% AMI	50% to 80% AMI	80% - 120% AMI	Above 120% AMI	Total
Private Sector Only							
51, 52, 53, 54, 55, 561	Office	10.7%	10.2%	15.0%	5.5%	58.6%	100.0%
44-45, except 454, 722	Retail	18.2%	18.5%	22.1%	6.4%	34.8%	100.0%
31-33, 562	Industrial	12.9%	16.2%	20.6%	6.3%	44.0%	100.0%
721	Hotel/Motel	15.2%	18.3%	22.1%	7.4%	37.0%	100.0%
23, 42, 48-49	Warehouse	16.6%	16.6%	21.3%	6.4%	39.1%	100.0%
62	Hospital	11.4%	11.6%	17.8%	6.2%	53.1%	100.0%
61, 71	Institutional	13.2%	11.1%	16.3%	6.0%	53.5%	100.0%

Notes:
(a) Based on a cross tabulation of Public Use Microdata Samples (PUMS) from the 2010-2014 American Community Survey. These incomes were compared to household income limits published by the California Department of Housing and Community Development, to determine the percentage of households falling into each income category. The analysis controlled for household size, to address the varying HCD income limits for each household size.
Sources: Census, American Community Survey Public-Use Microdata Sample (PUMS) 2010-2014; CA Dept. of Housing and Community Development, 2014; BAE, 2016.

Step 6: Estimate New Worker Households by Household Income

This analysis estimates the number of new worker households by income level by applying the worker household income distribution for each land use from Step 5 to the total number of worker households from Step 3. As shown in Table 5 below, the number of extremely low-, very low-, low-, and moderate-income households per 100,000 square feet of commercial space ranges from 31.4 households for construction, warehousing, and wholesale trade to 82.0 households for retail space.

The number of lower-income households that each land use type generates is a product of both the total number of worker households that 100,000 square feet of each use supports and the income distribution among those workers. As a result, hotel/motel and construction, warehousing, and wholesale trade land uses are among the uses that generate the smallest number of lower-income households, despite having relatively low worker household incomes, due to the low employment densities associated with these uses. Conversely, office uses generate a large number of lower-income households despite relatively high worker household incomes due to the high employment densities in office uses. Retail uses are associated with both relatively low worker household incomes and high employment densities, resulting in the highest number of lower-income worker households per 100,000 square feet out of all eight land uses.

TABLE 5: WORKER HOUSEHOLDS BY HOUSEHOLD INCOME GENERATED BY COMMERCIAL LAND USES

Employee Households by Income Level	Office	Retail	Industrial	Hotel/ Motel	Warehouse	Hospital	Institutional
Extremely Low Income (up to 30% AMI)	17.3	22.9	8.1	8.6	8.5	12.9	14.9
Very Low Income (31-50% AMI)	16.6	23.3	10.2	10.4	8.6	13.2	12.6
Low Income (51-80% AMI)	24.2	27.8	13.0	12.5	11.0	20.1	18.4
Moderate Income (81-120% AMI)	8.9	8.1	3.9	4.2	3.3	7.0	6.8
Subtotal - Affordable Housing Need (Units)	***67.0***	***82.0***	***35.3***	***35.7***	***31.4***	***53.2***	***52.7***
Above Moderate Income (over 120% AMI)	94.9	43.9	27.7	21.0	20.1	60.1	60.6
Total Housing Need	**161.9**	**125.9**	**62.9**	**56.6**	**51.5**	**113.3**	**113.3**

Assumptions	
Building Size	100,000

Sources: Census, American Community Survey Public-Use Microdata Sample (PUMS) 2010-2014; CA Dept. of Housing and Community Development, 2014; BAE, 2016.

Financing Gap

Step 7: Calculate the Financing Gap per Affordable Unit

The next step in the nexus analysis is to calculate the cost to house the extremely low-, very low-, low-, and moderate-income households calculated in Step 6 by determining the per unit "financing gap" that affordable housing developers encounter when securing a permanent loan for their projects. In other words, the cost to house a lower-income household is the difference between the cost to develop an affordable unit and the amount of the permanent loan that the developer can borrow to finance the unit.

According to cost data provided between 2013 and 2015 on applications for low-income housing tax credit projects in the City of Los Angeles, the average development cost for affordable housing in the City averages approximately $448,500 per unit, as shown in Table 6.[6] [7]

[6] This weighted average cost is based on data from 25 developments serving homeless, special needs, large-family, and senior households in the City of Los Angeles with a total of 1,503 units. All cost data inflated to 2016 dollars using the Turner Building Cost Index.

[7] This study uses the average development cost across all affordable housing types despite that most of the new workers living in affordable units will be housed in large family developments, which in practice accommodate a range of household sizes and mostly serve lower-income worker households. Among units in the large family developments analyzed in this study, three percent were studios, 35 percent were one-bedroom units, 28 percent were two-bedroom units, 32 percent were three-bedroom units, and on percent were units with four or more bedrooms. In contrast, homeless, special needs, and senior developments, typically have a large number of occupants living on social security. However, by using the average across all affordable unit types, the Nexus Study is conservative in estimating the financing gap associated with constructing new units because the average development costs for homeless, special needs and senior units tend to be lower than the development costs for large family units.

TABLE 6: DEVELOPMENT COSTS FOR AFFORDABLE HOUSING UNITS, CITY OF LOS ANGELES, 2013-2015

Housing Type	Avg. Development Cost (per unit) (a)	Number of Units
Homeless & Special Needs	$410,871	622
Large Family	$502,946	676
Senior	$382,977	205
Weighted Average - All Housing Types	$448,479	1,503

Note:
(a) Weighted average cost as reported on tax credit applications between 2013 and 2015. All costs adjusted to 2016 costs based on the Turner Building Cost Index.
Sources: City of Los Angeles, 2016; BAE, 2016.

Affordable housing developers are able to secure a permanent loan based on their net operating income (NOI) per unit. NOI is equal to rental income less operating expenses and vacancy. As shown in Table 7, households can afford monthly rents ranging from $544 for extremely low-income households to $1,708 for moderate-income households. These rents are based on household income limits for three-person households and assuming households spend 30 percent of their income on rent and utilities.[8] Standard deductions are taken for operating expenses and vacancies to determine NOI.

BAE used conventional financing assumptions to determine the supportable loan amount per unit for each income level. As shown in Table 7, the loan amount ranges from $0 per unit for extremely low-income units (i.e., operating expenses exceed NOI, leaving no NOI to support debt payments) to $152,301 for units serving moderate-income households.

The financing gap per affordable unit is equal to the total development cost less the supportable loan amount per unit. Based on the supportable loan amount calculated above, the financing gap per affordable unit ranges from $448,500 for extremely low-income units to $296,199 for moderate-income units, as shown in Table 7.

It should be noted that no other affordable housing subsidy was assumed in this analysis, because this calculation is intended to serve as the actual impact of the new employment-generating commercial land uses; it is not necessarily the way funds generated by a commercial fee would be spent on new affordable housing. Instead, in may affordable housing projects, multiple funding sources would be utilized in combination, enabling limited public resources from federal, state, and local sources to be combined most effectively. For some affordable housing projects serving low income households, non-cash subsidies such as Low Income Housing Tax Credits (LIHTCs) would also be used.

[8] The analysis assumes a three-person household for consistency with the 2016 Los Angeles County average household size of 2.88 persons per household, per California Department of Finance estimates.

TABLE 7: FINANCING GAP ANALYSIS, CITY OF LOS ANGELES, 2016

	Income Group			
	Extremely Low	**Very Low**	**Low**	**Moderate**
Household Income Limit (a)	$23,450	$39,100	$62,550	$70,000
Maximum Affordable Monthly Rent per Unit (b)	$544	$936	$1,522	$1,708
Monthly Operating Expenses (c)	$542	$542	$542	$542
Vacancy (d)	5%	5%	5%	5%
Net Operating Income per Unit (e)	-$25	$347	$904	$1,081
Operating Subsidy from Other Sources (f)	$25	$0	$0	$0
Monthly Supportable Debt Service per Unit (g)	$0	$278	$723	$865
Loan Amount (h)	$0	$48,900	$127,371	$152,301
Financing Gap per Affordable Unit (i)	**$448,500**	**$399,600**	**$321,129**	**$296,199**

Assumptions	
Total Affordable Unit Development Costs (j)	$448,500
Financing Terms	
Debt Coverage Ratio	1.25
Interest Rate	5.50%
Term of Loan (years)	30

Notes:
(a) Based on a 3-person household, CA Department of Housing & Community Development, 2016.
(b) 30% of income to rent and utilities.
(c) Data from funding applications for recent affordable housing projects in California.
(d) Standard required assumption for financing applications.
(e) Affordable Monthly Rent less Operating Expenses & Vacancy.
(f) Operating subsidy is necessary for units with negative NOI.
(g) Net Operating Income plus Operating Subsidy, divided by Debt Coverage Ratio.
(h) Based on financing terms assumptions.
(i) Total Development Costs less Loan Amount.
(j) Average development costs among units in tax credit projects developed in the City of Los Angeles between 2013 and 2015. All figures adjusted to 2016 values based on the Turner Construction Cost Index.
Sources: California HCD, 2016; City of Los Angeles, 2016; Turner Construction Cost Index, 2013-2016; BAE, 2016.

Maximum Legal Fee

Step 8: Calculate the Maximum Legal Fee

The final step in calculating the impact fee is to apply the financing gap per affordable unit for each income level (from Step 7) to the total housing need by income level (from Step 6) per commercial land use. This is expressed as the "maximum legal fee" because it is directly derived from the nexus analysis described above (i.e., new commercial development generating new jobs combined into new worker households distributed by income band, and the cost to provide new affordable rental housing units to these same households).

As shown in greater detail on the next page, the maximum legal fees are as follows:

- Office: $247.84 per square foot
- Retail: $308.82 per square foot
- Industrial: $130.60 per square foot
- Hotel/Motel: $132.68 per square foot
- Warehouse: $117.52 per square foot
- Med & Social Services: $195.78 per square foot
- Institutional: $196.56 per square foot

It is important to note that due to the high cost of providing affordable housing, these maximum fee levels are not feasible to charge to development projects. Thus, the lower "feasible" fee by land use tested under a range of current market conditions, is analyzed in the following chapter.

TABLE 8: MAXIMUM COMMERCIAL FEES, LOS ANGELES

Affordable Housing Need	Office	Retail	Industrial	Hotel/ Motel	Warehouse	Hospital	Institutional
Extremely Low Income (up to 30% AM	17.3	22.9	8.1	8.6	8.5	12.9	14.9
Very Low Income (31-50% AMI)	16.6	23.3	10.2	10.4	8.6	13.2	12.6
Low Income (51-80% AMI)	24.2	27.8	13.0	12.5	11.0	20.1	18.4
Moderate Income (81-120% AMI)	8.9	8.1	3.9	4.2	3.3	7.0	6.8
Total Affordable Housing Need	67.0	82.0	35.3	35.7	31.4	53.2	52.7
Financing Gap (a)							
Extremely Low Income Units	$7,747,508	$10,269,897	$3,646,292	$3,867,376	$3,824,996	$5,781,706	$6,699,669
Very Low Income Units	$6,613,935	$9,295,516	$4,079,489	$4,147,164	$3,418,720	$5,267,000	$5,024,260
Low Income Units	$7,785,398	$8,923,624	$4,166,664	$4,012,822	$3,524,464	$6,462,566	$5,914,130
Moderate Income Units	$2,637,145	$2,392,525	$1,167,458	$1,240,985	$983,651	$2,067,181	$2,017,919
Total Financing Gap	**$24,783,986**	**$30,881,562**	**$13,059,903**	**$13,268,346**	**$11,751,832**	**$19,578,452**	**$19,655,978**
Maximum Impact Fee per Sq. Ft.	**$247.84**	**$308.82**	**$130.60**	**$132.68**	**$117.52**	**$195.78**	**$196.56**
Assumptions							
Building Size	100,000						
Financing Gap							
Extremely Low Income Units	$448,500						
Very Low Income Units	$399,600						
Low Income Units	$321,129						
Moderate Income Units	$296,199						

Note:
(a) The financing gap is calculated by multiplying the number of employee housesholds at each income level by the financing gap per unit (from Step 7) at each affordability level.
Source: BAE, 2016.

As noted earlier, this set of findings will shift slightly with the implementation of the City's minimum wage regulations, to be completed in 2021. The Additional Considerations chapter at the end of this report discusses the effects of the minimum wage increases on the above findings.

Feasibility of Maximum Legal Fee

As shown in the preceding section, meeting the affordable housing costs generated by each land use category of commercial use per the nexus analysis results in expensive maximum legal fee levels.

In order to evaluate these maximum legal fees in the context of maintaining feasible market rate commercial projects, this report involved extensive analysis of the Los Angeles real estate marketplace by three levels of current market condition, and then financial feasibility testing of each of the eight land use categories by each of the market conditions' economic factors.

As an overview, the analytical process included the following steps (each step is explained more fully in the following pages):

- **Step A:** Identification of Los Angeles neighborhoods
- **Step B:** Analysis of market rents to categorize each neighborhood by market condition
- **Step C:** Formulation of basic static pro formas for each land use type to analyze the maximum feasible fee by land use and by the three market conditions
- **Step D:** Comparison of feasible fees to legal maximum fee

Step A: Identification of Los Angeles Neighborhoods

For this step, several geographic subarea classifications were considered, including Community Plan Areas (37 areas), City Council Districts (15 areas), and neighborhoods defined by the Los Angeles Times (114 neighborhoods). The Los Angeles Times neighborhoods were considered the most refined, enabling fine-grained differentiation by neighborhood, without being too small to obscure larger market trends. These neighborhoods along with their Step B market categorization are shown in Figure 3.

Step B: Classification of LA Neighborhoods by Market Condition

This step involved compiling data for commercial market rents based on 439 office projects' rents and 711 retail projects' rents reported by CoStar, a private data vendor (other commercial land uses showed fewer records in CoStar and were thus considered not reliable for purposes of this analysis). Both office and retail rents were analyzed based on the standard deviation from mean (average) rent, and combined into a composite index by neighborhood. The map on the next page displays the results of this analysis.

To illustrate how the development community has responded to market conditions, the maps on the next pages show permit activity of the past five years for office and retail projects throughout the city.

FIGURE 3: COMMERCIAL MARKET CONDITION BY NEIGHBORHOOD

Map Legend

#	Neighborhood
0	Adams-Normandie
1	Arleta
2	Arlington Heights
3	Atwater Village
4	Baldwin Hills/Crenshaw
5	Bel-Air
6	Beverly Crest
7	Beverly Grove
8	Beverlywood
9	Boyle Heights
10	Brentwood
11	Broadway-Manchester
12	Canoga Park
13	Carthay
14	Central-Alameda
15	Century City
16	Chatsworth
17	Chatsworth Reservoir
18	Chesterfield Square
19	Cheviot Hills
20	Chinatown
21	Cypress Park
22	Del Rey
23	Downtown
24	Eagle Rock
25	East Hollywood
26	Echo Park
27	El Sereno
28	Elysian Park
29	Elysian Valley
30	Encino
31	Exposition Park
32	Fairfax
33	Florence
34	Glassell Park
35	Gramercy Park
36	Granada Hills
37	Green Meadows
38	Griffith Park
39	Hancock Park
40	Hansen Dam
41	Harbor City
42	Harbor Gateway
43	Harvard Heights
44	Harvard Park
45	Highland Park
46	Historic South-Central
47	Hollywood
48	Hollywood Hills
49	Hollywood Hills West
50	Hyde Park
51	Jefferson Park
52	Koreatown
53	Lake Balboa
54	Lake View Terrace
55	Larchmont
56	Leimert Park
57	Lincoln Heights
58	Los Feliz
59	Manchester Square
60	Mar Vista
61	Mid-City
62	Mid-Wilshire
63	Mission Hills
64	Montecito Heights
65	Mount Washington
66	North Hills
67	North Hollywood
68	Northridge
69	Pacific Palisades
70	Pacoima
71	Palms
72	Panorama City
73	Pico-Robertson
74	Pico-Union
75	Playa del Rey
76	Playa Vista
77	Porter Ranch
78	Rancho Park
79	Reseda
80	San Pedro
81	Sawtelle
82	Sepulveda Basin
83	Shadow Hills
84	Sherman Oaks
85	Silver Lake
86	South Park
87	Studio City
88	Sunland
89	Sun Valley
90	Sylmar
91	Tarzana
92	Toluca Lake
93	Tujunga
94	University Park
95	Valley Glen
96	Valley Village
97	Van Nuys
98	Venice
99	Vermont Knolls
100	Vermont-Slauson
101	Vermont Square
102	Vermont Vista
103	Watts
104	West Adams
105	Westchester
106	West Hills
107	Westlake
108	West Los Angeles
109	Westwood
110	Wilmington
111	Windsor Square
112	Winnetka
113	Woodland Hills

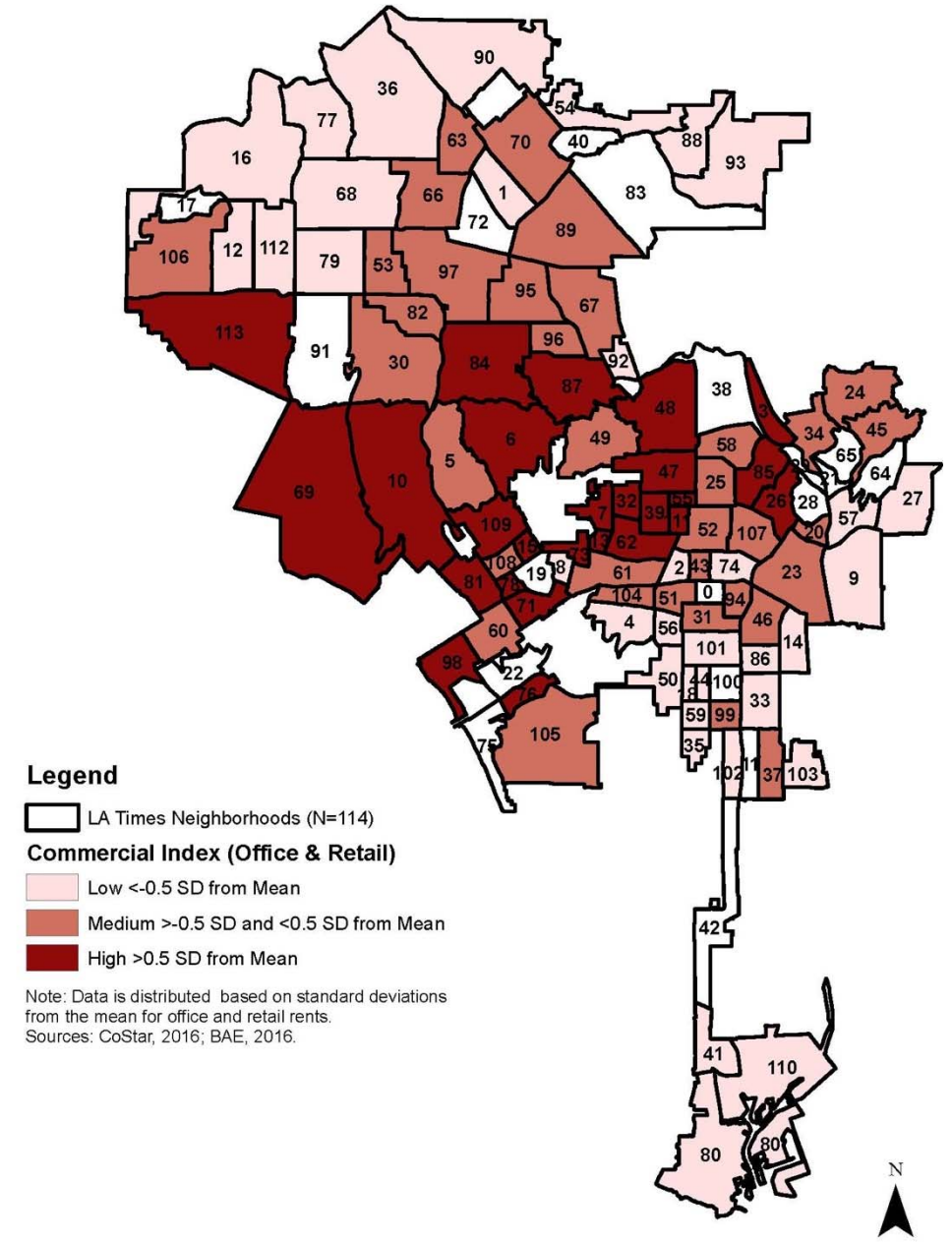
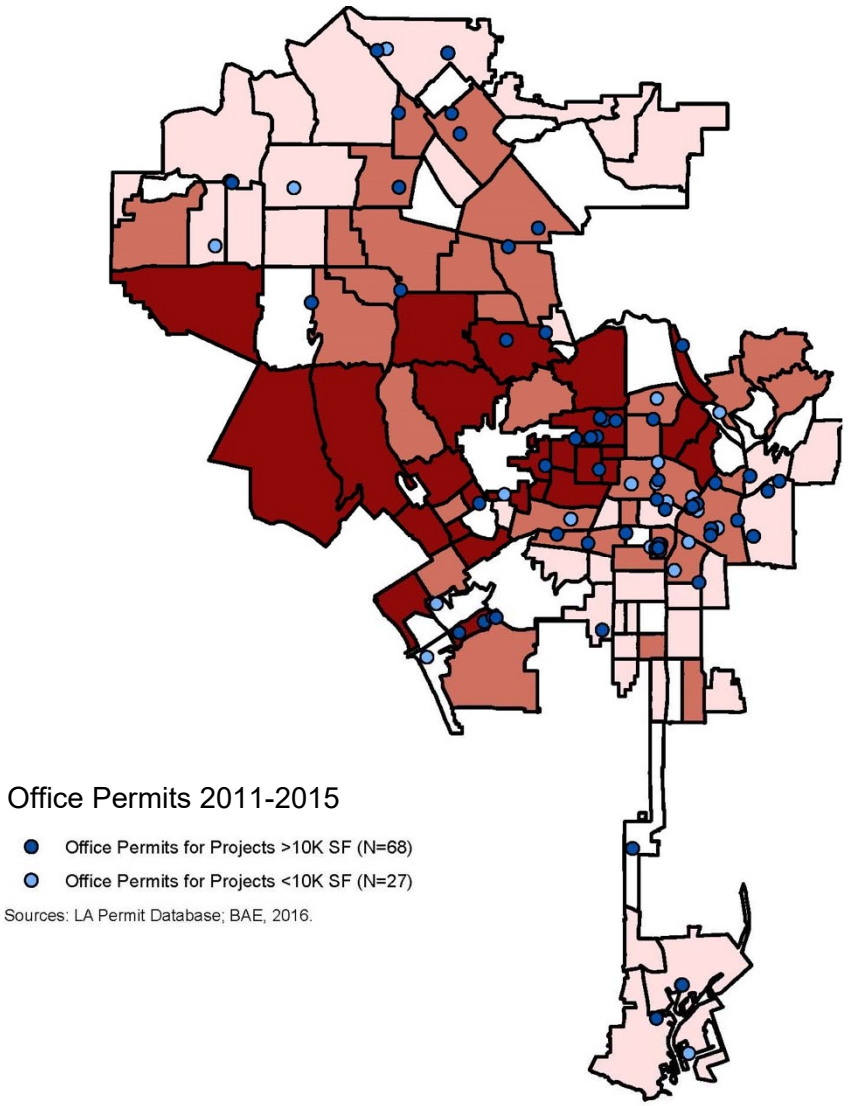
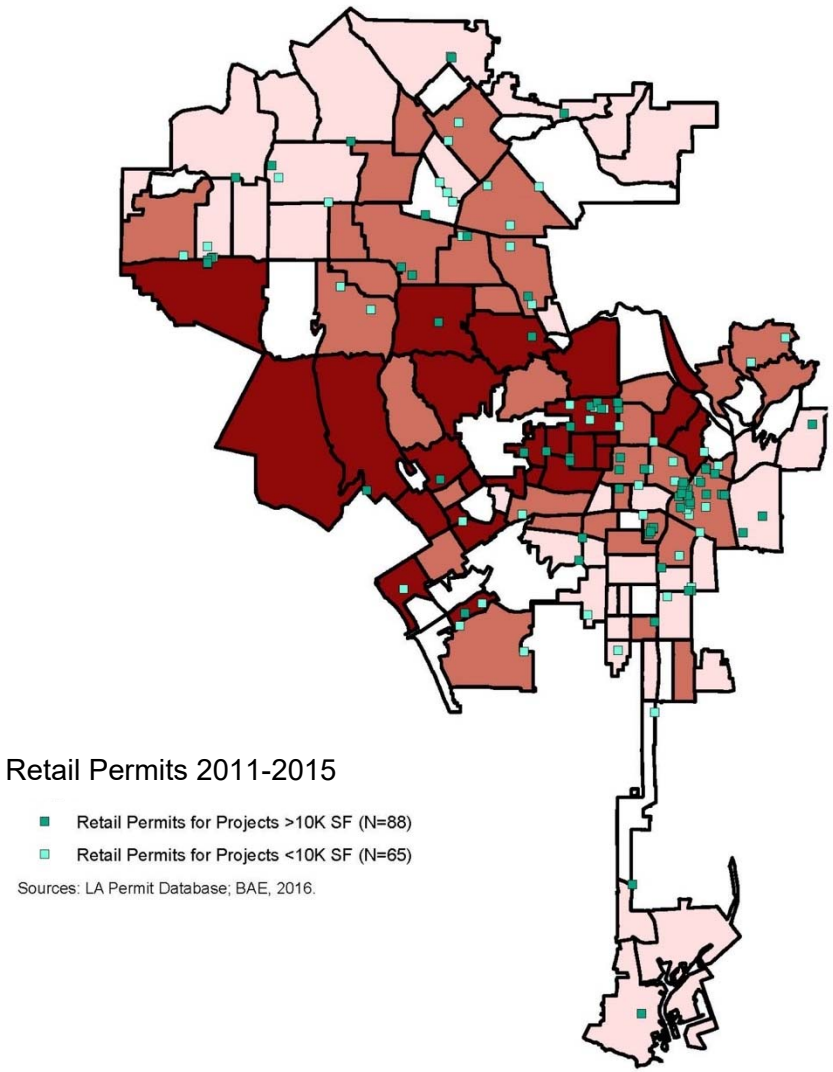


FIGURE 4: OFFICE AND RETAIL PERMIT ACTIVITY BY MARKET CONDITION, 2011-2015





Step C: Pro Forma Analysis to Determine Maximum Feasible Fee by Land Use for Each Market Condition

This step involved the formulation of basis static pro forma models for each land use, with rent assumptions varied by market condition. For all assumptions, a conservative approach was taken to ensure that feasible findings would be developed. A summary of the research informing each key assumption is described below.

- **Development Prototype** – For each land use, a median sized project was identified from actual projects permitted by the City of Los Angeles, as described previously in this report. The project's actual number of stories and parking method were researched, and the project's floor area ratio (FAR) and parking ratios were estimated based on review of applicable zoning codes, resulting in a development program for each prototype.
- **Land Costs** – For each land use and market condition, BAE reviewed available appraisals conducted for various city agencies (see Appendix C-8 for summary of land sales by market category), and also interviewed leading developers of commercial and residential projects currently active in Los Angeles.
- **Construction Costs (Hard, Soft, and Financing)** – For each prototype, per square foot hard costs was estimated based on review of R.S. Means, a cost manual. Soft costs and financing costs were estimated based on industry standards and current interest rates.
- **Rent** – Rent assumptions were developed based on an analysis of project rents from CoStar for just newer buildings (e.g., built in past 10 years or less), and further refined to estimated the 25th, 50th, and 75th percent quartile breakpoints in order to generate conservative rent assumptions. This approach means that, for example, the high market areas' rents do not represent very top end, but rather the 75th percent of top end rents.
- **Cap Rates** – For each prototype, both national and regional cap rates were compiled, with variations by market area based on developer interviews.

The following two metrics were utilized to judge feasibility:

- **Return on Total Development Cost (ROC)** – This metric divides total profit by total development cost, to judge overall project feasibility. It can be considered as a simple profit margin, irrespective of how a project is financed between debt and equity. In other words, ROC is useful because it allows comparison across all real estate project types (whether income-producing or for-sale units), irrespective of individual choices to leverage equity through use of debt. It is also useful because, as a simple project margin calculation, it can be easily compared to other non-leveraged non-real estate short-term investments such as one-year corporate bonds (which are generally paying 6 to 10 percent at present). Real estate development has higher risk inherent to the

investment activity, so the ROC on real estate projects should be higher than these other investment options.

To test feasibility for this study, this metric had to achieve at least a 15 percent return on cost, with cost including the new affordable housing fee and the applicable school fee.

- **Yield on Cost (YOC)** – This metric evaluates the annual stabilized Net Operating Income (NOI) compared to total development cost. It is useful to evaluate income-producing projects. For the feasibility testing, based on developer interviews, each land use was assigned a minimum YOC threshold. Both ROC and YOC thresholds had to be achieved to deem a project feasible with the total fees (e.g., new affordable fee + school fee).

A summary of the pro forma findings is shown on the following page. Detailed pro formas are shown in Appendix C.

It should be noted that new development projects in Low Market Areas, while occurring on the ground in selected locations, do not generally show feasible returns sufficient to support a fee when estimated very conservatively per the approach followed for this report (see Appendix C for these pro formas). Since many of these neighborhoods seek to encourage new development and investment, but additional fees may not "pencil" under today's market conditions, a market-based fee may not be workable in these areas. Some cities have called these kinds of areas Incentive Areas with lower or no fees charged, as a means to incentivize new development at slightly lower costs (assuming fees are charged in other Medium and High market areas).

TABLE 9: SUMMARY OF COMMERCIAL FEE PRO FORMAS

Low Market scenarios not shown here due to lack of general feasibility under conservative assumptions. Detailed pro formas including Low Market are shown in Appendix.

	Office		Retail		Hotel		Industrial		Warehouse	
	630 W Harry Bridges Blvd		5601 N Van Nuys		1133 N Vine St		3105 S La Cienega			
										
	Medium	**High**	**Medium**	**High**	**Medium**	**High**	**Medium**	**High**	**Medium**	**High**
Assumptions for Baseline (a)										
Prototypical Building Size	23,000	23,000	14,000	14,000	45,000	45,000	12,000	12,000	16,000	16,000
Site Size (sf)	21,850	21,850	33,600	33,600	15,750	15,750	20,400	20,400	23,420	23,420
Total Number of Stories (Bldg)	4	4	1	1	5	5	1	1	1	1
Total Number of Stories (Parking)	Surface	Surface	Surface	Surface	1	1	Surface	Surface	Surface	Surface
FAR	1.05	1.05	0.42	0.42	2.86	2.86	0.59	0.59	0.68	0.68
Parking Type	Surface		Surface		Underground		Surface		Surface	
Total Dev Cost/SF (inc. land)	*$ 371*	*$ 517*	*$ 423*	*$ 577*	*$ 436*	*$ 486*	*$ 222*	*$ 257*	*$ 191*	*$ 252*
Rent (psf or per hotel REVPAR)	$ 35.00	$ 50.00	$ 35.00	$ 50.00	$ 205.00	$ 240.00	$ 18.00	$ 21.00	$ 14.00	$ 20.00
Return On Cost - Baseline	20.0%	23.1%	17.9%	34.6%	52.6%	60.3%	25.8%	27.2%	22.9%	32.8%
Yield on Cost - Baseline	6.6%	6.8%	7.1%	7.4%	9.2%	9.6%	6.9%	7.0%	6.8%	7.3%
Baseline Feasible? (b)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Fee/Sq. Ft. (a)	**$ 14.50**	**$ 33.00**	**$ 7.00**	**$ 28.00**	**$ 5.00**	**$ 25.00**	**$ 14.00**	**$ 19.50**	**$ 5.00**	**$ 25.00**
New Fee for Prototype Project	$ 333,500	$ 759,000	$ 98,000	$ 392,000	$ 225,000	$ 1,125,000	$ 168,000	$ 234,000	$ 80,000	$ 400,000
Return On Cost with Fees	15.0%	15.0%	15.9%	27.9%	50.7%	51.6%	18.3%	18.2%	19.5%	20.1%
Yield on Cost with Fees	6.3%	6.3%	7.0%	7.0%	9.0%	9.1%	6.5%	6.5%	6.6%	6.6%
Feasible with Fee? (b)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Res Fee, as % of Total Dev Cost	3.9%	6.1%	1.8%	4.7%	1.3%	5.0%	6.1%	7.3%	2.8%	9.2%

Notes:

a) See Appendix for detailed assumptions and proformas for each land use type.

b) Financial feasibility evaluated on 2 metrics

ROC = 15.0%

YOC :	Retail:	Office:	Hotel:	Industrial	Warehouse:
	7.0%	6.0%	9.0%	6.5%	6.5%

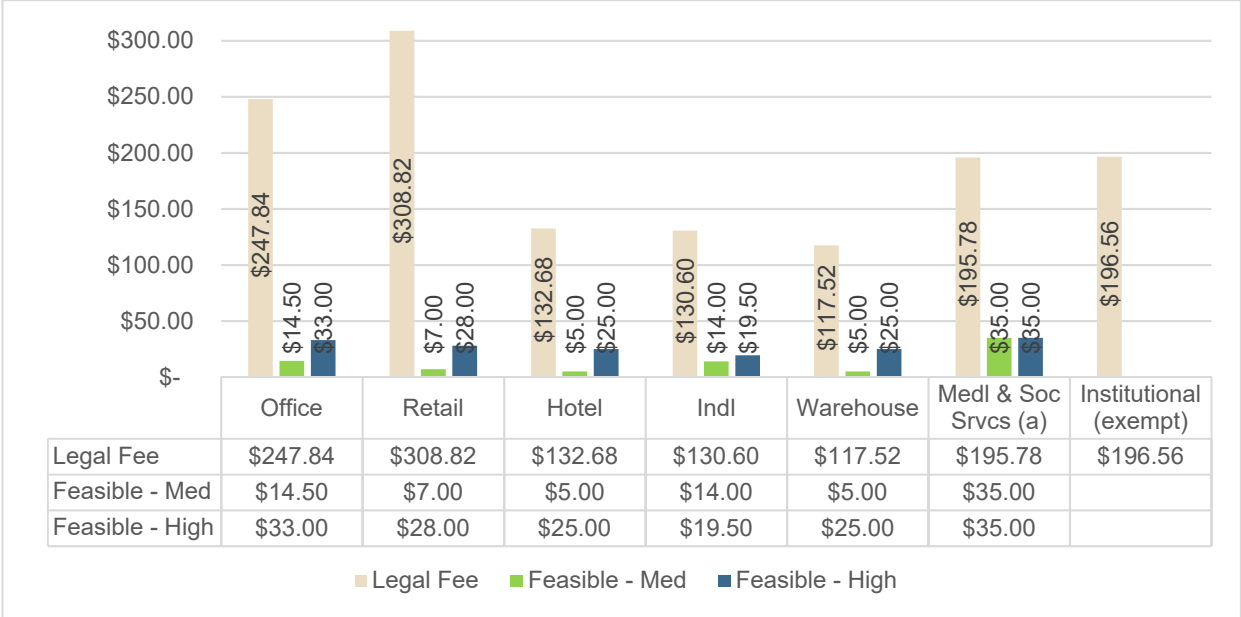
Two land use categories were treated differently than the above methodology. For the Medical & Social Services category (including hospitals), land uses will include both for-profit developments intended to generate financial returns such as medical office buildings, and non-profit developments intended to house social services, health clinics, of hospitals. For each of these sub-categories, the real estate economics situation often deviates varies from the standard income-generating investment property financial returns: non-profit facilities such as hospitals are often built by and for the occupant's use. Medical office buildings, while they may be developed as income-generating property, are also often built as part of hospital campuses or health clinics, and may have high construction costs. At the other end of the spectrum. social service agencies are often owned by a governmental entity (and would be exempt). For these reasons, this category was analyzed on a Percent of Cost basis to develop the fee, as detailed in Appendix C.

Institutional land uses, defined here as primarily schools and churches, are also often exempt from affordable housing fees. Thus, this category is not assigned a feasible fee rate, and would likely not generate any fee revenue, despite the housing market impacts identified through the legal fee (nexus) analysis.

Step D: Comparison of Feasible Fee to Maximum Legal Fee

The table below compares the feasible fees estimated above, to the maximum legal fees described in the previous chapter (based on nexus analysis of new worker households). As in most other cities in California, the gap between the dollars needed to fund affordable housing for new workers (e.g., maximum legal fee) and the feasible level of fee that can be absorbed by real estate market conditions, is substantial. In other words, charging a fee that would not constrain private sector development does not usually meet all subsidy needed to mitigate the costs of the affordable housing impacts generated by the new development.

FIGURE 5: COMPARISON OF MAXIMUM LEGAL COMMERCIAL FEES TO FEASIBLE FEES



	Office	Retail	Hotel	Indl	Warehouse	Medl & Soc Srvcs (a)	Institutional (exempt)
Legal Fee	$247.84	$308.82	$132.68	$130.60	$117.52	$195.78	$196.56
Feasible - Med	$14.50	$7.00	$5.00	$14.00	$5.00	$35.00	
Feasible - High	$33.00	$28.00	$25.00	$19.50	$25.00	$35.00	

a) Medical & Social Services includes hospitals. Fee formulated based on % of total cost, rather than on for-profit financial returns, due to this category representing primarily non-income properties. See Appendix C for % of Cost detail to formulate the example shown for hospitals.

Commercial Fee Program Options & Estimated Revenues

The preceding analysis underscores the complexity of formulating a fee schedule for commercial projects that balances the need for affordable housing funds with market conditions. The City could choose to structure this type of fee in several different ways to accommodate other policy options and limit effects on overall commercial development. The following presents four fee program options as examples. These options are then analyzed in order to estimate total annual fee revenues, along with two kinds of potential further adjustments to exempt certain projects.

Option A: Match Fee to Market Conditions

This option would create a fee schedule which charges feasible fees based on conservatively-estimated Medium Market Area conditions to new and rehabilitated projects in those areas, and feasible fees estimated for High Market Area conditions to those areas. Project fees in Low Market Areas would likely be waived since these fees would generally not be feasible.

This option would create the most finely-tuned fee structure, but may create challenges to administer and would necessitate periodic updating to identify changing neighborhood market conditions and feasible fee levels.

Option B: Charge Medium Market Fees to Both Medium and High Market Areas

This would be a conservative option, charging the level of feasible fee derived from a Medium market area feasibility test, to all projects located in both Medium and High Market Areas. This approach would limit debate about whether an individual project is in a medium or high market area, charging the same fee per land use to all projects regardless of location. Again, due to the economics of Low Market areas, fees would likely not be charged in these exempt zones.

This option would simplify fee administration, but may create an uneven burden on projects due to their location and subsequent economics.

Option C: Charge Only High Market Areas

This option would limit fees to only those projects located in premium, High Market Areas, where feasibility is most assured and development is least likely to be affected. Fees charged would be at the corresponding High Market levels. Projects in Medium and Low Market Areas would be waived based on their location. As market conditions change and are re-evaluated, neighborhoods may change from medium to high market conditions and become eligible for the fee schedule.

This option would further simplify fee program administration, but may create debate over specific projects which have High Market characteristics and economics but be technically located in a Medium Market neighborhood (or vice-versa).

Option D: Charge Lowest Feasible Commercial Fee Citywide (Flat Fee)

In this option, the lowest feasible fee for the lowest commercial land use in a Medium Market Area would be charged across all commercial uses in all markets. This is a more straightforward approach than any of the options cited above. For example, the feasibility testing for commercial land uses found that Warehouse projects in Medium Market Areas can only support an approximately $5.00 fee; this would become the flat fee charged to all land use categories for commercial projects anywhere in the city (including in Low Market Areas).

The benefits of this option are that it establishes clarity, minimizes confusion and minimizes administrative functions. While this option would apply the fee to all projects, including those located in market conditions that the pro formas concluded may be infeasible, most new development projects occurring in the Low market conditions likely reflect improving submarket conditions not reflected in the broader three market segments used for the analysis in this report.

The estimated annual revenues that could potentially be generated by the application of these fee program options are shown on the next page.

Adjustment for Project Size

Many cities exempt fees for smaller projects in order to encourage infill and accommodate small businesses. For this study, the distribution of new commercial projects by square foot size was analyzed (see data in Appendix B-3). This distribution suggests that projects less than 10,000 square feet in gross size is a logical threshold to waive the fee; approximately 40 percent of retail projects and 29 percent of office projects fall below this size, but on a square foot basis, most square footage built for office and retail occur in projects above this threshold.

TABLE 10: FEE SCHEDULE OPTIONS & ESTIMATED ANNUAL REVENUE

Estimates do not include possible exemptions and waivers under consideration other than minimum project size.

Option A - Match Fee to Market Conditions

	Low Market		Medium Market		High Market		Total		Total
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	High Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Potential Max Annual Rev Adjusted for Minimum Project Size (c)
Office	$ -	121,143	$ 14.50	274,169	$ 33.00	481,141	876,453	$ 19,853,099	$ 18,955,132
Retail	$ -	114,363	$ 7.00	308,224	$ 28.00	183,745	606,331	$ 7,302,417	$ 6,306,653
Industrial	$ -	2,911	$ 14.00	32,049	$ 19.50	0	34,960	$ 448,683	$ 371,205
Hotel	$ -	0	$ 5.00	294,953	$ 25.00	53,221	348,174	$ 2,805,294	$ 2,790,928
Warehouse	$ -	80,002	$ 5.00	334,961	$ 25.00	15,619	430,582	$ 2,065,290	$ 1,938,052
Medical (Hospital)	$ 35.00	18,644	$ 35.00	18,644	$ 35.00	18,644	55,932	$ 1,957,620	$ 1,957,620
Total		337,063		1,263,000		752,370	2,352,432	**$ 34,432,403**	**$ 32,319,591**

Option B - Medium Market Fees Applied to Both Med & High Zones

	Low Market		Medium Market		High Market		Total		Total
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Potential Max Annual Rev Adjusted for Minimum Project Size (c)
Office	$ -	121,143	$ 14.50	274,169	$ 14.50	481,141	876,453	$ 10,951,995	$ 10,456,630
Retail	$ -	114,363	$ 7.00	308,224	$ 7.00	183,745	606,331	$ 3,443,781	$ 2,974,184
Industrial	$ -	2,911	$ 14.00	32,049	$ 14.00	0	34,960	$ 448,683	$ 371,205
Hotel	$ -	0	$ 5.00	294,953	$ 5.00	53,221	348,174	$ 1,740,870	$ 1,731,955
Warehouse	$ -	80,002	$ 5.00	334,961	$ 5.00	15,619	430,582	$ 1,752,901	$ 1,644,909
Medical (Hospital)	$ -	18,644	$ 35.00	18,644	$ 35.00	18,644	55,932	$ 1,305,080	$ 1,305,080
Total		337,063		1,263,000		752,370	2,352,432	**$ 19,643,310**	**$ 18,483,963**

Option C - Fee in High Market Zones Only

	Low Market		Medium Market		High Market		Total		Total
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	High Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Potential Max Annual Rev Adjusted for Minimum Project Size (c)
Office	$ -	121,143	$ -	274,169	$ 33.00	481,141	876,453	$ 15,877,646	$ 15,159,491
Retail	$ -	114,363	$ -	308,224	$ 28.00	183,745	606,331	$ 5,144,849	$ 4,443,293
Industrial	$ -	2,911	$ -	32,049	$ 19.50	0	34,960	$ -	$ -
Hotel	$ -	0	$ -	294,953	$ 25.00	53,221	348,174	$ 1,330,530	$ 1,323,716
Warehouse	$ -	80,002	$ -	334,961	$ 25.00	15,619	430,582	$ 390,485	$ 366,428
Medical (Hospital)	$ -	18,644	$ -	18,644	$ 35.00	18,644	55,932	$ 652,540	$ 652,540
Total		337,063		1,263,000		752,370	2,352,432	**$ 23,396,050**	**$ 21,945,468**

Option D - Lowest Commercial Feasible Fee Charged Citywide

	Low Market		Medium Market		High Market		Total		Total
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	High Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Potential Max Annual Rev Adjusted for Minimum Project Size (c)
Office	$ 5.00	121,143	$ 5.00	274,169	$ 5.00	481,141	876,453	$ 4,382,264	$ 4,184,052
Retail	$ 5.00	114,363	$ 5.00	308,224	$ 5.00	183,745	606,331	$ 3,031,657	$ 2,618,258
Industrial	$ 5.00	2,911	$ 5.00	32,049	$ 5.00	0	34,960	$ 174,799	$ 144,615
Hotel	$ 5.00	0	$ 5.00	294,953	$ 5.00	53,221	348,174	$ 1,740,870	$ 1,731,955
Warehouse	$ 5.00	80,002	$ 5.00	334,961	$ 5.00	15,619	430,582	$ 2,152,912	$ 2,020,276
Medical (Hospital)	$ 5.00	18,644	$ 5.00	18,644	$ 5.00	18,644	55,932	$ 279,660	$ 279,660
Total		337,063		1,263,000		752,370	2,352,432	**$ 11,762,162**	**$ 10,978,815**

Notes on next page

Notes:

a) Sq. Ft. of each land use based on avg. annual permit data, as follows:

Office	876,453
Retail	606,331
Industrial	34,960
Hotel/Motel	348,174
Warehouse	430,582
Hospital	55,932
Total	2,352,432

b) Allocation of Sq. Ft. per Market Area category- based on geocoding of all permits:

	% Sq.Ft. in Low Markets	% Sq.Ft. in Med Markets	% Sq.Ft. in High Markets
Office	13.8%	31.3%	54.9%
Retail	18.9%	50.8%	30.3%
Industrial	8.3%	91.7%	0.0%
Hotel/Motel	0.0%	84.7%	15.3%
Warehouse	18.6%	77.8%	3.6%
Hospital*	33.3%	33.3%	33.3%

*The hospital square footage was allocated equally among low, medium, and high markets because only one new hospital was built between 2011 and 2015.

c) Adjusted for proposed minimum project size (10,000+ Sq. Ft.)

	Below Min Project Size	Above Min Project Size
Office	4.5%	95.5%
Retail	13.6%	86.4%
Industrial	17.3%	82.7%
Hotel/Motel	0.5%	99.5%
Warehouse	6.2%	93.8%
Hospital	0.0%	100.0%

In addition to adjustments for potential exempted small projects, the City of Los Angeles could also create a partial fee waiver in its new fee program for those projects located in the two Specific Plan areas which currently charge Transportation Impact Assessment (TIA) fees. These two areas – West Los Angeles Specific Plan and the Coastal Transportation Corridor Specific Plan (CTCSP) – currently each have similar fee schedules to fund local transportation improvements, varied by land use and in some cases, size of project.

As of August 2016, both of these fee programs have also been proposed for fee increases and refined schedules (changing some land use definitions and size thresholds). The fact that these two fee schedules are different from each other, and are undergoing a simultaneous simplification process, means that if the City were to adopt a commercial affordable housing fee and sought to still balance feasibility with needed fee revenue, these two areas could be partially waived and subject to a lower fee schedule for affordable housing plus the TIA fee, to end up at the same total fee level. A map of the TIA overlay on commercial market areas is shown below, and the adjustment to the potential fee revenue estimate for each option net of the proposed applicable TIA fee is shown on the next page. It should be noted that a fee revenue estimate for each option which combines waivers for both small projects and partial TIA waivers has not been conducted for this study.

FIGURE 6: COMMERCIAL MARKET AREAS & TIAS

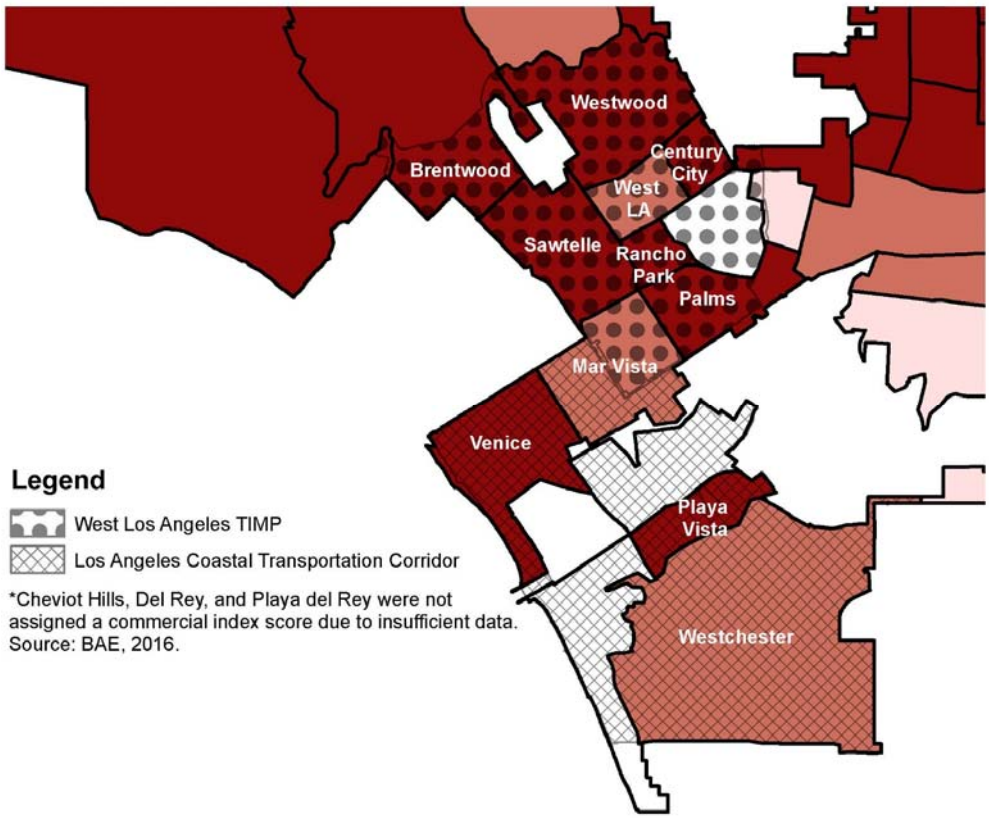


TABLE 11: ESTIMATED ANNUAL COMMERCIAL FEE REVENUE WITH TIA ADJUSTMENTS

Estimates do not include possible exemptions and waivers under consideration.

Option A - Citywide Fee with Market Area Zones

	Low Market		Medium Market		High Market		Total	
Use	**Low Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**Med Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**High Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**Annual Avg. Sq. Ft.**	**Potential Max Annual Revenue**
Office outside TIAs	$ -	121,143	$ 14.50	274,169	$ 33.00	420,894	816,206	$ 17,864,950
Office in TIAs	*$ -*	*0*	*$ -*	*0*	*$ -*	*60,247*	*60,247*	*$ -*
Retail outside TIAs	$ -	114,363	$ 7.00	307,523	$ 28.00	176,313	598,198	$ 7,089,421
Retail in TIAs	*$ -*	*0*	*$ -*	*701*	*$ 9.01*	*7,432*	*8,133*	*$ 66,937*
Industrial outside TIAs	$ -	2,911	$ 14.00	32,049	$ 19.50	0	34,960	$ 448,683
Industrial in TIAs	*$ -*	*0*	*$ 1.66*	*0*	*$ 7.16*	*0*	*0*	*$ -*
Hotel outside TIAs	$ -	0	$ 5.00	294,953	$ 25.00	53,221	348,174	$ 2,805,294
Hotel in TIAs	*$ -*	*0*	*$ -*	*0*	*$ 16.83*	*0*	*0*	*$ -*
Warehouse outside TIAs	$ -	80,002	$ 5.00	292,076	$ 25.00	15,247	387,325	$ 1,841,560
Warehouse in TIAs	*$ -*	*0*	*$ 0.36*	*42,885*	*$ 20.36*	*372*	*43,257*	*$ 22,844*
Hospital outside TIAs	$ 35.00	18,644	$ 35.00	18,644	$ 35.00	18,644	55,932	$ 1,957,620
Hospital in TIAs		*0*	*$ 20.50*	*0*	*$ 20.50*	*0*	*0*	*$ -*
Total		337,063		1,263,000		752,370	2,352,432	**$ 32,097,310**

Option B - Low Market Incentive Zone + Med Fee Applied to Both Med & High Zones

	Low Market		Medium Market		High Market		Total	
Use	**Low Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**Med Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**Med Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**Annual Avg. Sq. Ft.**	**Potential Max Annual Revenue**
Office outside TIAs	$ -	121,143	$ 14.50	274,169	$ 14.50	420,894	816,206	$ 10,078,414
Office in TIAs	*$ -*	*0*	*$ -*	*0*	*$ -*	*60,247*	*60,247*	*$ -*
Retail outside TIAs	$ -	114,363	$ 7.00	307,523	$ 7.00	176,313	598,198	$ 3,386,849
Retail in TIAs	*$ -*	*0*	*$ -*	*701*	*$ -*	*7,432*	*8,133*	*$ -*
Industrial outside TIAs	$ -	2,911	$ 14.00	32,049	$ 14.00	0	34,960	$ 448,683
Industrial in TIAs	*$ -*	*0*	*$ 1.66*	*0*	*$ 1.66*	*0*	*0*	*$ -*
Hotel outside TIAs	$ -	0	$ 5.00	294,953	$ 5.00	53,221	348,174	$ 1,740,870
Hotel in TIAs	*$ -*	*0*	*$ -*	*0*	*$ -*	*0*	*0*	*$ -*
Warehouse outside TIAs	$ -	80,002	$ 5.00	292,076	$ 5.00	15,247	387,325	$ 1,536,617
Warehouse in TIAs	*$ -*	*0*	*$ 0.36*	*42,885*	*$ 0.36*	*372*	*43,257*	*$ 15,399*
Hospital outside TIAs	$ -	18,644	$ 35.00	18,644	$ 35.00	18,644	55,932	$ 1,305,080
Hospital in TIAs	*$ -*	*0*	*$ 20.50*	*0*	*$ 20.50*	*0*	*0*	*$ -*
Total		337,063		1,263,000		752,370	2,352,432	**$ 18,511,913**

Option C - High Market Zone Only

	Low Market		Medium Market		High Market		Total	
Use	**Low Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**Med Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**High Feasible Fee per Sq. Ft.**	**Annual Avg. Sq. Ft. (a)(b)**	**Annual Avg. Sq. Ft.**	**Potential Max Annual Revenue**
Office outside TIAs	$ -	121,143	$ -	274,169	$ 33.00	420,894	816,206	$ 13,889,497
Office in TIAs	*$ -*	*0*	*$ -*	*0*	*$ -*	*60,247*	*60,247*	*$ -*
Retail outside TIAs	$ -	114,363	$ -	307,523	$ 28.00	176,313	598,198	$ 4,936,762
Retail in TIAs	*$ -*	*0*	*$ -*	*701*	*$ 9.01*	*7,432*	*8,133*	*$ 66,937*
Industrial outside TIAs	$ -	2,911	$ -	32,049	$ 19.50	0	34,960	$ -
Industrial in TIAs	*$ -*	*0*	*$ -*	*0*	*$ 7.16*	*0*	*0*	*$ -*
Hotel outside TIAs	$ -	0	$ -	294,953	$ 25.00	53,221	348,174	$ 1,330,530
Hotel in TIAs	*$ -*	*0*	*$ -*	*0*	*$ 16.83*	*0*	*0*	*$ -*
Warehouse outside TIAs	$ -	80,002	$ -	292,076	$ 25.00	15,247	387,325	$ 381,179
Warehouse in TIAs	*$ -*	*0*	*$ -*	*42,885*	*$ 20.36*	*372*	*43,257*	*$ 7,577*
Hospital outside TIAs	$ -	18,644	$ -	18,644	$ 35.00	18,644	55,932	$ 652,540
Hospital in TIAs	*$ -*	*0*	*$ -*	*0*	*$ 20.50*	*0*	*0*	*$ -*
Total		337,063		1,263,000		752,370	2,352,432	**$ 21,265,023**

Option D would be same as without TIA adjustment due to low flat fee structure

These estimates are not adjusted for project size threshold. Footnotes on following page.

Notes:

a) Sq. Ft. of each land use based on avg. annual permit data, as follows:

Office	876,453
Retail	606,331
Industrial	34,960
Hotel/Motel	348,174
Warehouse	430,582
Hospital	55,932
Total	2,352,432

b) Allocation of Sq. Ft. per Market Area category- based on geocoding of all permits:

	% Sq.Ft. in Low Markets	**% Sq.Ft. in Med Markets**	**% Sq.Ft. in High Markets**
Office	13.8%	31.3%	54.9%
Retail	18.9%	50.8%	30.3%
Industrial	8.3%	91.7%	0.0%
Hotel/Motel	0.0%	84.7%	15.3%
Warehouse	18.6%	77.8%	3.6%
Hospital*	33.3%	33.3%	33.3%

*The hospital square footage was allocated equally among low, medium, and high markets because only one new hospital was built between 2011 and 2015.

c) Adjusted for proposed minimum project size (10,000+ Sq. Ft.)

	Below Min Project Size	**Above Min Project Size**
Office	4.5%	95.5%
Retail	13.6%	86.4%
Industrial	17.3%	82.7%
Hotel/Motel	0.5%	99.5%
Warehouse	6.2%	93.8%
Hospital	0.0%	100.0%

d) Figures overestimate revenue if TIA fees are accounted for in two specific plan aras where TIA fees are charged. The highlighted figures represent the maximum fee for each prototype, which are used in the above calculation. The proposed TIA fees are:

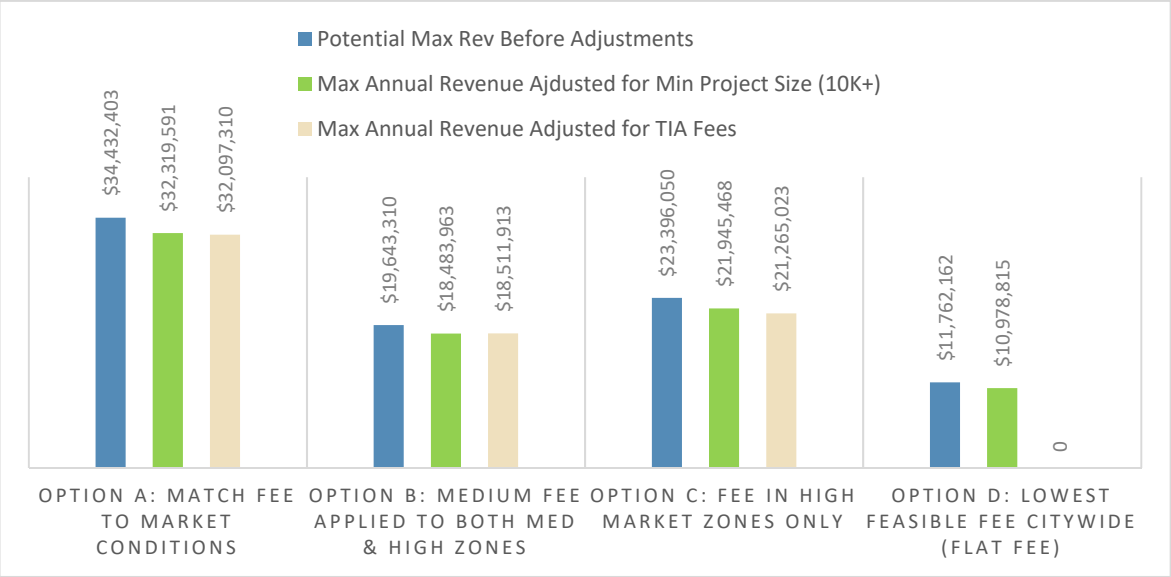
	Proposed TIA Fees		Max Supportabe Fee - Medium		Max Supportabe Fee - High	
	West LA	CTCSP	West LA	CTCSP	West LA	CTCSP
Office	$ 35.43	$ 31.52	$ -	$ -	$ -	$ 1.48
Retail	$ 18.99	$ 16.90	$ -	$ -	$ 9.01	$ 11.10
Industrial	$ 12.34	$ 10.98	$ 1.66	$ 3.03	$ 7.16	$ 8.53
Hotel	$ 8.17	$ 7.27	$ -	$ -	$ 16.83	$ 17.73
Warehouse	$ 4.64	$ 4.13	$ 0.36	$ 0.87	$ 20.36	$ 20.87
Medical (Hospital)	$ 14.50	$ 12.90	$ 20.50	$ 22.10	$ 20.50	$ 22.10

Allocation of Sq. Ft. per Market Area category within TIAs

	% Units in Low	**% of Units in Med**	**% of Units in High**	**Total Activity in TIAs**
Office	0.0%	0.0%	12.5%	12.5%
Retail	0.0%	0.2%	4.0%	4.3%
Industrial	0.0%	0.0%	0.0%	0.0%
Hotel	0.0%	0.0%	0.0%	0.0%
Warehouse	0.0%	12.8%	2.4%	15.2%
Medical (Hospital)	0.0%	0.0%	0.0%	0.0%

In summary, the estimated range of potential fee revenue for an average development year (based on the past five years of permit data), would be as follows.

FIGURE 7: ESTIMATE OF POTENTIAL ANNUAL COMMERCIAL FEE REVENUE



It should be noted that these are estimates, and actual fee collections will vary depending on the specific regulations in the to-be-determined adopted ordinance. Furthermore, these estimates rely on data for the past five years of permitted development activity (2011 – 2015), which reflects a time period at the end of the Great Recession plus the surge after economic recovery. Actual economic cycles in any given year may strongly influence the revenue stream.

Considerations for Implementation

Fees by Geographic Area

As described above, the City of Los Angeles could adopt a commercial fee schedule which varies the required fee by geographic area, as related to market condition. Further variations of this approach, which would match the feasible fee to the geographic area, are then possible to structure.

The advantage of this framework is that fees can be calibrated to achieve meaningful revenues to produce affordable housing, while still balancing the diversity of Los Angeles development conditions to achieve ongoing feasibility. However, this framework, whether accomplished through Option A, B, or C, would require ongoing or periodic analysis to re-calibrate market areas. Furthermore, the 114 LA Times neighborhoods used for this study, while representing a good way to determine subareas, could be further improved in terms of both the accuracy of the geo-spatial files, and possibly the actual division of geographies. For

example, a more fine-grained approach than taken in this study, could utilize Census Tracts to determine market condition by location.

Phase-In of Fee Schedule

A key component of adopting a commercial fee in Los Angeles will be the phase-in schedule. Most notably, most cities when first adopting a fee like this, set a future date for its implementation, and also define and waive current "pipeline" projects which would have been started without knowledge of this fee. Moreover, because Los Angeles has relatively few other impact fees for most areas, with the exception of the TIAs in 2 specific plan areas, and the proposed park fees, adoption of a new commercial fee may have the undesirable short-term perceived effect of a "shock" to the economic system for some projects with smaller profit margins.

For these reasons, it is recommended that if Los Angeles adopts a commercial fee program, it should consider a phased-in schedule when initially implemented. Some cities have phased fees like this in over a two-year period; for Los Angels, it is recommended that this two-year period be considered. The fee schedule, for example, could be set at half of the full fee for the first year of applicability, rising to the full 100 percent of the fee on projects seeking building permits 12 months later and beyond.

Fee Exemptions and Waivers

As profiled in the case studies of commercial fees, other cities in California have variable approaches to making categories of land use either exempt from commercial fees, or waiving fees under certain conditions.

Fee Exemptions

This study was conducted assuming that certain categories of land use would be exempted from commercial fees, due to the nature of these land uses (e.g., built and owned primarily by non-profit or public-purpose organizations). These include all institutional uses (churches, public schools, private schools, and public and private higher educational institutions), as well as child care facilities, and public agency owned buildings (including city, state and federal as required by the California Constitution).

Most cities also exempt 100 percent affordable housing projects. Some cities also exempt buildings smaller than a certain size threshold as discussed earlier in this study, and a few cities earmark other exemptions to achieve policy goals such as the example of San Francisco exempting neighborhood grocery stores and pharmacies.

Fee Waivers

Some cities profiled in the case studies also waive commercial fees in exchange for other mechanisms to provide for affordable housing impacts, including building the affordable housing (although few cities report that this option is used), and/or allow land donation at an equivalent value. Because most of Los Angeles is relatively built-out and land constrained,

especially in the stronger market areas, the option to dedicate land instead of pay a fee, should be further explored.

The revenue estimates for the commercial fee included an example adjustment that can also be built into the regulations for Transportation Impact Assessment (TIA) areas, which are currently applicable only to the Specific Plans for West Los Angeles and the Coastal Transportation Corridor. In the event other areas of Los Angeles were to adopt area transportation impact fees, the commercial linkage fee could be partially waived (reduced) to accommodate those other fees.

Finally, most cities allow for a waiver request if a) economic hardship can be demonstrated or b) if lesser affordable housing job impacts can be demonstrated. Excluding the issue of the planned increase in minimum wage (explored later in this report), it is recommended that these two options be narrowly allowed per legal requirements, but not more broadly offered, to minimize administrative burden on staff.

Timing of Fee Calculation and Payment

As profiled in the case studies, most cities charge the commercial fee prior to or at the time of building permit issuance. Several cities split up the payments, allowing for partial payment later (at Certificate of Occupancy), while a few cities spread payments even farther apart over time, allowing for essentially a payment plan or the choice of an upfront net present value payment of the entire amount.

For several reasons, it is recommended that for the City of Los Angeles, the fee payment be split only into at most, two equal installments – at the time of building permit issuance and at the time of Certificate of Occupancy. This recommendation is made due to the overarching immediate need to create a permanent source of funding for affordable housing, as well as potential collection challenges if payments were spread beyond the point of issuing a Certificate of Occupancy.

About Residential Fees

Overview of Residential Fees

Residential fees for affordable housing apply to market rate units, and are based on the "nexus" or relationship between the occupants of a market-rate unit's spending in the economy, and the portion of this spending that generates workers' low income households needing affordable units.

One of the complexities around this kind of fee is that for most cities in California with a residential fee, the fee is rooted in an existing inclusionary housing program, which requires generally 10 to 15 percent of units in market rate projects be affordable to low and sometimes moderate income households. There are more than 170 inclusionary programs in cities and counties throughout California, many of which have been operating for decades.[9] Although these programs were structured to achieve production of affordable units within a market-rate development, creating a mixed-income project, most of these programs also offer an in-lieu fee option instead of providing on-site affordable units. With the *Palmer/Sixth Street Properties L.P. v. City of Los Angeles* court decision in 2009, these inclusionary programs were found to violate California's Costa Hawkins Act regarding rent control, and thus prohibited from requiring on-site mandatory unit requirements. The in-lieu fee for market rate rental projects, however, remained legal. Many cities and counties then determined that the fee should be based on a nexus study (which many in-lieu fees had previously not been based on), and many jurisdictions proceeded to update and/or amend their inclusionary ordinances, supporting in-lieu fee requirements with nexus studies. Some legal questions remain, such as whether the in-lieu fee is subject to the California Mitigation Fee Act, but the nexus studies have nonetheless become common practice.

Because the City of Los Angeles does not have an operative inclusionary housing program, a pre-existing in-lieu fee is not a factor. Instead, and similar to a few cities which have never adopted an inclusionary program, the City of Los Angeles is considering a new residential fee for affordable housing. Some other cities term this fee as an "impact" fee or "development" fee; for simplicity's sake, this report calls the fee under consideration a residential fee for affordable housing ("residential fee").

It should be noted that the process of establishing a nexus for the City of Los Angeles's residential fee is virtually the same as the nexus studies undertaken to support inclusionary housing in-lieu fees after *Palmer*. This analytical process is described in the following chapter.

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[9] *Affordable by Choice: Trends in California Inclusionary Housing Programs* (Non-Profit Housing Association of Northern California, 2006).

Summary of Case Studies

This report profiles 11 cities with market-rate housing fees to produce affordable housing. The profiles include all large California cities with fee programs (e.g., San Francisco, Oakland, San Jose, and Sacramento), selected smaller southern California cities with economies similar to portions of Los Angeles (e.g., Santa Monica, West Hollywood, Pasadena, Santa Ana), along with a high-fee case in Palo Alto and two large cities elsewhere in the U.S. (e.g., Boston and Chicago). Appendix D provides a detailed discussion).

The California cities selected for case studies in this report are not exhaustive; over 170 jurisdictions in California have mandatory inclusionary housing programs, and all require a fee payment for market rate rental projects (after the *Palmer* decision, fees are the only requirement legally available related to impose on market-rate rental projects).[10]. Among the California cities profiled here, all except Oakland and San Jose had pre-existing mandatory inclusionary programs established prior to the Palmer decision, and as such, already had ongoing in-lieu fee program options. Therefore, the City of Los Angeles falls somewhere in the middle of this spectrum between long-established mandatory inclusionary programs with procedures and real estate markets that have adjusted to the concept, and new programs post-Palmer that do not relate directly to this practice.

The following table summarizes the case study cities, with key findings on the next page.

[10] It should be noted that the state legislature has twice passed legislative "fixes" to Palmer for rental projects, both of which were vetoed by the Governor. However, the Governor has recently proposed a legislative "fix" as part of proposed legislation to waive CEQA review for certain "by right" housing projects with at least 5 percent affordable housing included within the project. As of July 2016, this most recent legislative proposal has again been dropped and is considered "dead." These events are cited here to illustrate that the Palmer decision is reversible, and may be reversed by future California legislative action.

TABLE 12: SUMMARY OF RESIDENTIAL FEE CASE STUDIES

	Popoulation (a)	Fee per Unit/Square Foot (b)				Threshold	Fees Collected	Annual Rev. Per Capita (c)	Aff. Units Produced	Notes
Large Cities in CA with Fee										
San Francisco (2002/2016)	829,072	10-24 units (d)	25+ Units (e)			10 units	$10.1 M/year	$12.14	2,157 between	Fees shown became effective June 1, 2016
SRO/Group Housing Unit (per		$29,701	$49,007				(avg since		1992 & Q2 2016	June 2016 ballot mesaure increased
Studio (per unit)		$39,602	$65,343				FY 2011/12)		(program	inclusionary % above level yielding the
1 Bedroom (per unit)		$53,792	$88,757						structured to	fees shown
2 Bedroom (per unit)		$73,274	$120,902						generate units)	
3 Bedroom (per unit)		$83,560	$137,874							
4 Bedroom (per unit)		$104,286	$172,072							
San Jose (2014)	986,320	Citywide Rental	Downtown Core High Rise Rental			3 units	NA (new)			Fees effective July 2016. Downtown highrises
(per sq. ft.)		$17.00	$17.00							w/ CoO on or before 6/30/2021 are exempt.
Oakland (2016)	402,339	Zone 1	Zone 2	Zone 3			N/A (new)			Some zones phased in, all apply as of
Multi-family (per unit)		$22,000	$17,750	$12,000						7/1/2018
Townhome (per unit)		$20,000	$14,250	$8,000						
Single-Family (per unit)		$23,000	$16,500	$8,000						
Sacramento (2015)	476,075	20 DU/acre	21-30 DU/acre				$30,000 in	$0.06		
Single Units and Duplexes (per sq. ft.)		$2.58	$0.00				first year			
Multi-Unit Dwellings (per sq. ft.)		$2.58	$0.00							
Non-Resl to Res Conversion (per sq. ft.)		$0.00	$0.00							
Units in a Housing Incentive Zone (per sq. ft.)		$1.11	$1.11							
Smaller Cities with Fee										
Santa Monica (2006/2015)	91,619	Rental	Condominium			2 units	$992,000/year	$10.83		
(per sq. ft.)		$31.25	$36.51				(avg 1998-2015)			
West Hollywood (2001/2007)	35,053	All Residential				2 units	$1.3 M in	$37.09		Updated nexus study in 2014
2 to 10 units (per sq. ft.)		$12.65 - $27.13					FY 2014-15			
10+ Units (per sq. ft.)		$27.13								
Pasadena (2001)	139,065	Zone A	Zone B	Zone C	Zone D	10 units	$1.3 M/year	$9.40		Update pending 2016 nexus study
10-49 Rental Units (per sq. ft.)		$35.37	$19.97	$32.89	$35.37		(avg)			
50+ Rental Units (per sq. ft.)		$49.12	$27.74	$45.68	$49.12					
10-49 Ownership Units (per sq. ft.)		$47.01	$19.01	$29.66	$47.01					
50+ Ownership Units (per sq. ft.)		$65.30	$26.40	$41.20	$65.30					
Santa Ana (2011)	331,266	5-20 Units	20+ Units			5 units	$860,000/year	$2.60	64	Fees only apply to excess density above
(per sq. ft.)		$5.00	$15.00				(avg)			zoning
Palo Alto (2008/2016)	65,998					5 units				
Single Family Detached (per sq. ft.)		$95.00								
Single Family Attached (per sq. ft.)		$50.00								
Condominium (per sq. ft.)		$50.00								
Rental Housing		$50.00								
Major Cities Outside of CA with Fee										
Boston (2000/2015)	639,594	Zone A	Zone B	Zone C		10 units	$8 M/year (avg)	$12.48	1,597 units	
Rental (per unit)		$68,400	$54,000	$30,000					between	
Ownership		(f)	(f)	(f)					2000-2015	
Chicago (2003/2015)	2,712,608	Citywide Low-Mod Inc	Citywide Higher Inc	Downtown Rental	Downtown Ownership	10 units	$5.6 M/year	$2.05		
(per unit)		$12,500	$31,250	$28,750 to $43,750	$28,750 to $56,250		(avg.)			

Notes:
(a) All population figures from 2010-2014 American Community Survey.
(b) Each jurisdiction charges fees either on a per square foot or per unit basis.
(c) Per capita annual average revenue based on 2010-2014 ACS population estimates. Revenues are not adjusted for inflation, changes in fee rates, or other factors.
(d) Reflects an off-site inclusionary requirement of 20 percent of units n the principal project.
(e) Reflets an off-site inclusionary requirement of 33 percent of units in the principal project.
(f) For ownership projects, fee is greater of rental fee, or 50% of price difference between market rate and affordable unit.
Sources: ACS, 2010-2014; BAE, 2016.

Review of the case studies indicates the following key points:

Fee Charges and Structure

- Direct comparisons among cities is difficult due to the variation of fee structures; some cities charge per square foot, while others charge per unit by density variations or size of project.
- Residential fees for affordable housing charged by larger cities with a diverse real estate market range from a low of $1.11 per square foot in Sacramento (e.g., $1,100 per unit for 1,000 square feet), to over $172,000 per unit in San Francisco (for a 4-bedroom unit).
- Some cities, notably Santa Ana, Boston, and Chicago, only charge this kind of fee (and only apply their inclusionary ordinances) to projects with public financial assistance or those seeking a zoning change.
- Sacramento, Pasadena, Oakland, Boston, and Chicago take a zone approach to their fee schedules, seeking to incentivize housing production through lower fees in areas with more modest market conditions or for other policy reasons.
- San Jose also takes a zone/product type approach, exempting downtown high rise housing projects from the fee until 2021. This is an interesting product type/time frame targeting approach to foster the city's goal of increased production of dense downtown market-rate housing.
- Several cities (e.g., San Francisco, West Hollywood, and Pasadena) have developed fee schedules based on project size (e.g., number of units), with lower fees for smaller projects.
- San Francisco is the only city profiled which has a differentiated on- and off-site policy, originally designed to foster on-site unit production, although it should be noted that other California cities not profiled in this report have taken a similar approach.

Waivers, Exemptions, and Refunds

- All cities waive the fee for 100 percent affordable housing projects.
- All cities exempt publicly-owned projects.
- Some cities waive non-profit buildings, and/or churches, schools (public and private), universities and colleges, and other similar categories of land use.
- Most cities offer a "units in lieu of fee" and/or land donation in lieu of fee option.
- For individual newly-constructed single family units, some cities charge a fee, while others do not.
- Some cities have established clear refund processes if projects are subsequently not constructed, while others allow for refund requests decided on a case-by-case basis.
- During economic downturns, cities have either created special deferral programs or lowered fees across the board. These approaches demonstrate that these kinds of fees can be customized to adapt to downturns in the economic cycle.

- All cities in California have a "hardship" exemption available per legal requirements. Some cities render a hardship decision administratively; others have a more formal process.

Revenues and Reporting

- Estimates of revenues collected from residential fees range from less than $1 million to over $10 million per year, depending on the city's fee structure, size, and amount of residential development activity. It is import to note that with the exception of Oakland and San Jose, these fees have long been part of inclusionary programs which were structured to produce units within new projects, so instead of fees, cities obtained affordable units (not tracked in this report). If Los Angeles were to adopt a residential fee, it would be more akin to Oakland and San Jose, both of which are essentially starting from scratch, not able to require units in rental projects (just fees). Since both Oakland's and San Jose's fee programs are new, neither can be relied on to inform fee collection patterns at this time.
- Most cities do not specifically track the use of these fees to build affordable housing projects, because the funds go into a trust fund and are used in combination with other sources per project.
- San Francisco last reported its sources and uses of commercial linkage fees along with other revenue sources comprising its Affordable Housing Fund as part of a larger annual report for FY 2014-2015. Its reporting does clearly show both source and use of each funding stream within its Affordable Housing Fund, along with remaining balances at year end.
- Most cities have general guidelines for use of commercial fee funds such as maximum AMI levels that can be served in new affordable units, rather than targeting the funds specifically to serve households with the greatest need (e.g., at-risk of homelessness/extremely low income/very low income). The City of Los Angeles, with great need for new affordable units serving extremely low and very low income households, may wish to develop policies to target commercial fee funds.

Los Angeles Residential Fee Analysis

Overview of Methodology

The maximum residential fee calculation is based on the premise that new households in Los Angeles spend money within the local economy, thereby supporting employment for new workers, a portion of which will be in need of affordable housing. The intent of the market-rate residential fee is to generate revenue that will support the construction of affordable housing affordable to these new lower-income worker households.

This section provides an overview of the steps used to determine the maximum legal fee for market-rate residential units. Each step is discussed in more detail in the following sections.

Step 1: Define Housing Types

The Nexus Study identified four residential land uses to determine the maximum legal fee for each residential product type. The residential product types analyzed in this study consist of multifamily rental units, condominium units, single-family attached units, and single-family detached units.

Step 2: Identify Housing Prices for New Market-Rate Units

The Nexus Study estimated sale prices for new market rate units based on rent and sale price data for recently-constructed properties in Los Angeles. The analysis used rent and sale price data for units built in 2006 or later to approximate typical housing costs for the new units that would be subject to the impact fee.

Step 3: Estimate the Incomes of Households in New Market Rate Housing

Based on the rent and sale prices identified in Step 2, the Nexus Study estimated the household incomes of occupants in new residential units in Los Angeles, assuming that households spend 30 percent of gross household income on housing costs.

Step 4: Analyze Projected Spending Patterns for Households in New Market-Rate Units

Based on the household income figures from Step 3, the Nexus Study uses IMPLAN to estimate spending patterns among households that would occupy new units in the City and the number of new jobs that this spending would support. The IMPLAN output includes the number of new workers by industry from new household spending.

Step 5: Estimate New Worker Households by Household Income

The analysis uses a data set published by the U.S. Census (the Public Use Microdata Sample or PUMS) to estimate the household income distribution among the worker households derived from Step 4.

Step 6: Calculate Financing Gap per Affordable Unit

The next step in the nexus analysis is to determine the per unit "financing gap" that affordable housing developers encounter when securing a permanent loan for their projects. Step 6 of the Nexus Study calculates the net operating income (NOI) generated by units affordable to extremely low-, very low-, low-, and moderate-income households. Using conventional financing assumptions, the analysis determines the supportable loan amount based on the NOI from units at each income level.

The cost to house a lower-income household is the difference between the cost to develop an affordable unit and the amount the developer can borrow to build the unit. Using data on recent affordable housing developments in the City of Los Angeles, the Nexus Study determined the average cost to build an affordable rental unit in the City. The supportable permanent loan amounts identified in Step 6 were deducted from the average per-unit development cost to determine the financing gap for units serving households at each income level up to 120 percent of AMI.

Step 7: Calculate the Maximum Legal Fee

The final step in calculating the impact fee is to apply the financing gap per unit for each income level (from Step 6) to the total housing need by income level from new market-rate units (from Step 5).

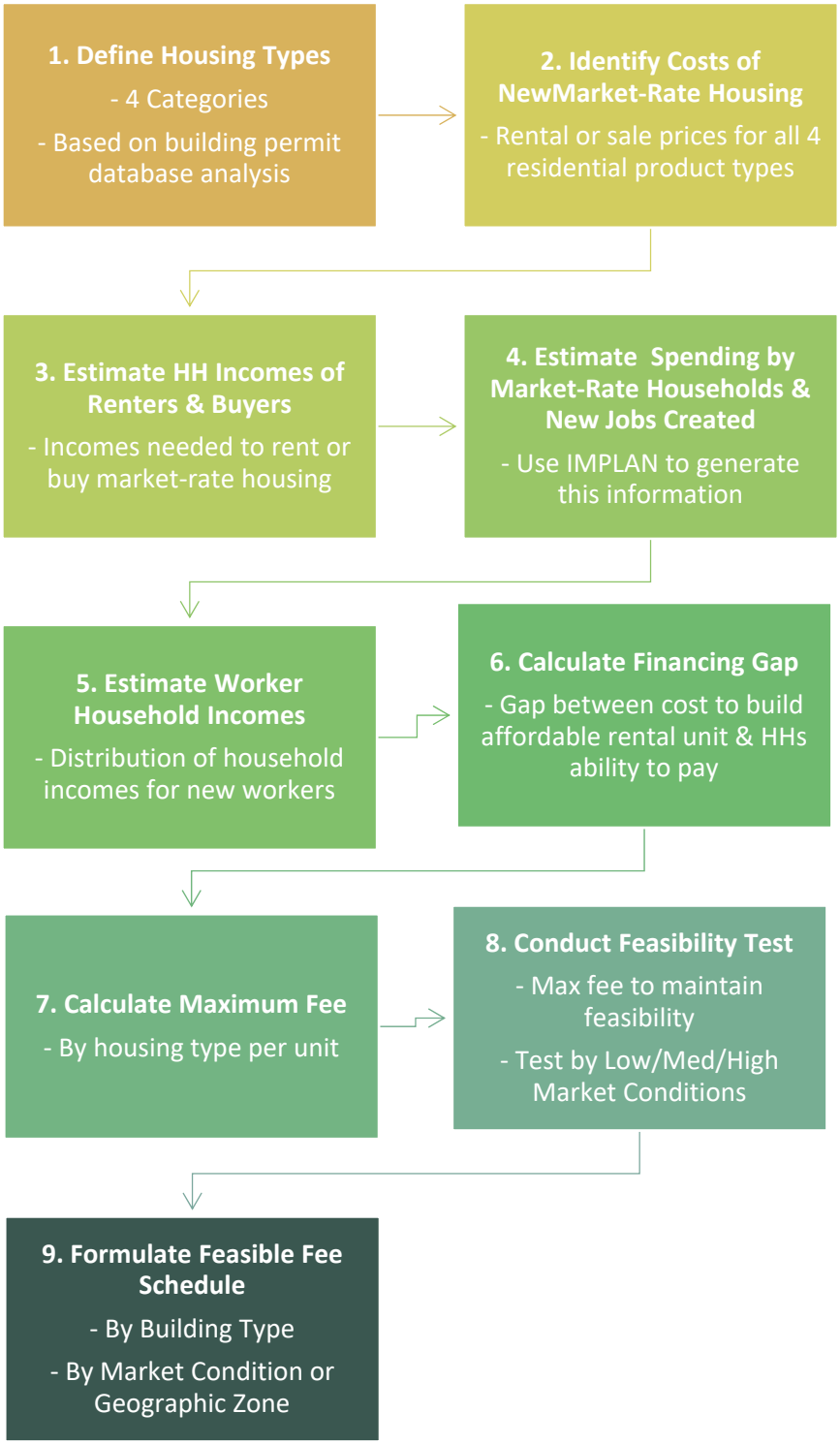
Step 8 Test Feasibility of Maximum Legal Fee Under Different Market Conditions

The City of Los Angeles has a wide range of neighborhoods and corresponding market conditions. In order to ensure that market-rate commercial development is not effected by any fee that may be adopted, this step identifies three general levels of market condition throughout the City, and analyzes the financial return from a development project, in order to identify "feasible" levels of fee by land use.

Step 9: Formulate Feasible Fee Schedule

This step involves a summary fee schedule tested for feasibility, along with policy recommendations for phasing it in, administration, and other options for consideration.

FIGURE 8: SUMMARY OF MARKET-RATE HOUSING FEE METHODOLOGY

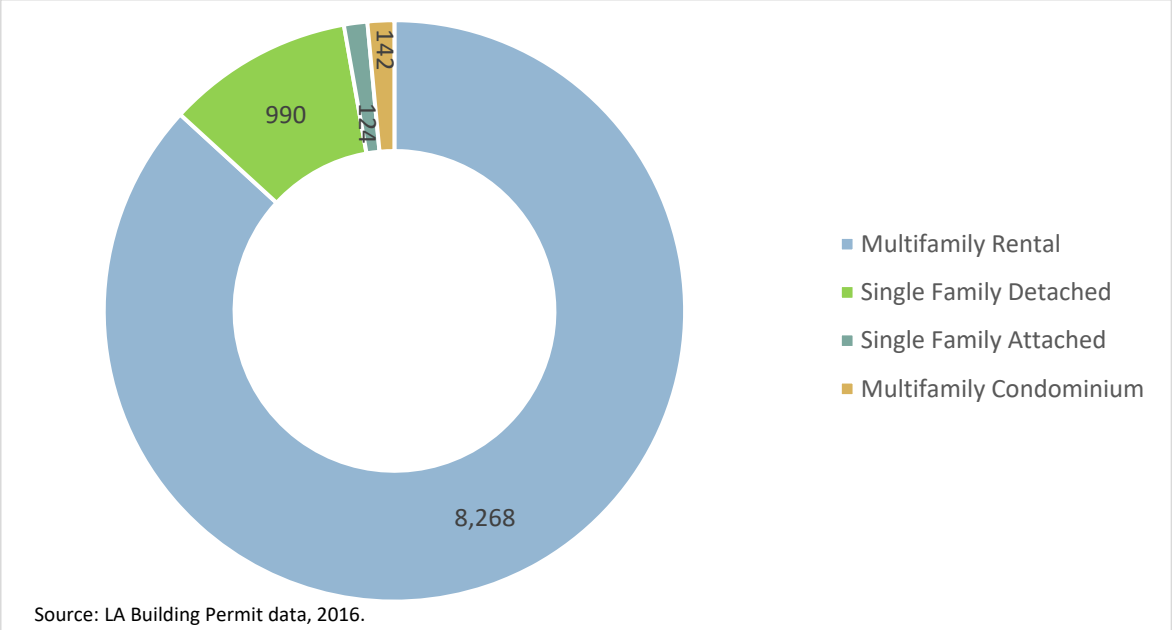


Residential Land Uses

Step 1: Define Housing Types

In order to formulate commercial land use categories that reflect actual development in Los Angeles, the City's building permit data was analyzed for the 2011 to 2015 period (see Appendix E for summary data). The City issued building permits for an average of approximately 14.0 million square feet of new residential space per year for the period, including an average of 990 single family detached units with 3.7 million square feet[11]. Just under 70 percent of permitted square feet was in multifamily rental, averaging 8,268 units in 9.8 million square feet annually for the period. The graph below shows the annual average for residential units permitted for the time period analyzed. It is important to note that this average over the past five years may not be predictive; longer "look-back" time periods may yield a lower annual average number of permits, but would be based on changing circumstances and include cycles of growth and recession that may not be repeated in future decades.

FIGURE 9: AVERAGE ANNUAL NEW PERMITTED RESIDENTIAL UNITS, CITY OF LA, 2011 - 2015



Source: LA Building Permit data, 2016.

[11] Note that the building permit database codes projects by single family detached and single family attached. The City's zoning related to small lot subdivisions has resulted in several projects (both single family attached and detached products) on small lots (minimum lot size of 2,000 square feet). Thus, the permit data contains these small lot subdivisions in both single family permit categories.

The Nexus Study analyzed four residential land uses to determine the maximum legal fee for each residential product type. As shown in the following tables, the residential product types analyzed in this study consist of:

- Single Family Detached Units
- Single Family Attached Units
- Condominium Units
- Multifamily Rental Units

New Worker Households and Affordable Housing Need

The Nexus Study estimates the affordable housing need generated by new market-rate units based on the projected spending patterns among the households that would occupy new market-rate units, the jobs that these spending patterns would support, and the affordable housing need among the workers employed in these jobs. This section details the methodology and findings from each of these steps to estimate the need for affordable housing generated by new market-rate units.

Step 2: Identify Housing Prices for New Market-Rate Units

The first step in estimating the new worker affordable housing need that would be generated by new market-rate residential units is to determine the rental rates and home sale prices for new residential units.

Multifamily Rental Units: BAE obtained data from Reis, a private data vendor that provides property-level information on multifamily rental properties, in order to estimate rental rates for new multifamily rental properties in Los Angeles. This analysis used 2016 rental rate data for all 149 multifamily rental properties (24,495 total units) built in 2006 or later that Reis tracks in the City. Since the units included in this analysis are among the newer rental units in Los Angeles, the rental rates for these properties are likely to be similar to rental rates for new multifamily rental properties in the City. As of the second quarter of 2016, the average rental rate among multifamily rental units in Los Angeles was $2,923 per month, as shown in Table 13.

TABLE 13: NEW MULTIFAMILY RENTAL HOUSING MARKET OVERVIEW, LOS ANGELES, 2016

Average Rent	**$2,923**
Studio	$2,087
1-Bedroom	$2,536
2-Bedroom	$3,435
3-Bedroom	$4,014
Vacancy Rate (a)	4.6%

Notes:
(a) Vacancy rate for developments completed between 2006 and 2014 in order to capture new properties that have passed the initial lease-up period.
Sources: Reis, 2016; BAE, 2016.

For Sale Units: BAE obtained data from CoreLogic, a private data vendor that provides data on home sales from county assessors, in order to estimate sale prices for new for-sale units in Los Angeles. This analysis used data on sales of recently-constructed (i.e., built in 2006 or later) for sale units that occurred between July 2015 and July 2016.

BAE conducted a detailed analysis of the data from CoreLogic in order to code each sale record as one of the three for-sale product types (i.e., condominium, single-family attached, or single-family detached). The data from CoreLogic include a code for each home sale record that identifies the unit as either a "condominium" or "single-family residential" unit, but does not code single-family attached units in a way that differentiates these units from either condominiums or single-family detached units. BAE cross-checked the data from CoreLogic with data from Redfin.com, which identifies residential units as either "condominiums", "townhomes", or "single-family" units, in order to re-categorize the unit types from the CoreLogic sale records as appropriate. In addition, BAE performed a thorough review of hundreds of the CoreLogic sale records to ensure that each was property categorized into one of the three for-sale residential product types, and re-coded records as necessary.

The analysis of recent home sales in Los Angeles indicates that the median sale price for recently-constructed for-sale properties sold between July 2015 and July 2016 was $659,000 for condominiums, $540,000 for single-family attached units, and $1.17 million for single-family detached units, as shown in Table 14.

TABLE 14: NEW FOR-SALE HOUSING MARKET OVERVIEW, LOS ANGELES, 2016

Income Level	Income Limit (a)	Max. Affordable Sale Price (b)	Percent of Recent Sales of New Units in Price Range (c)
Single-Family Detached			
Extremely Low-Income (Up to 30% AMI)	$23,450	$118,144	0.0%
Very Low-Income (Up to 50% AMI)	$39,100	$196,991	0.0%
Low-Income (Up to 80% AMI)	$62,550	$315,135	3.4%
Moderate-Income (Up to 120% AMI)	$70,000	$352,669	5.0%
Median Sale Price			$1,170,000
Number of Units Sold			322
Single-Family Attached/Townhomes			
Extremely Low-Income (Up to 30% AMI)	$23,450	$39,549	0.0%
Very Low-Income (Up to 50% AMI)	$39,100	$118,396	0.8%
Low-Income (Up to 80% AMI)	$62,550	$236,540	0.8%
Moderate-Income (Up to 120% AMI)	$70,000	$274,074	1.6%
Median Sale Price			$540,000
Number of Units Sold			123
Condominiums			
Extremely Low-Income (Up to 30% AMI)	$23,450	$39,549	0.0%
Very Low-Income (Up to 50% AMI)	$39,100	$118,396	0.0%
Low-Income (Up to 80% AMI)	$62,550	$236,540	0.2%
Moderate-Income (Up to 120% AMI)	$70,000	$274,074	1.0%
Median Sale Price			$659,000
Number of Units Sold			923

Notes:

Annual Interest Rate (fixed)	3.60%
Term of mortgage (years)	30
Percent of sale price as down payment	20%
Initial property tax (annual)	1.19%
Mortgage Insurance as percent of loan amount	0.0%
Annual homeowner's insurance rate as percent of sale price	0.40%
Monthly homeowners' association fee (condos & townhomes only)	$390
Percent of household income available for housing costs	30%

(a) Income limits published by the CA Department of Housing and Community Development for a three-person household in Los Angeles County, 2106.
(b) See Appendix A for affordability calculations.
(c) Includes of all sales of homes built in 2006 or later and sold between 03/15/2016 and 06/15/2016 in the City of Los Angeles.
Sources: California Department of Housing and Community Development, 2016; Freddie Mac, 2016; Los Angeles County Auditor-Controller's Office, 2016; CA Dept. of Insurance, 2016; BAE, 2016.

Step 3: Estimate the Incomes of Households in New Market Rate Housing

The Nexus Study uses the rent and sale prices for new units in Los Angeles, as identified in Step 2, to estimate the household incomes of households that occupy new rental and for sale units in Los Angeles.

Multifamily Rental Units: Table 15 presents the annual household income required to rent new multifamily rental units in Los Angeles, assuming households spend 30 percent of their gross income on rent and utilities. Based on the weighted average monthly rent of $2,923 for new multifamily rental units (as shown in Step 2) the annual household income required to afford these market rents is $118,400.

Table 15 also presents the estimated aggregate income for all households in new multifamily rental developments, calculated by multiplying the estimated household income by the 100 units in the development. This results in an aggregate income in the development of $11.8 million. The IMPLAN analysis discussed in the following section uses this aggregate income from the development to project spending patterns among new residents in multifamily rental units.

TABLE 15: HOUSEHOLD INCOME REQUIRED TO RENT NEW MULTIFAMILY UNITS, LOS ANGELES, 2016

Average Monthly Rent (a)	$2,923
Plus Utilities (b)	$38
Total Monthly Housing Costs	$2,961
Annual Housing Costs	$35,528
Household Income Required (c)	**$118,400**
Number of Households in Development	100
Aggregate Income in Development	**$11,840,000**

Notes:
(a) Data are for multifamily properties constructed in the City of Los Angeles that were constructed in 2006 or later and consist of more than 20 units.
(b) Utility costs based on utility allowance for multifamily dwellings established by the Los Angeles Housing Authority in 2015. Utility cost estimates assume that water, sewer, and trash collection costs are included in monthly rental amount.
(c) 30 percent of gross income spent on housing costs.
Sources: Reis, 2016; Los Angeles Housing Authority, 2016; BAE, 2016.

For-Sale Units: Table 16 shows the annual household income required to afford a new for-sale home in Low Angeles. Based on the sale prices for new for sale units (as shown in Step 2), the annual household income needed to afford new for-sale units in Los Angeles is $146,300 for condominiums, $107,100 for single-family attached units, and $232,100 for single-family detached units. The resulting estimated aggregate income is approximately $14.6 million for a 100-unit condominium development, $10.7 million for a 100-unit single-family attached

development, and $23.2 million for a 100-unit single-family detached development. The IMPLAN analysis discussed in the following section uses these aggregate incomes to project spending patterns among new residents in for-sale units, which in turn determines the estimated new worker households that may need affordable housing.

TABLE 16: HOUSEHOLD INCOME REQUIRED TO PURCHASE NEW UNITS, LA, 2016

	Single-Family Detached	Single-Family Attached	Condominium
Estimated Sale Price for New Residential Unit (a)	$1,170,000	$540,000	$659,000
Monthly Housing Costs for a New Residential Unit (b)	$5,803	$2,678	$3,659
Annual Housing Costs	$69,640	$32,141	$43,904
Household Income Required (c)	**$232,100**	**$107,100**	**$146,300**
Number of Households in Development	100	100	100
Aggregate Income in Development	**$23,210,000**	**$10,710,000**	**$14,630,000**

Notes:
(a) Median sale price among homes built in 2006 or later and sold between 03/15/2016 and 06/15/2016 in the City of Los Angeles.
(b) Monthly homeownership costs are based on the following assumptions:

Annual Interest Rate	3.60%
Term of Mortgage (years)	30
Percent of sales price as down payment	20%
Initial property tax (annual)	1.19%
Mortgage Insurance as a percent of sale price	0.0%
Annual homeowner's insurance rate as a percent of sale price	0.40%
Monthly homeowners' association fee (condominiums only)	$390

(c) Percent of household income available for housing costs: 30%
Sources: CoreLogic, 2016; Freddie Mac, 2016; California Department of Insurance, 2016; Los Angeles County Auditor-Controller, 2016; Condos.com, 2016; BAE, 2016.

Step 4: Analyze Projected Spending Patterns for Households in New Market-Rate Units

New household spending within an economy supports jobs. As households spend money on retail goods, food, and health, personal, professional, and educational services, they support job growth in these and other sectors.

To estimate the effect of new household spending on employment generation, this nexus study uses IMPLAN ("Impact analysis for Planning"), a widely-accepted and utilized software model. At the heart of the model is an input-output dollar flow table. For a specified region, the input-output table accounts for all dollar flows between different sectors of the economy. Using this information, IMPLAN models the way income injected into one sector is spent and re-spent in other sectors of the economy, generating waves of economic activity, or so-called "economic multiplier" effects. Appendix G contains a more detailed overview of IMPLAN.

The IMPLAN model is also able to estimate the number of *direct*, *indirect*, and *induced* jobs generated by a given economic "event." Once the economic events have been entered into the model, IMPLAN reports the following types of impacts:

- Direct Impacts. Direct impacts refer to the set of producer or consumer expenditures applied to the predictive model for impact analysis. It is the amount of spending available to flow through the local economy. IMPLAN then displays how the local economy will then respond to these initial changes. The direct impacts may equal the amount of spending input into the model, depending on a variety of factors.
- Indirect Impacts. The indirect impacts refer to the impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money leaks from the local economy, either through imports or by payments to income and taxes. For capital projects this would include payments for construction inputs such as wood, steel, office supplies, and any other non-labor payments that a construction firm would purchase in the building process. Since IMPLAN is only used for the housing analysis for this report to assess the impacts of new resident household expenditures, there are no indirect impacts to assess as there are no industry expenditures as inputs to the model.
- Induced Impacts. The induced impacts refer to an economy's response to an initial change (direct impact) that occurs through re-spending of income according to household spending patterns. When households earn income, they spend part of that income on goods and services, such as food and healthcare. IMPLAN models households' disposable income spending patterns and distributes them through the local economy.

For the purpose of this analysis, the economic "event" is the household spending by occupants of new residential units in Los Angeles. By IMPLAN definition these expenditures are *direct* impacts, and the resulting spending results in *induced* impacts. For instance, the household expenditures generate jobs for cashiers and baggers at grocery stores patronized by the households. The process initiated by household expenditures continues as these workers and the businesses they work for spend money in subsequent transactions, supporting employment at places other than the initial point of sale, such as wholesalers supplying retail stores, or truck drivers delivering goods to those stores. In turn, these businesses and workers spend money to generate additional activity in the local economy. These are all part of the *induced* impacts linked to the household expenditures.

The IMPLAN model is customized to reflect the economic characteristics of the specified region – in this case Los Angeles County. The nexus analysis considers regional employment generation, rather than jobs generated in the City of Los Angeles exclusively, because household spending in the City creates jobs throughout the region. Some of these workers cannot afford to live in Los Angeles precisely because of the City's high housing costs. If the

analysis solely considered workers living in Los Angeles, it would in effect discount the needs of households who currently cannot afford to live in Los Angeles, and propagate the need for affordable housing in the City. In essence, this analysis considers employment effects beyond the City's borders in order to address the City's "fair share" of regional housing need.

Step 5: Estimate New Worker Households by Household Income

Worker households[12] in Los Angeles often have more than one employed person. In some instances, economists estimate household income for workers by simply multiplying worker earnings by industry by the average number of workers per worker household. This methodology relies on the unsatisfactory assumption that on average workers make the same amount of money as other workers in their household. Given the diversity of household composition, this assumption is not appropriate. For example, a household may have a teacher and a doctor, with significantly different individual earnings.

To address this issue, this analysis makes use of a detailed and rich data set published by the U.S. Census known as the Public Use Microdata Sample (PUMS). Derived from a five percent sample of all households per the American Community Survey, and available for certain defined areas with 100,000 population or more called PUMAs, this data allows one to cross tabulate variables such as industry of employment and household income. The analysis here uses the most recent available data, from the 2010 through 2014 five-year period. A map of the PUMAs comprising Los Angeles County is provided in Appendix F.

The PUMS data set was queried to identify the number of households by income category by industry (controlling for household size) to construct a household income distribution by industry. The distribution was constructed based on the income categories defined by the California Department of Housing and Community Development (HCD). These HCD income categories are defined as a percentage of the Area Median Income (AMI), adjusted for household size. The household income distribution by industry is shown in Table 17.

[12] A worker household is defined as a household with one or more employed persons. They may be wage and salary workers, or self-employed/sole proprietors.

TABLE 17: INCOME LEVEL BY INDUSTRY, PERSONS BY 2014 INCOME LIMITS

		Estimated Household Income as a Percent of AMI (a)					
NAICS Code	Industry	Up to 30% AMI	30% to 50% AMI	50% to 80% AMI	80% - 120% AMI	Above 120% AMI	Total
Private Sector							
11, 21	Agriculture & Natural Resources	20.1%	21.6%	21.7%	6.6%	30.0%	100.0%
23	Construction	21.3%	18.2%	21.2%	6.0%	33.2%	100.0%
31-33	Manufacturing	12.9%	16.1%	20.6%	6.2%	44.2%	100.0%
42	Wholesale Trade	12.4%	14.2%	21.1%	6.8%	45.6%	100.0%
44-45	Retail Trade	16.8%	16.6%	20.7%	6.7%	39.1%	100.0%
48-49, 22	Transportation, Warehousing, & Utilities	12.5%	15.4%	20.6%	6.6%	44.9%	100.0%
51	Information	7.4%	6.7%	13.3%	5.0%	67.5%	100.0%
52-53	Finance, Insurance, & Real Estate	7.8%	8.9%	15.3%	6.3%	61.8%	100.0%
54-55	Professional, Scientific, & Technical Services, & Mgmt of Companies	7.1%	6.7%	11.7%	4.6%	69.9%	100.0%
56	Admin, Support, & Waste Mgmt Srvcs	21.5%	19.8%	20.7%	6.4%	31.6%	100.0%
61	Educational Services	12.8%	10.6%	15.6%	5.9%	55.1%	100.0%
62	Health Care & Social Assistance	11.4%	11.6%	17.8%	6.2%	53.1%	100.0%
71-72	Leisure & Hospitality	18.2%	18.3%	21.7%	6.1%	35.6%	100.0%
81	Other Services Except Public Admin	21.8%	18.9%	21.2%	5.9%	32.2%	100.0%
All Government Employment		9.2%	9.3%	14.4%	5.9%	61.2%	100.0%

Notes:
(a) Based on a cross tabulation of Public Use Microdata Samples (PUMS) from the 2010-2014 American Community Survey. These incomes were compared to household income limits published by the California Department of Housing and Community Development, to determine the percentage of households falling into each income category. The analysis controlled for household size, to address the varying HCD income limits for each household size.
Sources: Census, American Community Survey Public-Use Microdata Sample (PUMS) 2010-2014; CA Dept. of Housing and Community Development, 2014; BAE, 2016.

Housing need is based on the number of households rather than the number of jobs. As such, jobs are translated into households by dividing the number of jobs by the average number of workers per worker household in the City of Los Angeles.[13]

Multifamily Rental Housing: Table 18 applies the income distribution by industry to the number of jobs generated in each industry as a result of spending by households in new rental units. As shown, a 100-unit apartment complex generates a total of 42 households across various income groups and 23 households earning up to 120 percent of AMI.

Condominiums: Table 19 applies the income distribution by industry to the number of jobs generated in each industry as a result of spending by households in new condominiums. As shown, a 100-unit condominium development generates a total of 48 households across various income groups and 26 households earning up to 120 percent of AMI.

Single-Family Attached: Table 20 applies the income distribution by industry to the number of jobs generated in each industry as a result of spending by households in new single-family

[13] Average workers per worker household from American Community Survey, 2010-2014.

attached units. As shown, 100 single-family attached units generate a total of 35 households across various income groups and 19 households earning up to 120 percent of AMI.

Single-Family Detached: Table 21 applies the income distribution by industry to the number of jobs generated in each industry as a result of spending by households in new single-family detached units. As shown, 100 single-family detached units generate a total of 73 households across the various income groups and 39 households earning up to 120 percent of AMI.

TABLE 18: EMPLOYMENT BY INCOME LEVEL FROM NEW 100-UNIT MARKET-RATE RENTAL PROJECT

NAICS Code	Industry	Total Jobs (a)	Estimated Jobs by Percent of AMI (b) Up to 30% AMI	30% to 50% AMI	50% to 80% AMI	80% to 120% AMI	Above 120% AMI
Private Sector							
11, 21	Agriculture and Natural Resources	0.07	0.01	0.02	0.02	0.00	0.02
23	Construction	0.66	0.14	0.12	0.14	0.04	0.22
31-33	Manufacturing	0.62	0.08	0.10	0.13	0.04	0.27
42	Wholesale Trade	1.81	0.22	0.26	0.38	0.12	0.83
44-45	Retail Trade	9.86	1.66	1.64	2.04	0.66	3.86
48-49, 22	Transportation, Warehousing, and Utilities	2.20	0.28	0.34	0.45	0.15	0.99
51	Information	1.37	0.10	0.09	0.18	0.07	0.93
52-53	Finance, Insurance, and Real Estate	9.28	0.72	0.82	1.42	0.59	5.73
54-55	Professional, Scientific, & Technical Services, & Mgmt of Companies	3.55	0.25	0.24	0.41	0.16	2.48
56	Administrative and Support and Waste Management Services	4.67	1.00	0.92	0.97	0.30	1.48
61	Educational Services	2.22	0.28	0.23	0.35	0.13	1.22
62	Health Care and Social Assistance	18.21	2.07	2.12	3.23	1.12	9.66
71-72	Leisure and Hospitality	12.05	2.19	2.20	2.62	0.74	4.30
81	Other Services Except Public Administration	7.98	1.74	1.51	1.69	0.47	2.57
All Government Employment		0.46	0.04	0.04	0.07	0.03	0.28
	Total Jobs	**75.01**	**10.80**	**10.65**	**14.11**	**4.62**	**34.83**
	Number of Households (c)	**42.49**	**6.12**	**6.03**	**7.99**	**2.62**	**19.73**

Notes:
(a) Total Jobs is output of IMPLAN model, and shows employment generated by household spending. Columns to right may not sum to Total Jobs due to independent rounding.
(b) Based on 2014 HCD Income Limits.
(c) Average number of workers per worker household calculated for Los Angeles County based on American Community Community Survey data, 2010-2014.

Total Workers	1,849,845
Total Households with Workers	1,047,928
Avg. Workers per Household	*1.765*

Sources: American Community Survey, 2010-2014, including the Public User Microdata Sample; CA Department of Housing and Community Development, 2014; BAE, 2016.

TABLE 19: EMPLOYMENT BY INCOME LEVEL FROM NEW 100-UNIT CONDOMINIUM PROJECT

NAICS Code	Industry	Total Jobs (a)	Estimated Jobs by Percent of AMI (b) Up to 30% AMI	30% to 50% AMI	50% to 80% AMI	80% to 120% AMI	Above 120% AMI
Private Sector							
11, 21	Agriculture and Natural Resources	0.08	0.02	0.02	0.02	0.01	0.02
23	Construction	0.73	0.16	0.13	0.16	0.04	0.24
31-33	Manufacturing	0.70	0.09	0.11	0.14	0.04	0.31
42	Wholesale Trade	2.02	0.25	0.29	0.43	0.14	0.92
44-45	Retail Trade	11.02	1.85	1.83	2.29	0.74	4.31
48-49, 22	Transportation, Warehousing, and Utilities	2.51	0.31	0.39	0.52	0.17	1.13
51	Information	1.47	0.11	0.10	0.20	0.07	0.99
52-53	Finance, Insurance, and Real Estate	9.78	0.76	0.87	1.49	0.62	6.04
54-55	Professional, Scientific, & Technical Services, & Mgmt of Companies	3.96	0.28	0.26	0.46	0.18	2.77
56	Administrative and Support and Waste Management Services	5.16	1.11	1.02	1.07	0.33	1.63
61	Educational Services	2.88	0.37	0.30	0.45	0.17	1.59
62	Health Care and Social Assistance	20.06	2.28	2.33	3.56	1.24	10.65
71-72	Leisure and Hospitality	14.14	2.57	2.58	3.07	0.86	5.04
81	Other Services Except Public Administration	8.95	1.95	1.69	1.90	0.53	2.88
All Government Employment		0.50	0.05	0.05	0.07	0.03	0.30
	Total Jobs	**83.97**	**12.16**	**11.98**	**15.83**	**5.17**	**38.83**
	Number of Households (a)	**47.57**	**6.89**	**6.79**	**8.97**	**2.93**	**22.00**

Notes:

(a) Total Jobs is output of IMPLAN model, and shows employment generated by household spending. Columns to right may not sum to Total Jobs due to independent rounding.

(b) Based on 2014 HCD Income Limits.

(c) Average number of workers per worker household calculated for Los Angeles County based on American Community Community Survey data, 2010-2014.

Total Workers	1,849,845
Total Households with Workers	1,047,928
Avg. Workers per Household	*1.765*

Sources: American Community Survey, 2010-2014, including the Public User Microdata Sample; CA Department of Housing and Community Development, 2014; BAE, 2016.

TABLE 20: EMPLOYMENT FROM NEW 100-UNIT SINGLE-FAMILY ATTACHED RESIDENTIAL PROJECT

NAICS Code	Industry	Total Jobs (a)	Estimated Jobs by Percent of AMI (b) Up to 30% AMI	30% to 50% AMI	50% to 80% AMI	80% to 120% AMI	Above 120% AMI
Private Sector							
11, 21	Agriculture and Natural Resources	0.06	0.01	0.01	0.01	0.00	0.02
23	Construction	0.54	0.11	0.10	0.11	0.03	0.18
31-33	Manufacturing	0.51	0.07	0.08	0.11	0.03	0.23
42	Wholesale Trade	1.48	0.18	0.21	0.31	0.10	0.67
44-45	Retail Trade	8.07	1.35	1.34	1.67	0.54	3.16
48-49, 22	Transportation, Warehousing, and Utilities	1.84	0.23	0.28	0.38	0.12	0.83
51	Information	1.08	0.08	0.07	0.14	0.05	0.73
52-53	Finance, Insurance, and Real Estate	7.16	0.56	0.64	1.09	0.45	4.42
54-55	Professional, Scientific, & Technical Services, & Mgmt of Companies	2.90	0.21	0.19	0.34	0.13	2.02
56	Administrative and Support and Waste Management Services	3.78	0.81	0.75	0.78	0.24	1.20
61	Educational Services	2.11	0.27	0.22	0.33	0.13	1.16
62	Health Care and Social Assistance	14.68	1.67	1.71	2.61	0.90	7.79
71-72	Leisure and Hospitality	10.35	1.88	1.89	2.25	0.63	3.69
81	Other Services Except Public Administration	6.55	1.43	1.24	1.39	0.39	2.11
All Government Employment		0.36	0.03	0.03	0.05	0.02	0.22
	Total Jobs	**61.47**	**8.90**	**8.77**	**11.59**	**3.78**	**28.43**
	Number of Households (a)	**34.82**	**5.04**	**4.97**	**6.56**	**2.14**	**16.10**

Notes:

(a) Total Jobs is output of IMPLAN model, and shows employment generated by household spending. Columns to right may not sum to Total Jobs due to independent rounding.

(b) Based on 2014 HCD Income Limits.

(c) Average number of workers per worker household calculated for Los Angeles County based on American Community Community Survey data, 2010-2014.

Total Workers	1,849,845
Total Households with Workers	1,047,928
Avg. Workers per Household	*1.765*

Sources: American Community Survey, 2010-2014, including the Public User Microdata Sample; CA Department of Housing and Community Development, 2014; BAE, 2016.

TABLE 21: EMPLOYMENT FROM NEW 100-UNIT SINGLE-FAMILY DETACHED RESIDENTIAL PROJECT

NAICS Code	Industry	Total Jobs (a)	Estimated Jobs by Percent of AMI (b) Up to 30% AMI	30% to 50% AMI	50% to 80% AMI	80% to 120% AMI	Above 120% AMI
Private Sector							
11, 21	Agriculture and Natural Resources	0.11	0.02	0.02	0.02	0.01	0.03
23	Construction	1.07	0.23	0.19	0.23	0.06	0.36
31-33	Manufacturing	1.02	0.13	0.16	0.21	0.06	0.45
42	Wholesale Trade	3.25	0.40	0.46	0.69	0.22	1.48
44-45	Retail Trade	17.99	3.02	2.99	3.73	1.21	7.04
48-49, 22	Transportation, Warehousing, and Utilities	4.01	0.50	0.62	0.82	0.27	1.80
51	Information	2.11	0.16	0.14	0.28	0.11	1.43
52-53	Finance, Insurance, and Real Estate	14.22	1.10	1.26	2.17	0.90	8.78
54-55	Professional, Scientific, & Technical Services, & Mgmt of Companies	6.06	0.43	0.41	0.71	0.28	4.24
56	Administrative and Support and Waste Management Services	7.64	1.64	1.51	1.58	0.49	2.42
61	Educational Services	5.27	0.67	0.56	0.82	0.31	2.90
62	Health Care and Social Assistance	29.57	3.36	3.44	5.25	1.82	15.69
71-72	Leisure and Hospitality	21.26	3.87	3.89	4.62	1.30	7.58
81	Other Services Except Public Administration	13.70	2.98	2.58	2.91	0.81	4.41
All Government Employment		0.74	0.07	0.07	0.11	0.04	0.45
	Total Jobs	**128.03**	**18.60**	**18.31**	**24.16**	**7.89**	**59.06**
	Number of Households (a)	**72.53**	**10.54**	**10.37**	**13.69**	**4.47**	**33.46**

Notes:

(a) Total Jobs is output of IMPLAN model, and shows employment generated by household spending. Columns to right may not sum to Total Jobs due to independent rounding.

(b) Based on 2014 HCD Income Limits.

(c) Average number of workers per worker household calculated for Los Angeles County based on American Community Community Survey data, 2010-2014.

Total Workers	1,849,845
Total Households with Workers	1,047,928
Avg. Workers per Household	*1.765*

Sources: American Community Survey, 2010-2014, including the Public User Microdata Sample; CA Department of Housing and Community Development, 2014; BAE, 2016.

Subsidy Gap

Step 6: Determine the Financing Gap for Affordable Units

The next step in the nexus analysis is to calculate the cost to house the extremely low-, very low-, low-, and moderate-income households calculated in Step 6 by determining the per unit "financing gap" that affordable housing developers encounter when securing a permanent loan for their projects. In other words, the cost to house a lower-income household is the difference between the cost to develop an affordable unit and the amount the developer can borrow to build the unit.

Affordable housing developers are able to secure a permanent loan based on their net operating income (NOI) per unit. NOI is equal to rental income less operating expenses and vacancy. As shown in Table 7 in Chapter 2, households can afford monthly rents ranging from $544 for extremely low-income households to $1,708 for moderate-income households. These rents are based on household income limits for three-person households and assuming households spend 30 percent of their income on rent and utilities.[14] Standard deductions are taken for operating expenses and vacancies to determine NOI.

BAE used conventional financing assumptions to determine the supportable loan amount per unit for each income level. As shown in Table 7 in Chapter 2, the loan amount ranges from $0 per unit for extremely low-income units (i.e., operating expenses exceed NOI, leaving no NOI to support debt payments) to $152,301 for units serving moderate-income households.

The financing gap per affordable unit is equal to the total development cost less the supportable loan amount per unit. According to cost data provided between 2013 and 2015 on applications for low-income housing tax credit projects in the City of Los Angeles, the average development cost for affordable housing in the City averages approximately $448,500 per unit, as shown in Table 22.

[14] The analysis assumes a three-person household for consistency with the 2016 Los Angeles County average household size of 2.88 persons per household, per California Department of Finance estimates.

TABLE 22: DEVELOPMENT COSTS FOR AFFORDABLE HOUSING, CITY OF LOS ANGELES, 2013-2015

Housing Type	Avg. Development Cost (per unit) (a)	Number of Units
Homeless & Special Needs	$410,871	622
Large Family	$502,946	676
Senior	$382,977	205
Weighted Average - All Housing Types	$448,479	1,503

Note:
(a) Weighted average cost as reported on tax credit applications between 2013 and 2015. All costs adjusted to 2016 costs based on the Turner Building Cost Index.
Sources: City of Los Angeles, 2016; BAE, 2016.

This study uses the average development cost across all affordable housing types despite the likelihood that most of the new worker households needing affordable units will be housed in large family developments, which in practice accommodate a range of household sizes and mostly serve lower-income worker households. Among units in the large family developments analyzed in this study, three percent were studios, 35 percent were one-bedroom units, 28 percent were two-bedroom units, 32 percent were three-bedroom units, and on percent were units with four or more bedrooms. In contrast, homeless, special needs, and senior developments, typically have a large number of occupants living on social security. However, by using the average across all affordable unit types, the Nexus Study is conservative in estimating the financing gap associated with constructing new units because the average development costs for homeless, special needs and senior units tend to be lower than the development costs for large family units.

Based on the supportable loan amount calculated in Step 6, the financing gap per affordable unit ranges from $448,500 for extremely low-income units to $296,199 for moderate-income units, as shown in Table 23.

TABLE 23: FINANCING GAP ANALYSIS, CITY OF LOS ANGELES, 2016

	Income Group			
	Extremely Low	**Very Low**	**Low**	**Moderate**
Household Income Limit (a)	$23,450	$39,100	$62,550	$70,000
Maximum Affordable Monthly Rent per Unit (b)	$544	$936	$1,522	$1,708
Monthly Operating Expenses (c)	$542	$542	$542	$542
Vacancy (d)	5%	5%	5%	5%
Net Operating Income per Unit (e)	-$25	$347	$904	$1,081
Operating Subsidy from Other Sources (f)	$25	$0	$0	$0
Monthly Supportable Debt Service per Unit (g)	$0	$278	$723	$865
Loan Amount (h)	$0	$48,900	$127,371	$152,301
Financing Gap per Affordable Unit (i)	**$448,500**	**$399,600**	**$321,129**	**$296,199**

Assumptions	
Total Affordable Unit Development Costs (j)	$448,500
Financing Terms	
Debt Coverage Ratio	1.25
Interest Rate	5.50%
Term of Loan (years)	30

Notes:
(a) Based on a 3-person household, CA Department of Housing & Community Development, 2016.
(b) 30% of income to rent and utilities.
(c) Data from funding applications for recent affordable housing projects in California.
(d) Standard required assumption for financing applications.
(e) Affordable Monthly Rent less Operating Expenses & Vacancy.
(f) Operating subsidy is necessary for units with negative NOI.
(g) Net Operating Income plus Operating Subsidy, divided by Debt Coverage Ratio.
(h) Based on financing terms assumptions.
(i) Total Development Costs less Loan Amount.
(j) Average development costs among units in tax credit projects developed in the City of Los Angeles between 2013 and 2015. All figures adjusted to 2016 values based on the Turner Construction Cost Index.
Sources: California HCD, 2016; City of Los Angeles, 2016; Turner Construction Cost Index, 2013-2016; BAE, 2016.

Maximum Legal Fee

Step 7: Calculate the Maximum Legal Fee

The final step in calculating the impact fee is to apply the financing gap per unit for each income level (from Step 7) to the total housing need by income level from new market-rate units (from Step 5). As shown in Table 24, the maximum impact fees for each of the four residential product types are as follows:

- Multifamily Rental: $84,964 per unit
- Condominium: $95,484 per unit
- Single-Family Attached: $69,900 per unit
- Single-Family Detached: $145,901 per unit

TABLE 24: MAXIMUM AFFORDABLE HOUSING IMPACT FEE CALCULATIONS

Employee Households in City by Income Level	Multifamily Rental	Condominium	Single-Family Attached	Single-Family Detached
Extremely Low Income (up to 30% AMI)	6.1	6.9	5.0	10.5
Very Low Income (31-50% AMI)	6.0	6.8	5.0	10.4
Low Income (51-80% AMI)	8.0	9.0	6.6	13.7
Moderate Income (81-120% AMI)	2.6	2.9	2.1	4.5
Subtotal - Affordable Housing Need (Units)	***22.8***	***25.6***	***18.7***	***39.1***
Above Moderate Income (over 120% AMI)	19.7	22.0	16.1	33.5
Total Housing Need	**42.5**	**47.6**	**34.8**	**72.5**
Financing Gap (a)				
Extremely Low Income Units	$2,743,807	$3,089,354	$2,261,584	$4,726,450
Very Low Income Units	$2,411,132	$2,711,989	$1,985,332	$4,144,578
Low Income Units	$2,566,479	$2,879,691	$2,108,099	$4,395,613
Moderate Income Units	$774,962	$867,372	$634,966	$1,323,442
Total Financing Gap per 100 Units	**$8,496,380**	**$9,548,406**	**$6,989,981**	**$14,590,083**
Maximum Impact Fee per Unit	**$84,964**	**$95,484**	**$69,900**	**$145,901**
Assumptions				
Building Size (# of units)	100			

Note:
(a) The financing gap is calculated by multiplying the number of employee housesholds at each income level by the financing gap per unit (from Step 7) at each affordability level.
Source: BAE, 2016.

Feasibility of Maximum Legal Fee

As shown in the preceding section, meeting the affordable housing costs generated by each residential land use per the nexus analysis results in expensive maximum legal fee levels.

In order to evaluate these maximum legal fees in the context of maintaining feasible market rate residential projects, this report involved extensive analysis of the Los Angeles real estate marketplace by three levels of current market condition, and then financial feasibility testing of each of the eight land use categories by each of the market conditions' economic factors.

As an overview, the analytical process included the following steps (each step is explained more fully in the following pages):

- **Step A:** Identification of Los Angeles neighborhoods
- **Step B:** Analysis of market rents/sale prices to categorize each neighborhood by market condition
- **Step C:** Formulation of basic static pro formas for each land use type to analyze the maximum feasible fee by land use and by the three market conditions
- **Step D:** Comparison of feasible fees to legal maximum fee

Step A: Identification of Los Angeles Neighborhoods

As detailed in the commercial fee chapter, this study used the Los Angeles Times neighborhoods to segment Los Angeles into three levels of market condition, as shown on the following map for residential markets.

Step B: Analysis of Market Rents/Sales Prices

Residential markets signal their market condition by price, and this economic principle was applied to classify neighborhoods into distinct market categories. Data were analyzed for three price signals: market rents, single family home sales, and condominium sale prices. For the rental variable, data was provided by Reis, a private data vendor, for 33,000 rentals in over 150 buildings. This information was geocoded, aggregated into an average rent for each neighborhood, and grouped using standard deviations. CoreLogic provided data on recently constructed single family homes and condominiums sold between June 2015 and June 2016. This data set captured sales for approximately 4,000 single family homes and 500 condos. Like the rental data, this information was geocoded and aggregated into an average price per square foot for each neighborhood, with the results grouped using standard deviations.

Using these three price signals, average rents, and average price per square foot for single family homes and condominiums, an index was developed to describe the market condition for each neighborhood. Each price signal was assigned a score from one to three, reflecting the

variable's placement within the standard deviation intervals.[15] A score of one indicated a relatively weaker housing market, while a score of three reflected a strong market. The scores were combined into a composite index. The following pages provide maps of the three variables used in the analysis, and the resulting composite Residential Index scores. Housing units that were permitted between 2011 and 2015 were overlaid on the maps to illustrate how permit activity corresponded to areas of varying market strength.

[15] Each of the three price signal variables was analyzed by using a statistical measure called standard deviation, which measures the dispersion of data relative to the mean (or average) for all data points. This measure best reflected the clustering across the three variables, with prices clustered at the high end, others around the average for all of Los Angeles, and some at the low end of the range. The intervals used to score each variable are noted in the maps in the following pages.

FIGURE 10: RESIDENTIAL NEIGHBORHOOD MARKET CONDITIONS

Map Legend

#	Neighborhood	#	Neighborhood	#	Neighborhood
0	Adams-Normandie	46	Historic South-Central	92	Toluca Lake
1	Arleta	47	Hollywood	93	Tujunga
2	Arlington Heights	48	Hollywood Hills	94	University Park
3	Atwater Village	49	Hollywood Hills West	95	Valley Glen
4	Baldwin Hills/Crenshaw	50	Hyde Park	96	Valley Village
5	Bel-Air	51	Jefferson Park	97	Van Nuys
6	Beverly Crest	52	Koreatown	98	Venice
7	Beverly Grove	53	Lake Balboa	99	Vermont Knolls
8	Beverlywood	54	Lake View Terrace	100	Vermont-Slauson
9	Boyle Heights	55	Larchmont	101	Vermont Square
10	Brentwood	56	Leimert Park	102	Vermont Vista
11	Broadway-Manchester	57	Lincoln Heights	103	Watts
12	Canoga Park	58	Los Feliz	104	West Adams
13	Carthay	59	Manchester Square	105	Westchester
14	Central-Alameda	60	Mar Vista	106	West Hills
15	Century City	61	Mid-City	107	Westlake
16	Chatsworth	62	Mid-Wilshire	108	West Los Angeles
17	Chatsworth Reservoir	63	Mission Hills	109	Westwood
18	Chesterfield Square	64	Montecito Heights	110	Wilmington
19	Cheviot Hills	65	Mount Washington	111	Windsor Square
20	Chinatown	66	North Hills	112	Winnetka
21	Cypress Park	67	North Hollywood	113	Woodland Hills
22	Del Rey	68	Northridge		
23	Downtown	69	Pacific Palisades		
24	Eagle Rock	70	Pacoima		
25	East Hollywood	71	Palms		
26	Echo Park	72	Panorama City		
27	El Sereno	73	Pico-Robertson		
28	Elysian Park	74	Pico-Union		
29	Elysian Valley	75	Playa del Rey		
30	Encino	76	Playa Vista		
31	Exposition Park	77	Porter Ranch		
32	Fairfax	78	Rancho Park		
33	Florence	79	Reseda		
34	Glassell Park	80	San Pedro		
35	Gramercy Park	81	Sawtelle		
36	Granada Hills	82	Sepulveda Basin		
37	Green Meadows	83	Shadow Hills		
38	Griffith Park	84	Sherman Oaks		
39	Hancock Park	85	Silver Lake		
40	Hansen Dam	86	South Park		
41	Harbor City	87	Studio City		
42	Harbor Gateway	88	Sunland		
43	Harvard Heights	89	Sun Valley		
44	Harvard Park	90	Sylmar		
45	Highland Park	91	Tarzana		

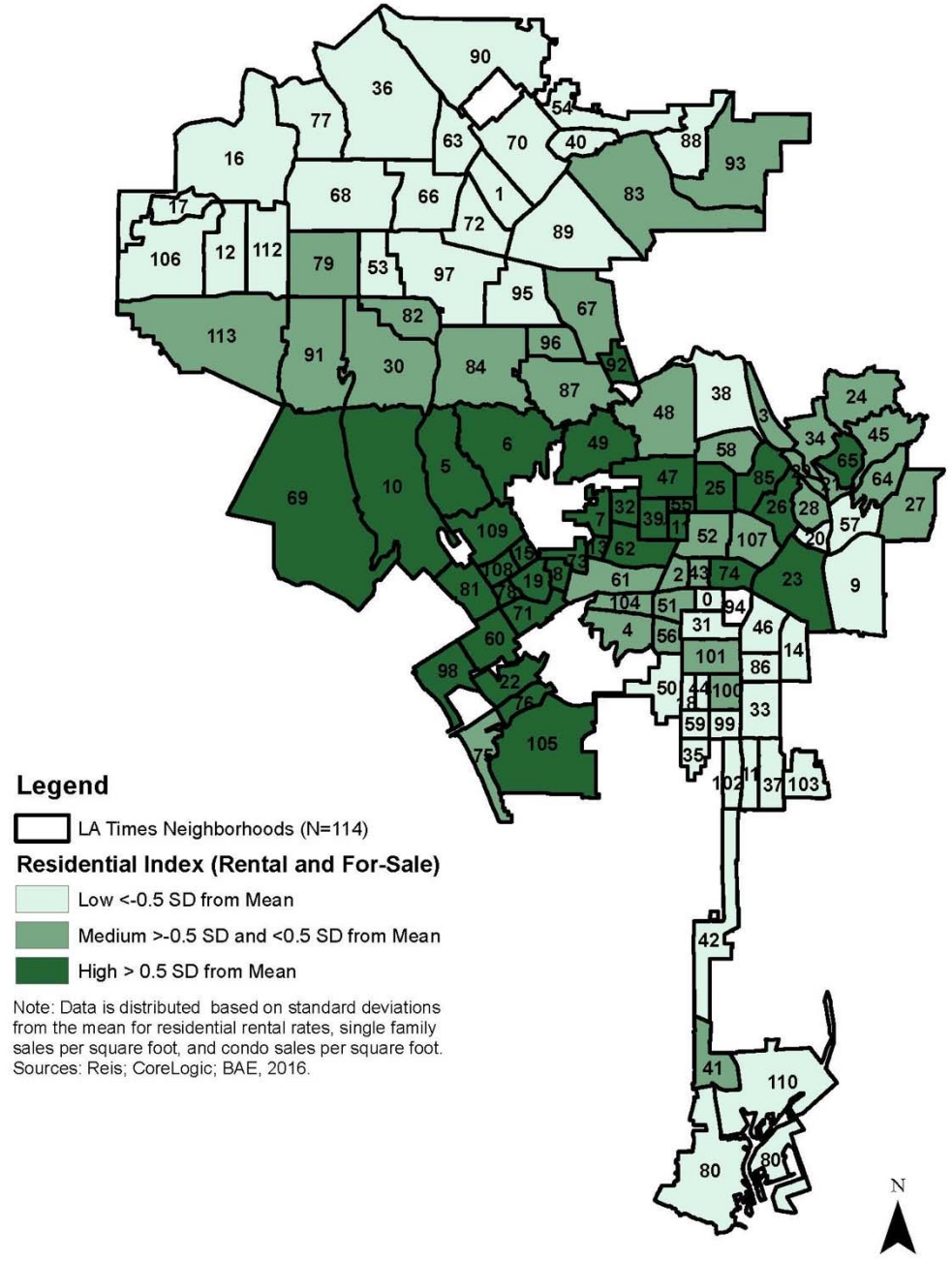
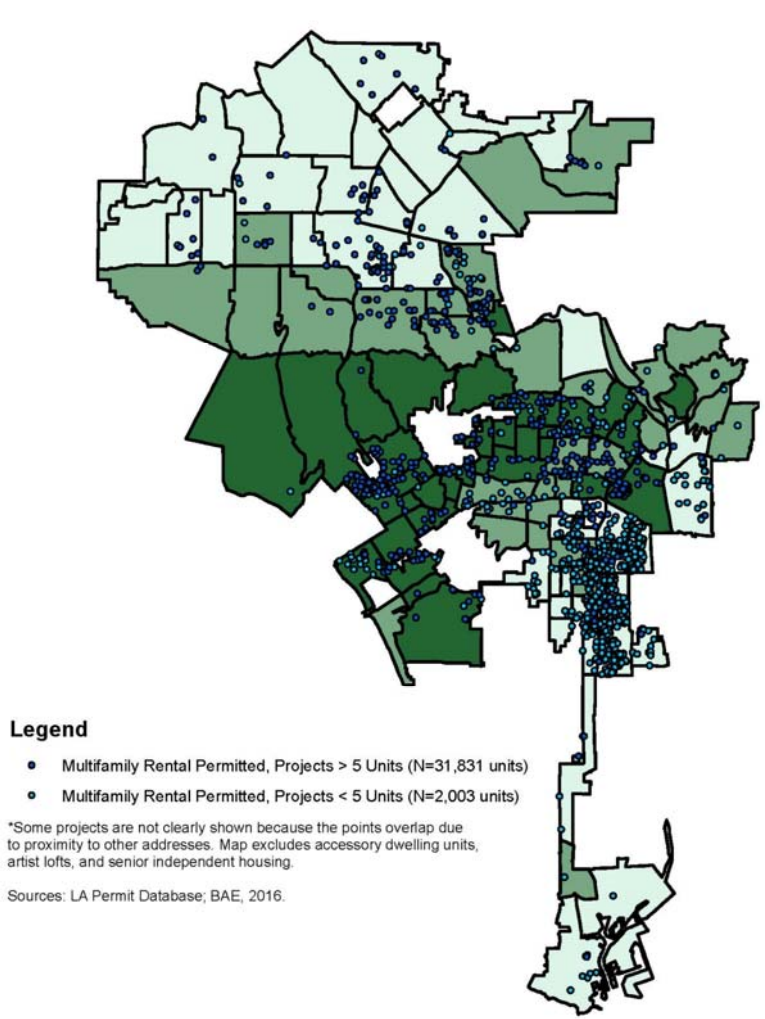
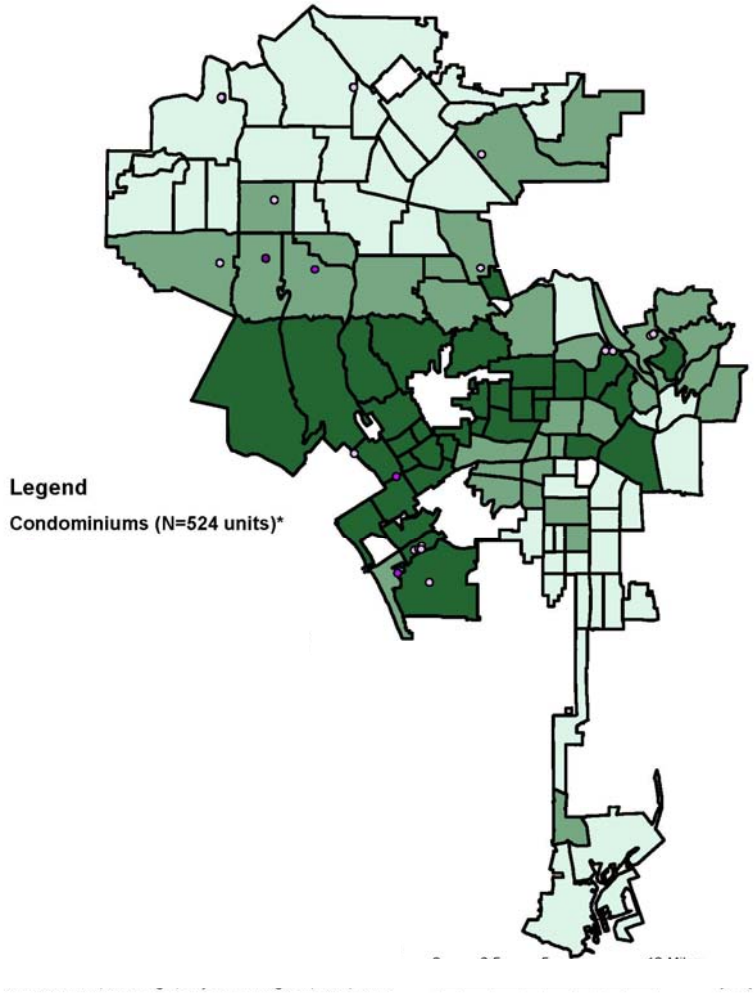
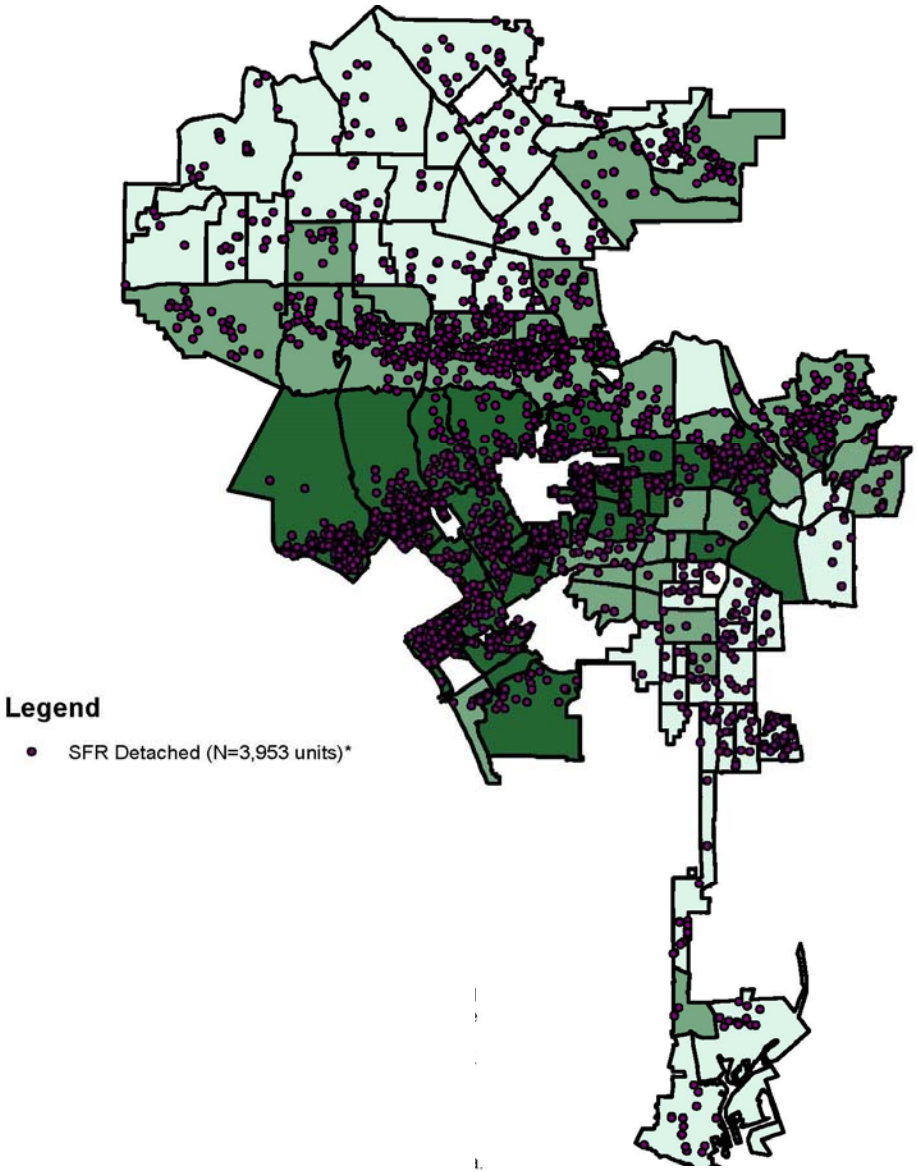
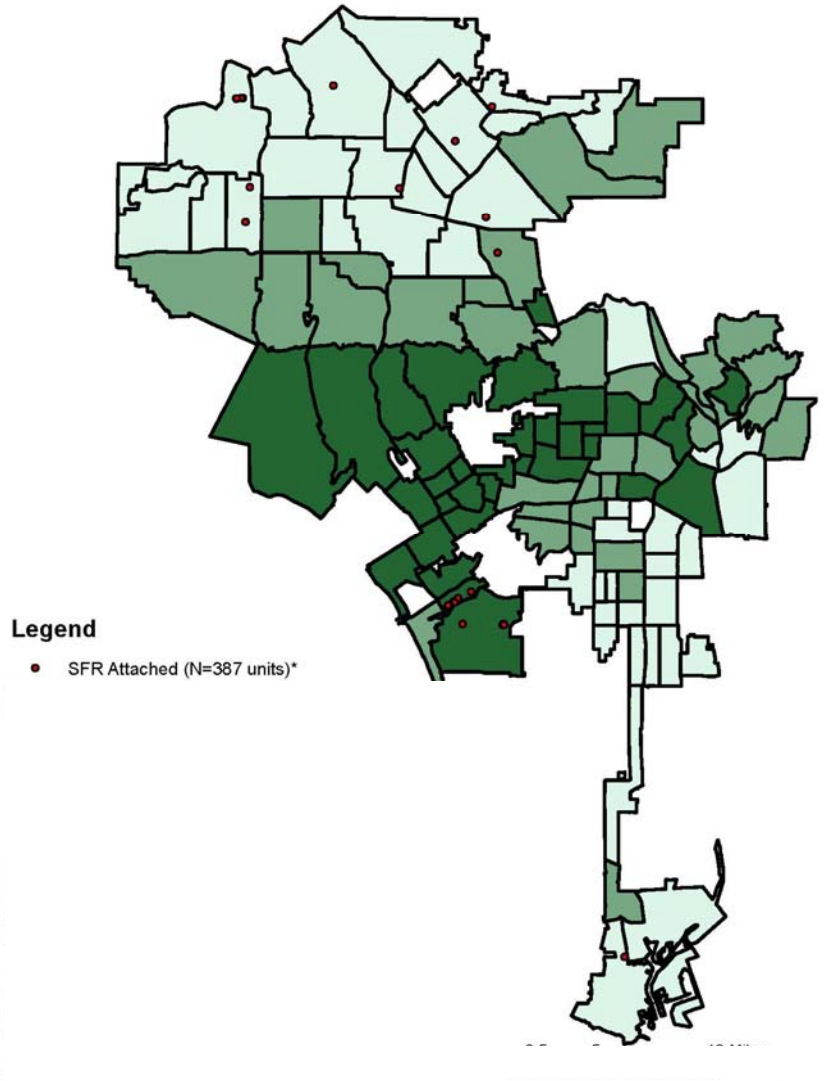


FIGURE 11: RESIDENTIAL PERMIT ACTIVITY BY MARKET CONDITION, 2011-2015






Legend
SFR Detached (N=3,953 units)*


Legend
SFR Attached (N=387 units)*

Step C: Pro Forma Analysis to Determine Maximum Feasible Fee by Land Use for Each Market Condition

This step involved the formulation of basis static pro forma models for each land use, with rent/sale revenue assumptions varied by market condition. A conservative approach was taken to ensure that feasible findings would be developed. A summary of the research informing each key assumption is described below:

- **Development Prototype** – For each land use, a median sized project was identified from actual projects permitted, as tracked by the Los Angeles Building Permit database described previously in this report. The project's actual number of stories and parking method were researched, and the project's floor area ratio (FAR) and parking ratios were estimated based on review of applicable zoning codes, resulting in a building description of each prototype[16].
- **Land Costs** – For each land use and market condition, BAE reviewed available public appraisals (see Appendix C-8), and also interviewed numerous leading developers of commercial and residential projects currently active in Los Angeles.
- **Construction Costs (Hard, Soft, and Financing)** – for each prototype, per square foot hard costs was estimated based on review of R.S. Means, a cost manual. Soft costs and financing costs were estimated based on industry standards and current interest rates.
- **Rents** – For multifamily rental, all rents for that land use in buildings built in 2006 or later were analyzed to develop a 25, 50, and 75th percent quartile rent assumption.
- **Cap Rates** – For multifamily rental, both national and regional cap rates were compiled and variations by market area were researched based on developer interviews.

The following two metrics were utilized to judge feasibility:

- **Return on Total Development Cost (ROC)** – This metric divides profit by total development cost, to judge overall project feasibility. As described in the Commercial Feasibility analysis, this metric is similar to overall return on investment in short-term investment mechanisms such as corporate bonds. To test feasibility, this metric had to achieve at least a 15 percent return on cost including for the new affordable housing fee and the applicable school fee. This metric does not account for leverage, but a separate analysis of several of the pro formas prepared for this study indicated that in the event of a typical equity/debt configuration, this metric and the 15% ROC threshold should still enable sufficient return in equity to investors.

[16] It should be noted that during the course of this analysis, discussions with builders specializing in inexpensive market rate residential units on small lots (e.g., minimum of 2,000 square feet and may be either attached or detached units) were concerned that their profit margins may not be reflected in the land uses shown herein, due to their particular business model. See further discussion in feasibility analysis summary.

- **Yield on Cost (YOC)** – This metric evaluates the annual stabilized Net Operating Income (NOI) compared to total development costs for multifamily rental housing projects only (not relevant in for-sale unit projects because these do not generate ongoing operating investment income). For the feasibility testing, based on developer interviews, multifamily rental housing was also assigned a minimum YOC threshold. Both ROC and YOC thresholds had to be achieved to deem a project feasible with the total fees (e.g., new affordable fee + school fee).

A summary of the pro forma findings is shown on the following page. Detailed pro formas are shown in the Appendix H.

Again, it should be noted that these four land use categories, based on building permit data, do not reflect several small lot subdivisions which may provide inexpensive market-rate units. For several reasons, the metrics of feasibility on these small lot inexpensive subdivisions (which may be either attached but lower than median sale prices, or detached and also lower than median sale prices), are difficult to reflect in this analytical framework due to the combination of several sources of builder profit along with the sometimes inexpensive sale prices.

Most other cities in California do not differentiate between small lot and conventional lot subdivisions, only between density and/or project size (number of units). This unique small lot detached or attached product, falling below the median in sale price by offering an inexpensive ownership unit, and reflecting the City's policy objective to encourage inexpensive small lot unit production, may be a good candidate for a partial waiver or refund of a fee, in the event that middle income ownership (e.g., inexpensive sale prices) can be demonstrated by the builder.

TABLE 25: SUMMARY OF RESIDENTIAL PRO FORMAS

Low Market scenarios not shown here, due to limited feasibility when analyzed conservatively. Low scenario pro formas shown in Appendix H.

	Apartment		Condominium		Single Family Attached		Single Family Detached	
	17825 W Devonshire St		12871 W Runway Rd		3801 Eagle Rock Blvd		Sterling (West Hills, Pulte)	
								
Assumptions for Baseline (a)	**Medium**	**High**	**Medium**	**High**	**Medium**	**High**	**Medium**	**High**
Site Size (sf)	43,560	43,560	43,560	43,560	43,560	43,560	43,560	43,560
Total Number of Units	80	80	80	80	14	14	8	8
Average Unit Size	1,150	1,150	1,485	1,485	1,650	1,650	3,000	3,000
Number of Residential Floors	3	3	4	4	2	2	2	2
Number of Parking Stories	1	1	1	1	1	1	1	1
FAR	2.4	2.4	3.1	3.1	0.5	0.5	0.6	0.6
Parking Type	Podium		Podium		In Unit		In Unit	
Land Costs per door	$ 75,000	$ 100,000	$ 75,000	$ 100,000	$ 100,000	$ 150,000	$ 200,000	$ 400,000
Total Dev Cost/Unit (inc. land) bf new fe	$ 446,111	$ 533,526	$ 596,895	$ 869,349	$ 565,475	$ 834,972	$ 998,198	$ 1,468,383
Total Dev Cost/SF (inc. land) bf new fee	$ 337	$ 403	$ 350	$ 509	$ 343	$ 506	$ 333	$ 489
Sale Price/Sq. Ft.			$ 521	$ 785	$ 450	$ 656	$ 444	$ 953
Sale Price or Rent Per Unit	$ 3,200	$ 3,800	$ 773,685	$ 1,165,725	$ 742,500	$ 1,082,400	$ 1,332,000	$ 2,859,000
Return On Cost - Baseline	27.7%	26.8%	23.1%	27.4%	24.7%	23.2%	26.8%	85.0%
Yield on Cost - Baseline	6.4%	6.3%	NA	NA	NA	NA	NA	NA
Baseline Feasible? (b)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Fee/Sq. Ft. (a)	**$ 18.00**	**$ 24.00**	**$ 22.00**	**$ 45.00**	**$ 26.00**	**$ 32.00**	**$ 31.00**	**$ 48.63**
New Fee per Unit	$ 23,805	$ 31,740	$ 37,571	$ 76,849	$ 42,900	$ 52,800	$ 93,000	$ 145,890
Return On Cost with Fees	20.7%	19.1%	15.2%	16.2%	15.2%	15.2%	15.1%	66.9%
Yield on Cost with Fees	6.0%	6.0%	N/A	N/A	N/A	N/A	N/A	N/A
Feasible with Fee? (b)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
New Res Fee, as % of Total Dev Costs	*5.0%*	*5.6%*	*5.9%*	*8.1%*	*7.0%*	*5.9%*	*8.5%*	*9.0%*

a) Assumes payment of proposed Qumiby fee (($10,000 per unit for subdivisions) or new Park fee ($5,000 per unit for multifamily)
Single family detached feasible fee is capped at max legal fee.

b) Feasibility measured 2 ways.

Project must achieve at least: 15.0% Return on Cost

Project must achieve at least: 6.0% Yield on Cost (if applicable)

Step D: Comparison of Feasible Fee to Maximum Legal Fee

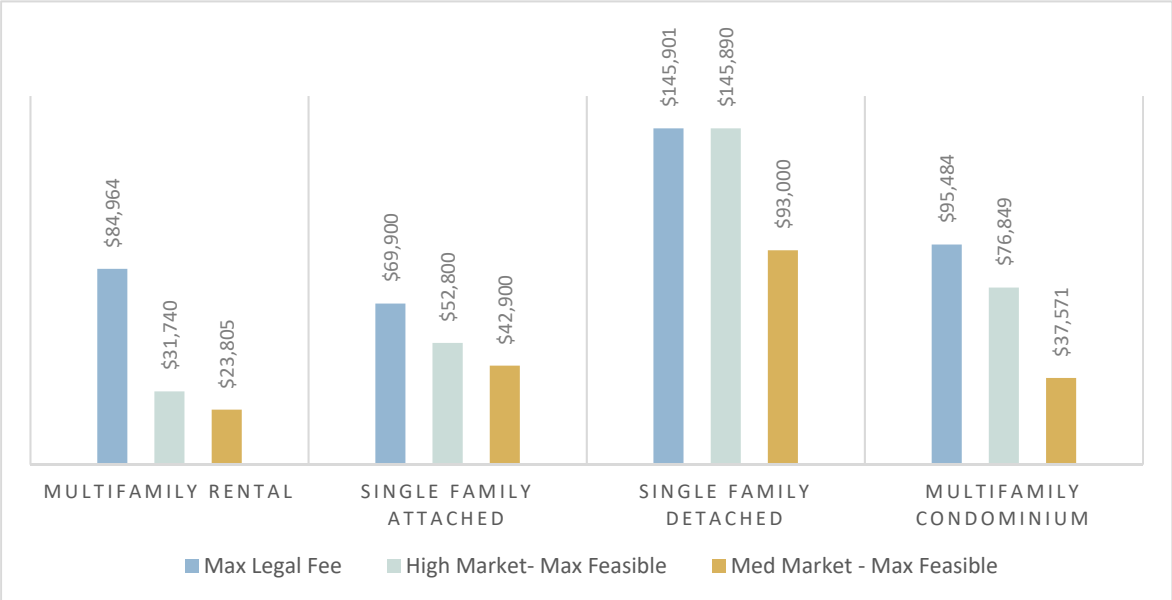
The table below compares the feasible fees estimated above, to the maximum legal fees described in the previous chapter (based on nexus analysis of new worker households). As in most other cities in California, the gap between the dollars needed to fund affordable housing for new workers (e.g., maximum legal fee) and the feasible level of fee that can be absorbed by real estate market conditions, is substantial. In other words, charging a fee that would not constrain private sector development does not usually meet all subsidy needed to mitigate the costs of the affordable housing impacts generated by the new development.

TABLE 26: COMPARISON OF RESIDENTIAL MAX LEGAL FEES TO FEASIBLE FEES

	Multifamily Rental		Multifamily Condo		Single Family Attached		Single Family Detached	
	Med	High	Med	High	Med	High	Med	High
Legal Fee (Max per Unit)	**$ 84,964**	**$ 84,964**	**$ 95,484**	**$ 95,484**	**$ 69,900**	**$ 69,900**	**$ 145,901**	**$ 145,901**
Legal Fee (Max per Sq. Ft.) (a)	**$ 73.88**	**$ 73.88**	**$ 64.30**	**$ 64.30**	**$ 42.36**	**$ 42.36**	**$ 48.63**	**$ 48.63**
								Capped at Legal Max
Feasible Fee Per Unit (b) (c)	**$ 23,805**	**$ 31,740**	**$ 37,571**	**$ 76,849**	**$ 42,900**	**$ 52,800**	**$ 93,000**	**$ 145,890**
Feasible Fee Per Sq. Ft. (b)	**$ 18.00**	**$ 24.00**	**$ 22.00**	**$ 45.00**	**$ 26.00**	**$ 32.00**	**$ 31.00**	**$ 48.63**
Feasible Fee as % of Legal Max	24.4%	32.5%	34.2%	70.0%	61.4%	75.5%	63.7%	100.0%

a) Legal Max calculated per unit in nexus analysis. Converted here to per sq.ft. based on pro forma assumptions based on sales analysis of sq. ft. of homes sold.
b) Current school fee and proposed Park fee is applied to project. Feasible Res Fee is after accounting for those costs.
c) The feasible fee per unit was derived by taking the feasible fee per square foot multiplied by the gross residential square footage divided by the number of units. As a result, while the fee is presented on a per unit basis, it accounts for area within units and common area space.

FIGURE 12: COMPARISON OF MAX RESIDENTIAL LEGAL FEES TO FEASIBLE FEES



Residential Fee Program Options & Estimated Revenues

Similar to the commercial fees, there are several options the City could select to structure a market-rate residential fee program. The following presents four program options as examples. These options are then analyzed in order to estimate total annual fee revenues, along with two kinds of potential further adjustments to exempt certain projects.

Option A: Match Fee to Market Conditions

This option would create a fee schedule which charges feasible fees based on conservatively-estimated Medium Market Area conditions to new and rehabilitated projects in those areas, and feasible fees estimated for High Market Area conditions to those areas. Project fees in Low Market Areas would likely be waived.

This option would create the most finely-tuned fee structure, but may create challenges to administer and would necessitate periodic updating to identify changing neighborhood market conditions and feasible fee levels.

Option B: Charge Medium Market Fees to Both Medium and High Market Areas

This would be a conservative option, charging the level of feasible fee derived from a Medium market area feasibility test, to all projects located in both Medium and High Market Areas. This approach would limit debate about whether an individual project is in a medium or high market area, charging the same fee per land use to all projects regardless of location. Due to the economics of Low Market areas, fees would likely not be charged in these exempt zones.

This option would simplify fee administration, but may create an uneven burden on projects due to their location and subsequent economics.

Option C: Charge Only High Market Areas

This option would limit fees to only those projects located in premium, High Market Areas, where feasibility is most assured and development is least likely to be affected. Fees charged would be at the corresponding High Market levels. Projects in Medium and Low Market Areas would be waived based on their location. As market conditions change and are re-evaluated, neighborhoods may change from medium to high market conditions and become eligible for the fee schedule.

This option would further simplify fee program administration, but may create debate over specific projects which have High Market characteristics and economics but be technically located in a Medium Market neighborhood (or vice-versa).

Option D: Charge Lowest Feasible Residential Fee Citywide (Flat Fee)

In this option, the lowest feasible fee for the lowest residential land use in a Medium Market Area (e.g., multi-family rental) would be charged across all residential uses in all markets.

The benefits of this option are that it establishes clarity, minimizes confusion and minimizes administrative functions. While this option would apply the fee to all projects, including those located in market conditions that the pro formas concluded may be infeasible, most new development projects occurring in the Low market conditions likely reflect improving submarket conditions not reflected in the broader three market segments analyzed in this report.

The estimated annual revenues that could potentially be generated by the application of these fee program options are shown on the next page.

Adjustment for Density Bonus Programs and 100 Percent Affordable Projects

Due to the anticipated different treatment for both density bonus programs and 100 percent affordable projects (e.g., "credit" for affordable units provided directly in these cases; see next chapter), the revenue estimates exclude the square feet for these projects.

Adjustment for Minimum Project Size

Many cities exempt fees for smaller projects in order to encourage infill and accommodate small businesses. For this study, multifamily rental, multifamily condo, and single family attached projects with less than five units are analyzed as a potential exempt minimum project size (see footnote c on following table for historic distribution of residential projects by number of units in project). Single family detached units were assumed to not be subject to this exemption for revenue-estimating purposes.

TABLE 27: REVENUE ESTIMATES OF FEE PROGRAM OPTIONS, ANNUAL AVERAGE

Estimates do not include possible exemptions and waivers under consideration, other than for project size, density bonus projects, & 100% affordable projects

Option A - Match Fee to Market Conditions

	Low Market		Medium Market		High Market		Total		
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	High Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Max Annual Rev Adjusted for Minimum Project Size (c)
Multifamily Rental*	$ -	1,216,635	$ 18.00	1,838,784	$ 24.00	4,618,450	7,673,869	$ 143,940,909	$ 135,304,454
Single Family Detached	$ -	459,831	$ 31.00	1,035,134	$ 48.63	2,182,417	3,677,381	$ 138,220,057	$ 138,220,057
Single Family Attatched	$ -	167,954	$ 26.00	4,783	$ 32.00	117,219	289,956	$ 3,875,358	$ 3,875,358
Multifamily Condominium	$ -	31,942	$ 22.00	100,758	$ 45.00	152,785	285,485	$ 9,092,010	$ 6,000,726
Total		1,876,362		2,979,458		7,070,871	11,926,691	**$ 295,128,333**	**$ 283,400,595**

** Multifamily Rental sq.ft. is net of density bonus & 100% aff projects.*

Option B - Medium Market Fees Applied to Both Med & High Zones

	Low Market		Medium Market		High Market		Total		
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Max Annual Rev Adjusted for Minimum Project Size (c)
Multifamily Rental*	$ -	1,216,635	$ 18.00	1,838,784	$ 18.00	4,618,450	7,673,869	$ 116,230,209	$ 109,256,396
Single Family Detached	$ -	459,831	$ 31.00	1,035,134	$ 31.00	2,182,417	3,677,381	$ 99,744,053	$ 99,744,053
Single Family Attatched	$ -	167,954	$ 26.00	4,783	$ 26.00	117,219	289,956	$ 3,172,045	$ 3,172,045
Multifamily Condominium	$ -	31,942	$ 22.00	100,758	$ 22.00	152,785	285,485	$ 5,577,951	$ 3,681,448
Total		1,876,362		2,979,458		7,070,871	11,926,691	**$ 224,724,258**	**$ 215,853,942**

** Multifamily Rental sq.ft. is net of density bonus & 100% aff projects.*

Option C - Fee in High Market Zones Only

	Low Market		Medium Market		High Market		Total		
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	High Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Max Annual Rev Adjusted for Minimum Project Size (c)
Multifamily Rental*	$ -	1,216,635	$ -	1,838,784	$ 24.00	4,618,450	7,673,869	$ 110,842,800	$ 104,192,232
Single Family Detached	$ -	459,831	$ -	1,035,134	$ 48.63	2,182,417	3,677,381	$ 106,130,917	$ 106,130,917
Single Family Attatched	$ -	167,954	$ -	4,783	$ 32.00	117,219	289,956	$ 3,751,005	$ 3,751,005
Multifamily Condominium	$ -	31,942	$ -	100,758	$ 45.00	152,785	285,485	$ 6,875,331	$ 4,537,719
Total		1,876,362		2,979,458		7,070,871	11,926,691	**$ 227,600,053**	**$ 218,611,873**

** Multifamily Rental sq.ft. is net of density bonus & 100% aff projects.*

Option D - Lowest Residential Feasible Fee Charged Citywide

	Low Market		Medium Market		High Market		Total		
Use	Lowest Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Lowest Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Lowest Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue	Max Annual Rev Adjusted for Minimum Project Size (c)
Multifamily Rental*	$ 18.00	1,216,635	$ 18.00	1,838,784	$ 18.00	4,618,450	7,673,869	$ 138,129,638	$ 129,841,860
Single Family Detached	$ 18.00	459,831	$ 18.00	1,035,134	$ 18.00	2,182,417	3,677,381	$ 66,192,865	$ 66,192,865
Single Family Attatched	$ 18.00	167,954	$ 18.00	4,783	$ 18.00	117,219	289,956	$ 5,219,208	$ 5,219,208
Multifamily Condominium	$ 18.00	31,942	$ 18.00	100,758	$ 18.00	152,785	285,485	5,138,730	$ 3,391,562
Total		1,876,362		2,979,458		7,070,871	11,926,691	**$ 214,680,442**	**$ 204,645,495**

** Multifamily Rental sq.ft. is net of density bonus & 100% aff projects.*

Notes:

a) Sq.Ft. for each land use based on avg. annual permit data adjusted to waive density bonus & 100% aff projects, as follows:

Annual Average 2011-2015

	All Units Built	Total Sq. Ft. Built	Units in Density Bonus Projects	100% Affordable Projects	Units Built Net of Density Bonus & Affordable	Net Sq. Ft. Built
Multifamily Rental	8,268	9,791,525	1,344	444	6,480	7,673,869
Single Family Detached	990	3,677,381	0	0	990	3,677,381
Single Family Attached	124	289,956	0	0	124	289,956
Multifamily Condominium	142	285,485	0	0	142	285,485
Total	9,524	14,044,347	1,344	444	7,736	11,926,691

b) Allocation of Sq. Ft. per Market Area category- based on geocoding of all permits excluding density bonus and 100% affordable projects:

	% Sq.Ft. in Low Markets	% Sq.Ft. in Med Markets	% Sq.Ft. in High
Multifamily Rental	15.9%	24.0%	60.2%
Single Family Detached	12.5%	28.1%	59.3%
Single Family Attached	57.9%	1.6%	40.4%
Multifamily Condominium	11.2%	35.3%	53.5%

c) Adjusted for minimum project size (5+ units)

	Below Min Project Size	Above Min Project Size
Multifamily Rental	6%	94%
Single Family Detached	NA	NA
Single Family Attached	0%	100%
Multifamily Condominium	34%	66%

Also similar to the commercial fee revenue estimates, two Specific Plans (West Los Angeles and the Coastal Transportation Corridor) currently charge a range of TIA fees and both have been proposed for increases in these fees. The map below shows the location of the TIAs and following pages show the effect of incorporating these proposed fees and charging a net feasible fee for affordable housing in those two Specific Plan areas.

FIGURE 13: RESIDENTIAL MARKET AREAS AND TIAS

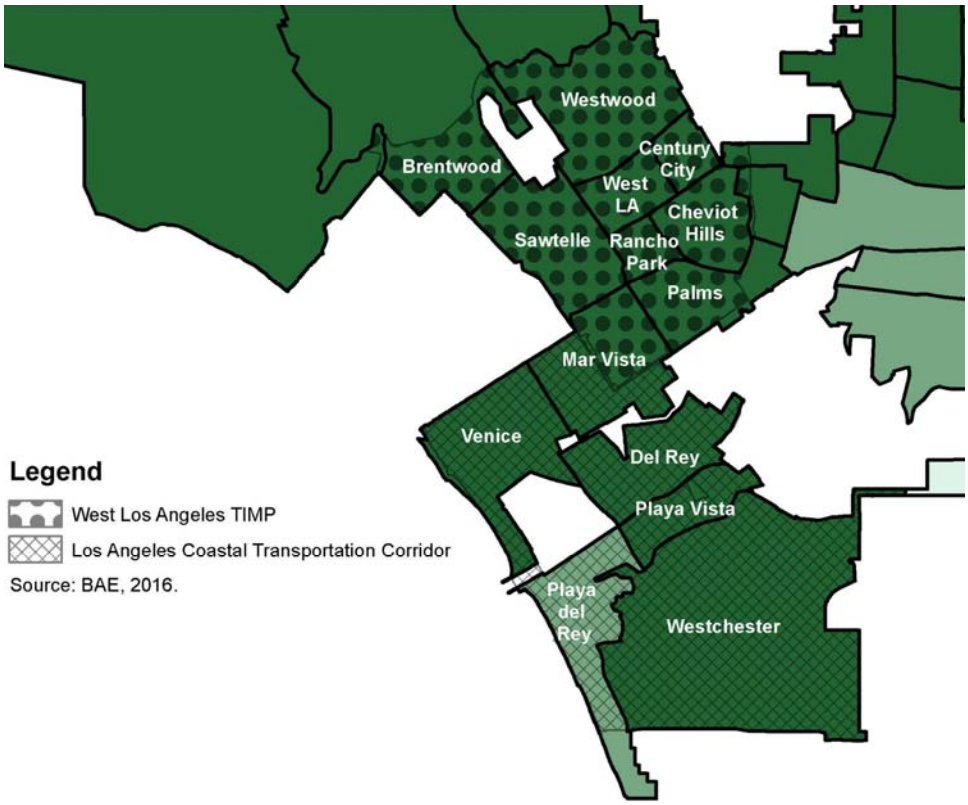


TABLE 28: RESIDENTIAL ESTIMATE FEE REVENUES WITH TIA ADJUSTMENTS

Estimates do not incorporate exemptions and waivers under consideration other than density bonus projects & 100% affordable projects.

	Option A - Citywide Fee Per Market Area Zones							
	Low Market		Medium Market		High Market		Total	
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	High Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue
Multifamily Rental* outside TIAs	$ -	1,216,635	$ 18.00	1,838,784	$ 24.00	3,851,063	6,906,482	$ 125,523,623
Multifamily Rental in TIAs*	*$ -*	*0*	*$ 13.46*	*0*	*$ 19.46*	*767,387*	*767,387*	*$ 14,932,681*
Single Family Detached outside TIAs	$ -	459,831	$ 31.00	1,020,424	$ 48.63	1,719,066	3,199,322	$ 115,231,348
Single Family Detached in TIAs	*$ -*	*0*	*$ 25.64*	*14,710*	*$ 43.27*	*463,350*	*478,060*	*$ 20,425,440*
Single Family Attatched outside TIAs	$ -	167,954	$ 26.00	4,783	$ 32.00	60,967	233,705	$ 2,075,311
Single Family Attatched in TIAs	*$ -*	*0*	*$ 21.74*	*0*	*$ 27.74*	*56,251*	*56,251*	*$ 1,560,620*
Multifamily Condominium outside TIAs	$ -	31,942	$ 22.00	87,911	$ 45.00	90,835	210,688	$ 6,021,618
Multifamily Condominium in TIAs	*$ -*	*0*	*$ 17.27*	*12,847*	*$ 40.27*	*61,950*	*74,797*	*$ 2,716,654*
Total		1,876,362		2,979,458		7,070,871	11,926,691	**288,487,297**

	Option B - Citywide Fee with Med Fee Applied to Both Med & High Zones							
	Low Market		Medium Market		High Market		Total	
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue
Multifamily Rental* outside TIAs	$ -	1,216,635	$ 18.00	1,838,784	$ 18.00	3,851,063	6,906,482	$ 102,417,245
Multifamily Rental in TIAs*	*$ -*	*0*	*$ 13.46*	*0*	*$ 13.46*	*767,387*	*767,387*	*$ 10,328,360*
Single Family Detached outside TIAs	$ -	459,831	$ 31.00	1,020,424	$ 31.00	1,719,066	3,199,322	$ 84,924,206
Single Family Detached in TIAs	*$ -*	*0*	*$ 25.64*	*14,710*	*$ 25.64*	*463,350*	*478,060*	*$ 12,256,578*
Single Family Attatched outside TIAs	$ -	167,954	$ 26.00	4,783	$ 26.00	60,967	233,705	$ 1,709,507
Single Family Attatched in TIAs	*$ -*	*0*	*$ 21.74*	*0*	*$ 21.74*	*56,251*	*56,251*	*$ 1,223,111*
Multifamily Condominium outside TIAs	$ -	31,942	$ 22.00	87,911	$ 22.00	90,835	210,688	$ 3,932,416
Multifamily Condominium in TIAs	*$ -*	*0*	*$ 17.27*	*12,847*	*$ 17.27*	*61,950*	*74,797*	*$ 1,291,798*
Total		1,876,362		2,979,458		7,070,871	11,926,691	**218,083,221**

	Option C - Fee in High Market Zones Only							
	Low Market		Medium Market		High Market		Total	
Use	Low Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Med Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	High Feasible Fee per Sq. Ft.	Annual Avg. Sq. Ft. (a)(b)	Annual Avg. Sq. Ft.	Potential Max Annual Revenue
Multifamily Rental* outside TIAs	$ -	1,216,635	$ -	1,838,784	$ 24.00	3,851,063	6,906,482	$ 92,425,515
Multifamily Rental in TIAs*	*$ -*	*0*	*$ -*	*0*	*$ 19.46*	*767,387*	*767,387*	*$ 14,932,681*
Single Family Detached outside TIAs	$ -	459,831	$ -	1,020,424	$ 48.63	1,719,066	3,199,322	$ 83,598,204
Single Family Detached in TIAs	*$ -*	*0*	*$ -*	*14,710*	*$ 43.27*	*463,350*	*478,060*	*$ 20,048,314*
Single Family Attatched outside TIAs	$ -	167,954	$ -	4,783	$ 32.00	60,967	233,705	$ 1,950,959
Single Family Attatched in TIAs	*$ -*	*0*	*$ -*	*0*	*$ 27.74*	*56,251*	*56,251*	*$ 1,560,620*
Multifamily Condominium outside TIAs	$ -	31,942	$ -	87,911	$ 45.00	90,835	210,688	$ 4,087,570
Multifamily Condominium in TIAs	*$ -*	*0*	*$ -*	*12,847*	*$ 40.27*	*61,950*	*74,797*	*$ 2,494,780*
Total		1,876,362		2,979,458		7,070,871	11,926,691	**221,098,643**

** Multifamily Rental sq.ft. is net of density bonus & 100% aff projects.*

Option D would not be affected by the presence of TIAs.

Footnotes shown on next page

Notes:

a) Sq.Ft. for each land use based on avg. annual permit data adjusted to waive density bonus & 100% aff projects, as follows:

	Annual Average 2011-2015					
	All Units Built	Total Sq. Ft. Built	Units in Density Bonus Projects	100% Affordable Projects	Units Built Net of Density Bonus & Affordable	Net Sq. Ft. Built
Multifamily Rental	8,268	9,791,525	1,344	444	6,480	7,673,869
Single Family Detached	990	3,677,381	0	0	990	3,677,381
Single Family Attached	124	289,956	0	0	124	289,956
Multifamily Condominium	142	285,485	0	0	142	285,485
Total	9,524	14,044,347	1,344	444	7,736	11,926,691

b) Allocation of Sq. Ft. per Market Area category- based on geocoding of all permits excluding density bonus and 100% affordable projects:

	% Sq.Ft. in Low Markets	% Sq.Ft. in Med Markets	% Sq.Ft. in High Markets
Multifamily Rental	15.9%	24.0%	60.2%
Single Family Detached	12.5%	28.1%	59.3%
Single Family Attached	57.9%	1.6%	40.4%
Multifamily Condominium	11.2%	35.3%	53.5%

c) Adjusted for minimum project size (5+ units)

	Below Min Project Size	Above Min Project Size
Multifamily Rental	6%	94%
Single Family Detached	68%	32%
Single Family Attached	0%	100%
Multifamily Condominium	34%	66%

d) Figures overestimate revenue if TIA fees are accounted for in two specific plan aras where TIA fees are charged. The highlighted figures represent the maximum fee for each prototype, which are used in the above calculation. The proposed TIA fees are (fees per unit converted to square foot fees based on unit sizes used for the pro forma analysis):

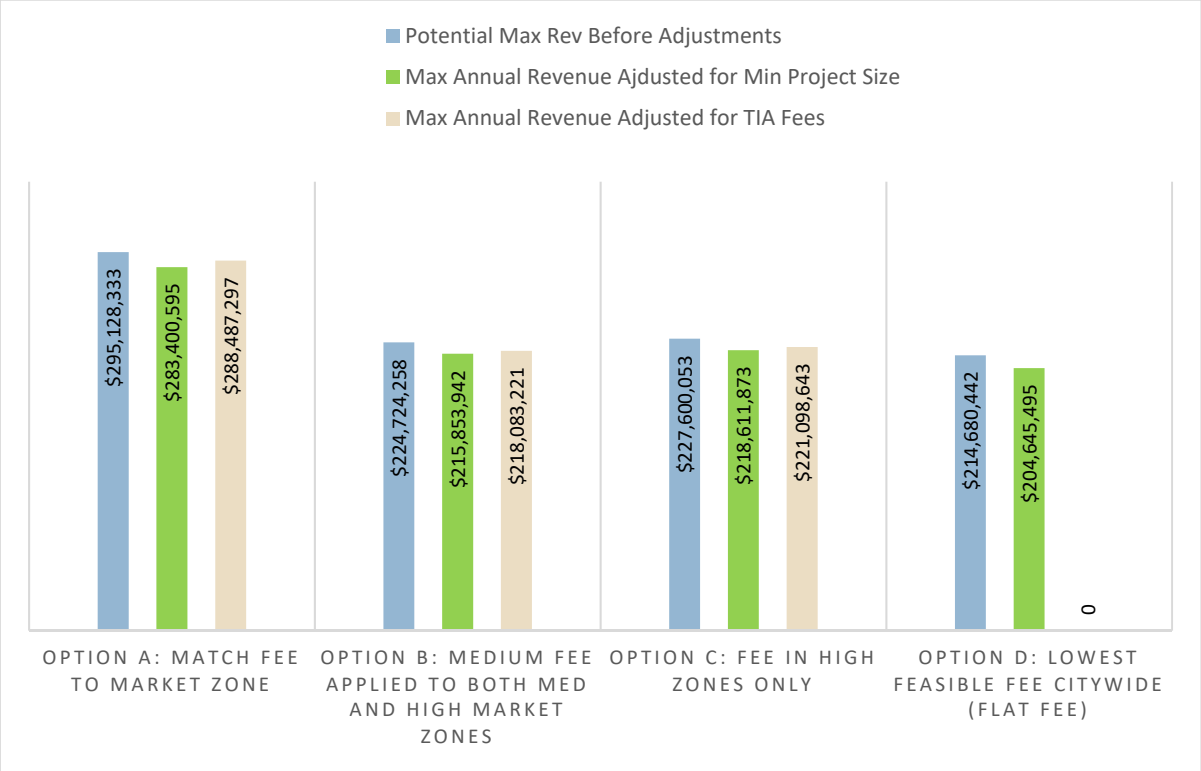
	Proposed TIA Fees		Max Supportabe Fee - Medium		Max Supportabe Fee - High	
	West LA	CTCSP	West LA	CTCSP	West LA	CTCSP
Multifamily Rental	$ 4.54	$ 4.04	$ 13.46	$ 13.96	$ 19.46	$ 19.96
Single Family Detached	$ 3.31	$ 5.36	$ 27.69	$ 25.64	$ 45.32	$ 43.27
Single Family Attached	$ 4.26	$ 3.79	$ 21.74	$ 22.21	$ 27.74	$ 28.21
Multifamily Condominium	$ 4.73	$ 4.21	$ 17.27	$ 17.79	$ 40.27	$ 40.79

Allocation of Sq. Ft. per Market Area category within TIAs

	% Units in Low	% of Units in Med	% of Units in High	Total Activity in TIAs
Multifamily Rental	0.0%	0.0%	10.0%	10.0%
Single Family Detached	0.0%	0.4%	12.6%	13.0%
Single Family Attached	0.0%	0.0%	19.4%	19.4%
Multifamily Condominium	0.0%	4.5%	21.7%	26.2%

In summary, the range of fee program options and their associated revenues for an average year are as follows:

FIGURE 14: ESTIMATE OF POTENTIAL ANNUAL RESIDENTIAL FEE REVENUE



Considerations for Implementation

Fees by Geographic Area

Similar to the commercial fee discussion of implementation earlier in this report, the City of Los Angeles could adopt a market-rate residential fee schedule which varies the required fee by geographic area, as related to market condition. Further variations of this approach, which would match the feasible fee to the geographic area, are then possible to structure.

Phase-In of Fee Schedule

A key component of adopting a commercial fee in Los Angeles will be the phase-in schedule. Most notably, most cities when first adopting a fee like this, set a future date for its implementation, and also define and waive current "pipeline" projects which would have been started without knowledge of this fee. Moreover, to mitigate the initial perceived "shock to the system" of a new residential fee, a phase-in schedule would help to mitigate this risk.

For these reasons, it is recommended that if Los Angeles adopts a residential fee program, it should consider a two-year phased-in schedule when initially implemented. The fee schedule, for example, could be set at half of the full fee for the first year of applicability, rising to the full 100 percent of the fee on projects seeking building permits 12 months later and beyond.

Fee Exemptions and Waivers

As profiled in the case studies of commercial fees, other cities in California have variable approaches to making categories of land use either exempt from residential fees or waiving fees under certain conditions.

Fee Exemptions

This study was conducted assuming that 100 percent affordable housing projects residential projects would be exempt from residential fees since affordable housing is being provided. Los Angeles could also exempt projects smaller than a certain size threshold, as discussed earlier in this study.

Fee Waivers

The next chapter explores the Los Angeles Density Bonus Program, which involves market-rate residential projects incorporating affordable units in exchange for additional allowable floor area ratio (FAR) in conformance with state law. This program means that these projects are already providing affordable units within the same project, although the levels of required affordable units to achieve FAR increases are lower than the nexus study levels of affordable housing need identified as generated from current market rate projects.

The revenue estimates for the residential fee included an example adjustment that can also be built into the regulations for Transportation Investment Areas (TIAs), which are currently applicable only to the Specific Plans for West Los Angeles and the Coastal Transportation

Corridor. In the even other areas of Los Angeles have the eventual need to adopt area transportation impact fees, the residential fee could be partially waived (reduced) to accommodate those other fees.

Another kind of waiver could be considered in cases where developers are applying to build inexpensive market rate homes in Low or Medium market areas on small lots (can be attached or detached units); these units are typically built with inexpensive finishes and sold at relatively inexpensive sale prices. Analysis for this report, and discussions with builders of these products, indicated concern for the ability to absorb a linkage fee and still provide this type of unit. If such units were sold at prices that served a policy objective (such as ownership housing serving 110 percent AMI households), a reduction or waiver in the fee may help limit this type of potential overlap between policy objectives.

Finally, most cities allow for a waiver request if a) economic hardship can be demonstrated or b) if lesser affordable housing job impacts can be demonstrated. Excluding the issue of the planned increase in minimum wage, it is recommended that these two options be narrowly allowed per legal requirements, but not more broadly offered, to minimize administrative burden on staff.

Timing of Fee Calculation and Payment

As profiled in the case studies, most cities charge the residential fee prior to or at the time of building permit issuance. Several cities split up the payments, allowing for partial payment later (at Certificate of Occupancy), while a few cities spread payments even farther apart over time, allowing for essentially a payment plan or the choice of an upfront net present value payment of the entire amount.

For several reasons, it is recommended that for the City of Los Angeles, the fee payment be split only into at most, two equal installments – at the time of building permit issuance and at the time of Certificate of Occupancy. This recommendation is made at this limited level, due to the overarching immediate need to create a permanent source of funding for affordable housing.

Additional Considerations

Effect of Los Angeles Minimum Wage Phase-In Schedule

In 2015, the Los Angeles City Council passed a City Minimum Wage Ordinance that will increase the minimum wage to $15 per hour for all employers in the City, with increases in the minimum wage phased in between 2016 and 2021. Employers with more than 25 employees will be required to reach the $15 minimum wage by 2020, while some nonprofit organizations and employers with 25 or fewer employees are eligible to receive an additional year to reach the $15 minimum wage. This section provides an analysis of the potential impact of the City's minimum wage ordinance on the legal maximum commercial linkage and affordable housing impact fee calculations presented in the preceding sections of this report.

Methodology

BAE analyzed the potential impacts of the increase in the minimum wage by determining the household AMI levels for workers that will earn the new minimum wage and adjusting the household income distribution among the workers generated by each residential or commercial land use type accordingly. BAE then re-calculated the maximum fee based on the adjusted household income distribution. This section provides an overview of the methodology used to analyze the potential impacts of the minimum wage ordinance on the maximum legal fee calculations. Calculation tables and additional detail about the methodology used in this analysis are shown in Appendix E.

Step 1: Determine the AMI band for households at the new minimum wage. The $15 per hour minimum wage that will apply to most employers in 2020 is equivalent to an estimated wage of $13.33 per hour in 2016 dollars, translating to an annual income equal to approximately $27,700 for a full-time employee. Assuming 1.77 workers per worker household, the estimated annual household income for an employee working full time at minimum wage would be approximately $48,900. According to 2016 HCD income limits for a household in Los Angeles County, a household earning an income of $48,900 falls within the low-income AMI band for two- to five-person households.

Step 2: Adjust the household income distribution for workers generated by new development. Based on the findings from Step 1, all worker households that fall into the extremely low- or very low-income AMI bands under current minimum wage requirements would fall into the low-income AMI band following an increase in the minimum wage to $15 in 2020. For each residential product type and commercial land use analyzed in the preceding maximum fee calculations, the household income distribution among worker households was adjusted by moving all extremely low- and very low-income households into the low-income AMI band.

Step 3: Re-calculate the maximum legal fees using the adjusted AMI distributions. Step 2 results in an income distribution that shows a reduction in extremely low- and very low-income households (to zero) and a commensurate increase in low-income households. Since the subsidy gap for low-income units is smaller than the subsidy gap for extremely low- or very low-income units, the cost associated with providing housing for households below the moderate income level decreases somewhat as extremely low- and very low-income households shift to become low-income households. The reduced cost of providing affordable housing translates directly to a lower maximum legal fee due to the increase in the minimum wage.

Findings

The increase in the City of Los Angeles minimum wage is not expected to impact the recommended fee rates, despite anticipated reductions in the maximum legal fees.

Although the increase in the minimum wage will decrease the maximum legal commercial linkage fee, the maximum legal fee will still be higher than the anticipated fee rate. As shown in Table 29, the planned increase in the minimum wage will decrease the maximum legal fee for each of the eight commercial land uses, resulting in maximum legal fees that range from approximately $100 per square foot to $261 per square foot, depending on the specific use. These lower maximum legal fees are nonetheless significantly higher than the feasible fee rates and the fees likely to be adopted by the City. In the event that the City adopts fee rates that are higher than those shown in the table below, it may necessary for the City to revisit the fee rates following implementation of the minimum wage increase.

TABLE 29: MAXIMUM LEGAL COMMERCIAL FEE, FUTURE MINIMUM WAGE

	Office	Retail	Industrial	Hotel/ Motel	Warehouse	Hospital	Institutional
Maximum Legal Fee (per sq. ft.)							
With Current (2016) Minimum Wage	$248	$309	$131	$133	$118	$196	$197
With Increased Minimum Wage in 2020	$213	$261	$112	$114	$100	$169	$168

Note:
See detailed calculations in Appendix I.
Source: BAE, 2016.

Similarly, the increase in the minimum wage will decrease the maximum legal affordable housing impact fee, though not below the anticipated fee rates. As shown in Table 30, the planned increase in the minimum wage will decrease the maximum legal fee for each of the four residential product types, resulting in maximum legal fees that range from approximately $59,600 per unit to $124,300 per unit. However, the maximum legal fees will remain higher than the fee rates likely to be adopted by the City. In the event that the City adopts fee rates that are higher than those shown in the table below, it may necessary for the City to revisit the fee rates following implementation of the minimum wage increase.

TABLE 30: MAXIMUM LEGAL HOUSING FEE UNDER FUTURE MINIMUM WAGE REQUIREMENTS

	Multifamily Rental	Condominium	Single-Family Attached	Single-Family Detached
Maximum Legal Fee (per unit)				
With Current (2016) Minimum Wage	$84,964	$95,484	$69,900	$145,901
With Increased Minimum Wage in 2020	$72,437	$81,385	$59,578	$124,339

Note:
See detailed calculations in Appendix I.
Source: BAE, 2016.

Option to Provide On-Site Units

Many cities with market-rate housing fees provide the option to developers to waive these fees if on-site affordable units are provided instead. This section calculates the proportion of affordable units that would need to be provided on-site for this option, and is based on the analysis of affordable housing need generated by new market-rate units in Los Angeles, as previously presented in shown in Table 24.

Table 31 shows the proportion of units that would be required to fully address the need for affordable units generated by market-rate units on site in mixed-income developments. This analysis uses the base 100 market-rate units in each of the development prototypes that were identified in the maximum fee calculations shown in this report, and adds the affordable unit need generated by these market-rate units to the project in order to demonstrate the number of units and income mix needed to address this need on site. For example, the figures in Table 24 show that 100 units of market-rate multifamily rental housing generate a need for 22.8 affordable units. The figures in Table 31 therefore assume a hypothetical 122.8-unit project comprised of 100 market-rate units and the 22.8 affordable units that are needed to address the affordable housing impacts of the market-rate units on site. The figures in Table 31 then calculate the numerical proportion of the total 122.8-unit project that would be comprised of units at each affordability level.

Table 31 also provides a weighting of the proportion of units at each affordability level to convert the entire need into units that serve each affordability level in order to estimate the number of units that would need to be provided on site at a single affordability level. As shown, the estimated proportions at single affordability levels are as follows:

- Multifamily Rental: 12 percent at extremely-low income, 16 percent at very-low income, 22 percent at low-income, or 29 percent at moderate income.
- Condominiums: 14 percent at extremely-low income, 18 percent at very-low income, 24 percent at low-income, or 32 percent at moderate income.
- Single-Family Attached: 11 percent at extremely-low income, 14 percent at very-low income, 18 percent at low-income, or 25 percent at moderate income.

- Single-Family Detached: 19 percent at extremely-low income, 24 percent at very-low income, 33 percent at low-income, or 44 percent at moderate income.

TABLE 31: ON-SITE UNITS NEEDED TO MITIGATE MARKET-RATE UNIT'S IMPACT

	Affordable Units					Market-	Total
Multifamily Rental	**ELI**	**VLI**	**LI**	**Mod**	**Total**	**Rate**	**Project (a)**
Number of Units (b)	6.1	6.0	8.0	2.6	22.8	100	122.8
Percent of Total Project	5.0%	4.9%	6.5%	2.1%	18.5%	81.5%	100.0%
Percent of Total - Weighted to ELI (c)	12.4%	0.0%	0.0%	0.0%	12.4%	87.6%	100.0%
Percent of Total - Weighted to VLI (c)	0.0%	16.1%	0.0%	0.0%	16.1%	83.9%	100.0%
Percent of Total - Weighted to LI (c)	0.0%	0.0%	21.7%	0.0%	21.7%	78.3%	100.0%
Percent of Total - Weighted to Mod (c)	0.0%	0.0%	0.0%	29.1%	29.1%	70.9%	100.0%
Condominiums							
Number of Units (b)	6.9	6.8	9.0	2.9	25.6	100	125.6
Percent of Total Project	5.5%	5.4%	7.1%	2.3%	20.4%	79.6%	100.0%
Percent of Total - Weighted to ELI (c)	13.6%	0.0%	0.0%	0.0%	13.6%	86.4%	100.0%
Percent of Total - Weighted to VLI (c)	0.0%	17.7%	0.0%	0.0%	17.7%	82.3%	100.0%
Percent of Total - Weighted to LI (c)	0.0%	0.0%	23.8%	0.0%	23.8%	76.2%	100.0%
Percent of Total - Weighted to Mod (c)	0.0%	0.0%	0.0%	31.9%	31.9%	68.1%	100.0%
Single-Family Attached							
Number of Units (b)	5.0	5.0	6.6	2.1	18.7	100	118.7
Percent of Total Project	4.2%	4.2%	5.5%	1.8%	15.8%	84.2%	100.0%
Percent of Total - Weighted to ELI (c)	10.5%	0.0%	0.0%	0.0%	10.5%	89.5%	100.0%
Percent of Total - Weighted to VLI (c)	0.0%	13.7%	0.0%	0.0%	13.7%	86.3%	100.0%
Percent of Total - Weighted to LI (c)	0.0%	0.0%	18.4%	0.0%	18.4%	81.6%	100.0%
Percent of Total - Weighted to Mod (c)	0.0%	0.0%	0.0%	24.7%	24.7%	75.3%	100.0%
Single-Family Detached							
Number of Units (b)	10.5	10.4	13.7	4.5	39.1	100	139.1
Percent of Total Project	7.6%	7.5%	9.8%	3.2%	28.1%	71.9%	100.0%
Percent of Total - Weighted to ELI (c)	18.8%	0.0%	0.0%	0.0%	18.8%	81.2%	100.0%
Percent of Total - Weighted to VLI (c)	0.0%	24.4%	0.0%	0.0%	24.4%	75.6%	100.0%
Percent of Total - Weighted to LI (c)	0.0%	0.0%	32.8%	0.0%	32.8%	67.2%	100.0%
Percent of Total - Weighted to Mod (c)	0.0%	0.0%	0.0%	44.1%	44.1%	55.9%	100.0%
Weighting Factors							
AMI Levels	30%	50%	80%	120%			
Weighting Factors - to ELI Units (d)	1.0	0.8	0.5	0.1			
Weighting Factors - to VLI Units (d)	1.2	1.0	0.7	0.3			
Weighting Factors - to LI Units (d)	1.5	1.3	1.0	0.6			
Weighting Factors - to Mod Units (d)	1.9	1.7	1.4	1.0			

Notes:
(a) "Total Project" includes all 100 market-rate units in the sample project plus the affordable housing need generated by these 100 units.
(b) From Table 24.
(c) Weighting to income levels represents a conversion of the percent of affordable units by AMI level into a single AMI band, based on the weighting factors shown in the table and described in footnote (d).
(d) Weighting factor = 1 + (%AMI threshold units are weighted to - % AMI threshold of weighted unit type). For example, the weighting factor to convert VLI units into LI units is: 1 + (80% - 50%), since 80% is the AMI level for LI units and 50% is the AMI level for VLI units.
Source: BAE, 2016.

Voluntary Density Bonus vs. Market-Rate Housing Fee

This section provides an overview of the use of the California State Bonus Law in the City of Los Angeles, compares the outcomes from the Density Bonus to the potential outcomes of the market-rate housing fee analyzed in this study, and provides a policy options for the implementation of the market-rate housing fee in combination with the State Density Bonus.

California Density Bonus Overview

The California State Density Bonus Law (California Government Code Sections 65915 through 65918) entitles developers to certain development incentives for projects that include a prescribed amount of affordable housing. For developers, the State Density Bonus Law is a voluntary, incentive-based program, which allows developers to opt in on a project-by-project basis in exchange for incentives. All cities in California are mandated by State Law to adopt the State Density Bonus.

Depending on the share of affordable units provided, development incentives under the State Density Bonus Law include up to a 35 percent increase in density over the density otherwise allowed on the project site. Projects in which at least 10 percent of units are affordable to low-income households or five percent of units are affordable to very low income households are eligible for a 20 percent density bonus, while projects with higher proportions of affordable units are eligible for larger density bonuses. In addition, condominium developments, planned developments, and stock cooperatives are eligible for a five percent density bonus if at least ten percent of units are moderate-income units, with density bonuses up to 35 percent for larger proportions of moderate-income units.

TABLE 32: CALIFORNIA STATE DENSITY BONUS PROVISIONS

Affordable Unit Percentage (a)	Density Bonus by Affordability Level: Very Low Income Units	Low Income Units	Moderate Income Units
5%	20.0%	N/A	N/A
6%	22.5%	N/A	N/A
7%	25.0%	N/A	N/A
8%	27.5%	N/A	N/A
9%	30.0%	N/A	N/A
10%	32.5%	20.0%	5.0%
11%	35.0%	21.5%	6.0%
12%	35.0%	23.0%	7.0%
13%	35.0%	24.5%	8.0%
14%	35.0%	26.0%	9.0%
15%	35.0%	27.5%	10.0%
16%	35.0%	29.0%	11.0%
17%	35.0%	30.5%	12.0%
18%	35.0%	32.0%	13.0%
19%	35.0%	33.5%	14.0%
20%	35.0%	35.0%	15.0%
21%	35.0%	35.0%	16.0%
22%	35.0%	35.0%	17.0%
23%	35.0%	35.0%	18.0%
24%	35.0%	35.0%	19.0%
25%	35.0%	35.0%	20.0%
26%	35.0%	35.0%	21.0%
27%	35.0%	35.0%	22.0%
28%	35.0%	35.0%	23.0%
29%	35.0%	35.0%	24.0%
30%	35.0%	35.0%	25.0%
31%	35.0%	35.0%	26.0%
32%	35.0%	35.0%	27.0%
33%	35.0%	35.0%	28.0%
34%	35.0%	35.0%	29.0%
35%	35.0%	35.0%	30.0%
36%	35.0%	35.0%	31.0%
37%	35.0%	35.0%	32.0%
38%	35.0%	35.0%	33.0%
39%	35.0%	35.0%	34.0%
40%	35.0%	35.0%	35.0%

Note:
(a) Affordable unit percentage applies the base (i.e., without density bonus) density. Calculation of the share of affordable units is conducted before adding market-rate units added by the density bonus.
Sources: CA Government Code Sections 65915-65918; BAE, 2016.

Use of State Density Bonus in Los Angeles

Use of the density bonus is fairly common among recent residential developments in Los Angeles. Between 2011 and 2015, 7,915 market-rate and affordable units were developed in density bonus projects in Los Angeles, accounting for 17 percent of all units built in the City, as shown in Table 33, not including 100 percent affordable developments that received a density bonus. Of this total, 683 units in density bonus projects were very low-, low-, or moderate-income units, a number equal to nine percent of the total number of market-rate units in density bonus projects.

Among multifamily rental developments, 6,722 market-rate and affordable units were in projects that received a density bonus between 2011 and 2015, amounting to 16 percent of multifamily rental units permitted in Los Angeles during this period. Multifamily rental developments that received a density bonus generated 585 affordable units, a number equivalent to 10 percent of the number of market-rate units in density bonus projects. Condominium developments that received a density bonus between 2011 and 2015 included 1,193 market-rate and affordable units, comprising 19 percent of all units in the City during the same period.

Density bonus projects produced 98 affordable for-sale units, a number equal to nine percent of all units in density bonus projects.

TABLE 33: UNITS IN DENSITY BONUS PROJECTS, CITY OF LOS ANGELES, 2011-2015

	Multifamily Rental	Condominium	Total
Very Low (AMI up to 50%)	497	95	592
Low (AMI 50%-80%)	73	2	75
Moderate (AMI 80%-120%)	15	1	16
Affordable Unit Total	**585**	**98**	**683**
Market-Rate Units in Density Bonus Projects	6,137	1,095	7,232
Total Units in Density Bonus Projects	**6,722**	**1,193**	**7,915**
Affordable Units as a % of Market-Rate Units in Density Bonus Projects	**9.5%**	**8.9%**	**9.4%**
Total Units Permitted in City (Density Bonus Projects + Other Projects)	41,341	6,280	47,621
Units in Density Bonus Projects as a Share of All Units Permitted	**16.3%**	**19.0%**	**16.6%**

Note:
Figures exclude projects that are comprised only of affordable units.
Sources: City of Los Angeles, 2011-2015; BAE, 2016.

Comparison of Density Bonus to Market-Rate Housing Fee

On a project-by-project basis, the density bonus does not generate enough units to meet the affordable housing need generated by the market-rate units in density bonus projects. As detailed in the section of this report that shows the maximum market-rate housing fee calculations and shown in Table 34 below, 100 units of market-rate multifamily housing generates a need for 22.8 affordable units. Mixed-income (i.e., not 100 percent affordable) density bonus projects built in Los Angeles between 2011 and 2015 produced 9.5 affordable multifamily rental units for each 100 units of market-rate multifamily rental housing, falling 13.2 units short of the need. Similarly, 100 market-rate condominium units generate a need

for 25.6 affordable units, while condominium projects that receive a density bonus generated 8.9 affordable units per 100 market-rate units between 2011 and 2015.[17]

TABLE 34: COMPARISON OF DENSITY BONUS OUTCOMES TO HOUSING FEE OUTCOMES

Shortfall of Density Bonus Program in Mitigating Affordable Housing Impacts	Multifamily Rental	Condominium
Affordable Housing Need Generated by 100 Market-Rate Units (a)	22.8	25.6
Affordable Units per 100 Market-Rate Units in Density Bonus Projects (b)	9.5	8.9
Shortfall using Density Bonus Program	**13.2**	**16.6**
Shortfall of Fee Program in Mitigating Affordable Housing Impacts		
Affordable Housing Need Generated by 100 Market-Rate Units (a)	22.8	25.6
Maximum Legal Market-Rate Housing Fee (per unit) (c)	$84,964	$95,484
Recommended Market-Rate Housing Fee (per unit) (d)		
Medium Market	$23,805	$37,571
High Market	$31,740	$76,849
Recommended Fee as a % of Maximum Legal Fee		
Medium Market	28.0%	39.3%
High Market	37.4%	80.5%
Affordable Units from Fees from 100 Market-Rate Units (e)		
Medium Market	6.4	10.1
High Market	8.5	20.6
Shortfall using Fee Program		
Medium Market	**16.4**	**15.5**
High Market	**14.3**	**5.0**

Notes:
(a) Affordable housing need from maximum fee calculations presented in a preceding section of this report.
(b) Based on the data in Table 29 above.
(c) Maximum legal fee from the maximum fee calculations presented in a preceding section of this report.
(d) Recommended fee from the analysis presented in a preceding section of this report.
(e) Affordable Housing Need Generated by 100 Market-Rate Units x Recommended Fee as a % of Maximum Legal Fee. This represents the amount of affordable housing need that could be addressed by fees from 100 market-rate units.
Source: BAE, 2016.

Application of Fee Program to Density Bonus Projects

The City of Los Angeles can elect to charge market-rate housing fees on the market-rate units in density bonus projects. As discussed above, the City may choose to waive market-rate housing fees on projects in which a defined proportion of units are affordable to lower-income households, which could include density bonus projects that meet the designated affordability threshold.

Table 35 below compares the proportion of affordable units in density bonus projects to the proportions needed to fully address the need generated by market-rate units on site, as shown in Table 31 above. The figures in Table 35 demonstrate that, with the exception of single-family attached projects, density bonus projects providing the minimum number of units necessary to receive the maximum density bonus under State Law result in fewer affordable units than needed to fully address the need for affordable units within the development.

[17] The historic yield of affordable units in density bonus projects is used here, because the state density bonus program allows a range of affordable units, starting at 5 percent. Thus, actual choices made and units produced, is the best indicator of expected future production of affordable housing using the bonus program.

These figures indicate that the City could provide market-rate housing fee waivers for multifamily rental, condominium, and single-family detached density bonus projects that provide a larger share of affordable units than the State Density Bonus Law addresses. This could incentivize the provision of a larger number of affordable units on site and provide flexibility for developers that may elect to provide additional affordable units in exchange for a fee waiver. For single-family attached developments, fee waivers could be provided for developments with slightly fewer affordable units than would be provided by meeting the minimum affordability requirement needed to achieve the maximum density bonus under the State Density Bonus Law.

TABLE 35: AFFORDABLE HOUSING YIELD FROM UNITS ON SITE

	Affordable Units				Market-Rate			Total
Very Low Income	**VLI**	**LI**	**Mod**	**Total**	**Base**	**Bonus**	**Total**	**Project**
Number of Units in Density Bonus Project (a)	11	0	0	11	89	35	124	135
Percent of Total in Density Bonus Project	8.1%	0.0%	0.0%	8.1%	65.9%	25.9%	91.9%	100.0%
Percent of Total to Address Need (b)	16.1%	0.0%	0.0%	16.1%	83.9%	0.0%	83.9%	100.0%
Low Income								
Number of Units in Density Bonus Project (a)	0	20	0	20	80	35	115	135
Percent of Total in Density Bonus Project	0.0%	14.8%	0.0%	14.8%	59.3%	25.9%	85.2%	100.0%
Percent of Total to Address Need (b)	0.0%	21.7%	0.0%	21.7%	78.3%	0.0%	78.3%	100.0%
Moderate Income								
Number of Units in Density Bonus Project (a)	0	0	40	40	60	35	95	135
Percent of Total in Density Bonus Project	0.0%	0.0%	29.6%	29.6%	44.4%	25.9%	70.4%	100.0%
Percent of Total to Address Need - Condo (b)	0.0%	0.0%	31.9%	31.9%	68.1%	0.0%	68.1%	100.0%
Percent of Total to Address Need - SFA (b)	0.0%	0.0%	24.7%	24.7%	75.3%	0.0%	75.3%	100.0%
Percent of Total to Address Need - SFD (b)	0.0%	0.0%	44.1%	44.1%	55.9%	0.0%	55.9%	100.0%

Notes:
(a) Assumes the minimum proportion of affordable units necessary to receive the maximum density bonus under State law.
(b) See previous table and accompanying text. Percentages for multifamily rental units used for projects with very low income or low income units. Percentages for for-sale unit types used for projects with moderate income units.
Source: BAE, 2016.

Appendix A: Commercial Fee Case Studies

The following profiles commercial linkage fee programs established in cities throughout California. First, larger cities' programs are summarized, including San Francisco, Sacramento, Oakland, and San Diego. Next, several smaller cities located near Los Angeles are profiled to provide context for more localized real estate economics and policy considerations.

It should be noted that these profiles are not exhaustive; numerous other smaller cities in California have adopted or are currently considering adopting commercial impact fees for affordable housing. However, given the large size of the City of Los Angeles, but with real estate markets specific to its economic base, this chapter seeks to profile both large city experiences along with smaller cities nearby facing similar affordable housing challenges.

It should also be noted that the names of some of the commercial fee programs can be confusing' some cities name these fee programs in terms of their objective (to create affordable housing), while others link program names to earlier nomenclature regarding jobs-housing balance goals, and still others carry names associated with their purpose (e.g., to mitigate commercial development impacts).

San Francisco Jobs-Housing Linkage Fee Program

Background

One of the earliest cities to adopt a commercial impact fee, San Francisco established a jobs-housing linkage fee program to support affordable housing production in 1981. Early versions of the policy focused specifically on office development, but the law was expanded in 1996 to encompass retail and hotel uses.[18]

In 2010, the Jobs-Housing Linkage Program (Program) was established in Section 413 of the San Francisco Municipal Code. The Program was founded on the acknowledgement that the supply of housing in the City had not kept pace with the demand created by workers employed in large-scale commercial developments, and that the lack of supply requires many employees to live elsewhere in the Bay Area, resulting in long commutes as well as negative impacts on quality of life, environmental resources, and social equity.

The Program applies to development projects of at least 25,000 gross square feet of entertainment, hotel, production/distribution/repair (PDR), office, research and development, retail, and/or small enterprise workspace. Exemptions include grocery and pharmacy spaces

[18] Keyser Marston Associates, Inc., "Residential Nexus Analysis – City and County of San Francisco." 2007. PDF. Accessed 6/23/16. http://sf-planning.org/sites/default/files/FileCenter/Documents/8380-FINAL%20Resid%20Nexus_04-4-07.pdf.

of a certain size, as well as other standard exemptions such as developments on property owned or leased by the federal government, State of California used exclusively for governmental or educational purposes, and developments on property owned by the San Francisco Redevelopment Agency or Port of San Francisco where application is prohibited by State or local law.[19] Major phases and development projects that are part of the Mission Bay North and Mission Bay South Redevelopment Plans and Interagency Cooperation Agreements are also exempt.

To fulfill the requirements of the Program, developers of commercial space have three options:

1. Payment of the impact fee, calculated based on use type and size.
2. Payment to a housing developer to construct a specified number of units based on use type (either monetary or by contributing land of equivalent value to the impact fee.)
3. A combination of the above options.

Payments are imposed as conditions of project approval. If the project sponsor elects to provide a payment to housing developers instead of paying the impact fee, they must obtain written approval from the Director of the Mayor's Office of Housing and Community Development (MOHCD).

Fee Structure

Fees are charged on a per gross square foot basis, excluding accessory parking, and vary by commercial use type. The current fee schedule is shown below.

SAN FRANCISCO FEES PER SQUARE FOOT OF COMMERCIAL DEVELOPMENT

Use	Fee per sq. ft.
Entertainment	$22.42
Hotel	$17.99
Integrated PDR	$18.89
Institutional	$0.00
Office	$24.03
PDR	$0.00
Research & Development	$16.01
Retail	$22.42
Small Enterprise Workspace	$18.89

Note:
(a) Fees reflect those effective January 1, 2015.

Sources: SF Planning Code, Sec. 413, 2016;
BAE, 2016.

[19] Free standing pharmacies not exceeding 50,000 square feet, general grocery retail not exceeding more than 75,000 square feet, and mixed-use space consisting of residential space and pharmacy retail space not exceeding 50,000 square feet, or general grocery retail space not exceeding 75,000 square feet are exempt from the requirements of the Jobs-Housing Linkage Program (Section 413.3(8)(A-C)).

Fees also apply to the replacement or change of use from PDR space occupied prior to April, 2010 to another commercial use; however, the fee is significantly lower than that imposed for new construction.[20]

In general, fees, payments, and/or transfer of land title(s) must be completed in full before issuance of the first construction document; however, the Board of Supervisors has adopted deferral mechanisms in the past. For example, during the Great Recession, development projects in the pipeline were permitted to defer payment of the jobs-housing linkage fee, in addition to all other impact fees, to the point in time just prior to issuance of the first certificate of occupancy. These deferrals were subject to a surcharge deposited into the Affordable Housing Fund. This option expired in July 2013, though the language still exists in the Planning Code, in the event that the Board of Supervisors decides to reactivate such provisions.

In the event that a project does not ever receive its first building permit, the fee may be refunded by contacting the Planning and Building Inspection Departments and submitting a request. If a building permit has been issued and a developer has authorization to build but chooses not to proceed, the fee is nonrefundable.

All monies generated by the impact fee and any lien proceedings are deposited into the Citywide Affordable Housing Fund, which is managed by the Mayor's Office of Housing and Community Development (MOHCD) and used exclusively to increase the supply of housing affordable to qualifying households. Unlike many other cities profiled in this report, funds may not be used for administrative or general overhead expenses.

The Jobs-Housing Linkage Fee is updated periodically according to the annual percent change in the Construction Cost Index (CCI) for San Francisco.

Payment to Housing Developer

Should a commercial developer elect to fulfill Program requirements through payment or contribution of land to one or more housing developer(s), the housing developer(s) are required to construct a minimum of the number of housing units determined by the formula in the table below. All housing units constructed pursuant to this option must be affordable to qualifying households continuously for 50 years.[21] Similar to the fee, the magnitude of the payment to the housing developer depends on the use type. Regardless of use type, the payment or value of land contributed must be at least equivalent to the amount of the impact fee. Staff noted that this option is seldom, if ever, pursued.

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[20] To derive the fee for replacement or change of use from PDR occupied prior to April 2010 to another commercial use, $14.09 is subtracted from the applicable fee listed in Table 1 (depending on the new use). See Table 413.6B of Section 413.6 of the Municipal Code.

[21] San Francisco Municipal Code, Section 413.5 (Compliance by Payment to Housing Developer.)

SAN FRANCISCO AFFORDABLE HOUSING REQUIREMENT, JOBS-HOUSING LINKAGE FEE

Use	Housing Unit Multiplier
Entertainment	Gross sq. ft. x 0.00014
Hotel	Gross sq. ft. x 0.00011
Office	Gross sq. ft. x 0.00027
R&D	Gross sq. ft. x 0.0002
Retail	Gross sq. ft. x 0.00014

Sources: SF Planning Code, Sec. 413, 2016; BAE, 2016.

Outcomes

A 2012 report published by the San Francisco Controller's Office notes, "Since fiscal year 1988-89, $56,791,248 in Jobs-Housing Linkage fees has been deposited into the Citywide Affordable Housing Fund, and $12,735,030 in interest has been earned on the Citywide Affordable Housing Fund, which also includes Inclusionary Housing Fees."[22] At the time of the report's publication, no commercial developers had opted to construct on- or off-site below market-rate units instead of paying the fee.

In fiscal year 2014-2015, the Jobs-Housing Linkage Program contributed over $27 million to the Affordable Housing Fund's ending balance of approximately $103 million as of June 30, 2015. In the same year, revenues in the Affordable Housing Fund assisted the development of 609 housing units for families, developmentally disabled persons, transition-age youth, low-income individuals, and seniors.[23]

Lessons Learned

Clearly defined use categories leads to easier administration. The specificity of San Francisco's commercial use categories and clarity of the definition of these uses in the City's land use classifications reduces the chance for misclassification of projects for which the jobs-housing linkage fee is assessed. City staff emphasized the importance of the clarity of these definitions in their ability to consistently and accurately apply the appropriate fee rate to new projects.

Consider impacts on essential neighborhood services. San Francisco's exemption of most pharmacies and grocery stores reduces the possible negative impact on the provision of essential goods and services.

[22] City and County of San Francisco Controllers Office, "FY 2011-12 Development Impact Fee Report." November 30, 2012. Accessed 7/19/16. http://sfcontroller.org/sites/default/files/FileCenter/Documents/3770-ImpactReport_2011-12.pdf.
[23] Mayor's Office of Housing and Community Development, "Annual Progress Report Fiscal Year 2014-2015." PDF. Accessed 7/15/16. http://sfmohcd.org/sites/default/files/Documents/MOHDC%20Annual%20Progress%20Report%20FY14-15.pdf.

Land contribution and/or direct payment to residential developer are rarely used. As is the case in Palo Alto, the option to provide a payment to a residential developer to construct affordable units rather than paying the fee is rarely, if ever, used.

It may be prudent to allow for a deferral mechanism in the future, even if not immediately effective. Deferral mechanisms were necessary and were well-utilized during the Great Recession when there was uncertainty about project completion. It is important, however, to include the provision of temporary policies carefully. San Francisco's description of a deferral mechanism in the Planning Code is somewhat misleading; the Planning Code references a section of the Building Code, which includes the expired sunset clause for this provision (planning staff noted that this is a constant source of confusion).

SACRAMENTO HOUSING TRUST FUND COMMERCIAL FEE

Background

The City of Sacramento enacted the Housing Trust Fund (HTF) Ordinance (Chapter 17.188 of the City of Sacramento Zoning Code) to fund construction of affordable housing near new employment centers. .[24] The original impetus seems to have been rapid development in North Natomas, where expected new commercial projects caused concern about creating an imbalance between new jobs and new housing.

The Citywide and North Natomas fees currently in effect are shown below. Land uses vary for North Natomas due to different land use designations for that area's Specific Plan.

SACRAMENTO CITYWIDE AND NORTH NATOMAS FEES, 2016

Citywide			N. Natomas		
Office	$	2.50	**Office/Business**	$	2.74
Hotel	$	2.38	**Community/Neighborhood Com**	$	2.06
Commercial	$	2.00	**Hwy Commercial**	$	2.74
R & D	$	2.12	**M-50**	$	1.74
Manufacturing	$	1.57	**M-20**	$	1.44
Warehouse/Office	$	0.91	**Light Industrial**	$	1.12
Warehouse	$	0.68			

Source: City of Sacramento; BAE, 2016.
Effective 7/1/2016

The City also enacted a separate series of commercial fees for projects where the developer elects to build affordable housing instead of pay the full fee (fees drop to 20 percent of above if specific amounts of housing are built). Also not shown above, are other specific land uses, including major medical facilities, which have a fee of $3.90 per square foot.

In the commercial fee program, the Planning Director determines the fee amount when the project does not fall in an existing category or when it is a use not shown here. Projects subject to this discretionary determination include sports complexes, marinas, golf courses, drive-in theaters, nonresidential care facilities, bus terminals, pest control companies, slaughter houses and flea markets. Other uses are exempt from the commercial fee, including properties owned by the state or US (as a state capital, Sacramento has substantial state-owned property), non-profit homeless facilities, low income services facilities, churches, child care facilities, utilities, and a number of other special purpose structures.

[24] City of Sacramento, https://www.cityofsacramento.org/Community-Development/Planning/Long-Range/Housing-Programs/Housing%20Trust%20Fund, last accessed May 30, 2016.

The Sacramento commercial fee at present, is increased each year by the San Francisco Construction Cost Index. In earlier years, fees were left the same for long periods, then increased, and when economic conditions warranted, rolled back.

Fees are collected prior to (and as condition for) the issuance of the building permit. No provisions exist for the deferral of fees or refunds. However, as long as the monies have not been transferred into the Housing Trust Fund itself, it is possible for a developer who decides not to build to negotiate a refund.

Fees flow to the Housing Trust Fund, created in 1989 specifically to administer monies collected under the commercial linkage fee program. The objective of the Fund is "*to increase and improve the supply of housing affordable to households of low income, with priority given to very low income households.*"[25] The Trust Fund does not finance housing for the homeless or low income senior housing.

Outcomes

Since inception in 1989 through 2013, approximately $25 million of commercial fees have been collected, an average of roughly $1 million per year. Staff estimates that these fees have been used to leverage gap financing to build 3,095 affordable housing units in 44 development projects. Projects receiving funds from the fees are tracked and identified on a map published by the Planning Division.

Lessons Learned

The staff interviewed for this report indicated that since the North Natomas area has now been largely built out, the separate fee structure may need to be collapsed into a single citywide schedule. Staff also mentioned complexities determining how to apply the fee to mixed-use projects (e.g., hotel with convention center and residential units) or or projects that start one way and end up another way (e.g., a warehouse to which office space is added over time).

[25] Sacramento City Code, section 17.708.020 Low income housing fund.

OAKLAND JOBS/HOUSING IMPACT FEE

Background

In 1999, the City of Oakland commissioned a Housing Development Task Force, which recommended in 2000 that the City conduct a Nexus Study for a Jobs/Housing Impact Fee. The City adopted the Jobs/Housing Impact fee in 2002 following completion of the Nexus Study in 2001. However, the City delayed implementation of the fee until 2005 in an effort to clear the development pipeline of projects that had been proposed before the fee was adopted.

Fee Structure

The City of Oakland adopted the jobs/housing impact fee to apply only to office and warehouse/distribution uses, despite that nexus study analyzed office, warehouse/distribution, hotel, and retail uses. The City's ordinance applies citywide but exempts the first 25,000 square feet of all projects and all space devoted to parking. In addition to new construction, the fee applies to substantial rehabilitation projects, defined as projects in which the cost of repairs or rehabilitation exceed 25 percent of the value of the building after the rehabilitation or repair.

The fee is updated on an annual basis based on the Marshall & Swift building cost index. As of 2016, the fee rate was $5.44 per square foot (up from $4 per square foot in 2005) of gross floor area in excess of 25,000 square feet.

Oakland assesses the fee rate at building permit issuance, but the fee is paid in three installments. The first 25 percent of the fee is paid prior to issuance of a building permit for all or any portion of the project. Developers are required to pay another 50 percent prior to issuance of a temporary certificate of occupancy for all or any portion of the project. The final 25 percent is due 18 months after the date of issuance of a temporary certificate of occupancy for all or a portion of the project. If necessary, the City may enforce payment by recording a lien against the property, revoking or suspending the certificate of occupancy, or other action.

Project applicants can request a fee exemption from the City Manager only under special circumstances. In addition, applicants can elect to provide affordable units on site at a rate of 0.00004 units per square foot of office or warehouse/distribution uses (with the first 25,000 square feet of commercial uses exempted). However, applicants for eligible projects are generally expected to pay the fee rather than seek exemptions.

The Jobs/Housing Linkage fee revenue accrues to the City's Housing Trust Fund, which is used to increase, improve, and preserve the supply of affordable housing in the City, with priority given to housing for very low income households. Eligible uses include, but are not limited to, assistance with staff costs or other administrative costs attributable to a specific affordable

housing project, equity participation in affordable housing projects, loans and grants to affordable housing projects, or other public/private partnership arrangements. Monies from the Affordable Housing Trust Fund may be extended for the benefit of rental housing, owner occupied housing, limited equity cooperatives, mutual housing developments, or other types of affordable housing projects.

Outcomes

As of April 2016, the City of Oakland had collected approximately $1,878,000 from the jobs/housing impact fee, with $2,483,000 expected from planned projects by the end of 2017. The City estimates that the fee revenue collected to date has supported the construction or substantial rehabilitation of 15 to 19 units, with a typical City contribution of approximately $100,000 to $125,000 per unit.

Lessons Learned

Adaptive reuse projects can generate commercial linkage fee revenue. The City of Oakland assesses its jobs/housing impact fee on substantial rehabilitation projects resulting in office or warehouse/distribution uses, provided that the project site has been vacant. A planned conversion of a former Sears building in the City to offices for Uber Technologies Inc. is expected to generate approximately $1 million in jobs/housing impact fees to the City, more than half of the total revenue that the fee has generated to date.

Commercial linkage fee revenue collection varies substantially over time due to real estate market cycles. Since implementation in 2005, Oakland's Jobs/Housing Impact Fee has generated a relatively modest amount of revenue, totaling just under $1.9 million, approximately $170,000 per year on average. The moderate pace of revenue collection is attributable in large part to the minimal amount of developer interest in office or warehouse/distribution projects in the City since 2005. However, due to strong regional job growth in key office-based industries, leading to strong office real estate markets in Oakland and other regional employment centers, the City now anticipates receipt of approximately $2.5 million in jobs/housing impact fee revenue over the next 12 to 18 months, exceeding the total revenue collected since the fee was implemented.

SAN DIEGO HOUSING IMPACT FEE

Background

In 1989, the San Diego Housing Commission created a task force to address the city's growing shortage of affordable housing, leading to adoption of the Housing Trust Fund Ordinance in April 1990, which established a Housing Impact Fee for commercial development.[26] Since 1990, the Ordnance has been revised many times, most recently in April, 2016. Fees were reduced by 50 percent in 1996, and only recently restored to their 1990 levels.

Fee Structure

Fees apply to the gross square feet of office, hotel, and retail projects, along with a discounted fee for R & D projects (to encourage economic development). Exempt uses include manufacturing and warehousing, as well as non-profit hospitals, SRO housing units, projects located on state or federally-owned lands, and general government buildings. The most recent Ordinance update also removed the prior requirement that staff recommend an annual fee increase to City Council.[27] Current fees per April 2016 are:

SAN DIEGO HOUSING IMPACT FEES

	Per Gross Building Sqare Foot	
	2016	2017 and After
Office	$ 1.76	$ 2.12
Hotel	$ 1.06	$ 1.28
Retail	$ 1.06	$ 1.28
R & D	$ 0.80	$ 0.80

Source: San Diego Municipal Code
Chapter 9: Building, Housing and Sign Regulations
Article 8: Housing, Division 6: Housing Impact Fees On Commercial Development

For rehab projects, the fee to be paid "shall be the fees for the new use, less any fees that either were paid or would have been paid based on the existing use of the building."[28] In lieu of fees, developers can donate land or air rights, provided the dedicated property is suitable for housing construction[29]. Developers may also ask for a fee variance prior to obtaining the building permit, for reasons such as financial hardship or if special circumstances apply. To date, 54 requests for fee variances have been submitted, mostly by religious and educational institutions, including 49 stating they would create few jobs, one for financial hardship, and four on both grounds. The five claims of financial hardship were denied, but many of the low job-creation reasons were approved. These variances have resulted in a mix of reduced and

[26] San Diego Municipal Code, Chapter 9: Building, Housing and Sign Regulations, Article 8: Housing, Division 6: Housing Impact Fees On Commercial Development, Section 98.0601: Purpose.
[27] Adapted, with modifications, from a person communication from staff, June 29, 2016.
[28] San Diego Municipal Code, Section 98.0610: Payment of Housing Impact Fee.
[29] This provision was granted once, in 2003, when the San Diego Revitalization Corporation had over $83,000 in impact fees waived because it included shared parking in a commercial project for use by people in an adjacent affordable housing project.

waived fees, reducing total collections for the 54 requests by over $600,000. The Mayor makes the ultimate determination of fee waiver amounts.[30]

As of May 2016, developers may ask for fee deferral for up to two years, but certificates of occupancy are not issued without payment. The deferral program is administered by the City of San Diego Facilities Financing Department and is run on a cost-recovery basis (an application for deferral costs $500). Since the program is new, no information is available about uptake.

Outcomes

San Diego's commercial fees are deposited in a Housing Impact Fee subaccount of the San Diego Housing Trust Fund. Recent data collected for the 2006 – 2014 period indicates that total revenues from the fee were approximately $14 million, averaging $1.55 million annually. No data is collected to track housing financed by the fee.

Lessons Learned

Staff indicated that the commercial fee, with just four categories, which may be too few for contemporary development product types. Also, each category is not clearly defined. The recent removal of an automatic indexed increase to the fee also is problematic, particularly because other local fees are indexed and this fee used to be indexed.

[30] San Diego Municipal Code, Section 98.0611: Determination of Fee.

West Hollywood Non-Residential Affordable Housing Fee

Background

West Hollywood's Non-Residential Affordable Housing Impact Fee was established in 1989. Since its inception, the fee has applied to developments of at least 10,000 net new square feet of commercial space. In 2014, the City increased the fee from $2.85 to $8.00 per square foot based on an updated nexus study. To minimize impacts of this increase, the City Council phased it in over two years; the fee rose to $4.00 per square foot in FY 15-16, and rose again to $8.00 per square foot in FY 16-17 [31] The flat fee is based on the average of the fees supported by various nonresidential uses per the most recent nexus study.[32]

Fee Structure

The City currently levies its commercial fee on office, retail, and hotel development. Fees must be paid prior to building permit issuance. If a project consists of multiple phases, fees for the whole project must be paid before building permit issuance. The Non-Residential Affordable Housing Impact Fee is annually adjusted based on the Building Cost Index (BCI).[33] Currently, fees cannot be deferred, and are generally nonrefundable; however, fee payments may be returned if the building permit expires and is not extended, or if the fees were collected illegally or erroneously. To request a refund, applicants must file a written request with the City no later than 90 days after the initial payment date to be considered.[34]

Outcomes

Commercial fees are deposited into the City's Affordable Housing Trust Fund (along with West Hollywood's residential fee). The Trust's funds subsidize housing projects with at least 20 percent of units affordable to very low income households, and at least 60 percent affordable to low- and moderate-income households. Non-profit housing developers in West Hollywood receive these funds for development costs including predevelopment, land acquisition, administration, and gap financing. From 2002 through 2013, the Trust Fund generated $2.57 million in revenue, and been used to subsidize 17 housing projects[35]. Future Trust Fund revenues are projected to grow rapidly due to the recent commercial fee increase [36]

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[31] http://www.weho.org/home/showdocument?id=26821.
[32] West Hollywood Department of Human Services and Rent Stabilization, "Non-Residential Jobs-Housing Nexus Study and Residential Nexus Study." December 15, 2014 City Council Agenda Report.
[33] Keyser Marston Associates, "Non-Residential Jobs-Housing Nexus Study." August 2014.
[34] West Hollywood Municipal Code, Chapter 19.64 (Development Fees).
[35] Keyser Marston Associates, "Non-Residential Jobs-Housing Nexus Study." August 2014.
[36] IBID

PALO ALTO COMMERCIAL IMPACT FEE

Background

In 1977, three years after the City adopted its inclusionary housing policy, Palo Alto began requiring affordable housing mitigation fees for large commercial and industrial developments, using its environmental review authority provided by the California Environmental Quality Act (CEQA). Funds were deposited into what was then known as the Industrial-Commercial Account, which has since evolved into the current Commercial Housing Fund.[37,38]

Historically, the City has charged one impact fee per square foot for all commercial uses (most recently at $19.85). In 2014, the City completed commercial and residential nexus studies to update its commercial and market-rate residential affordable housing fees.

Fee Structure

Palo Alto's commercial fees are shown below. Effective August 15, 2016, the new fee structure varies by commercial use type. The fee applies to all gross building area, excluding parking.

PALO ALTO COMMERCIAL FEE

Use	Existing Fee	Adopted Fee (a)
Office/R&D	$19.85/sf	$35/sf
Hotel	$19.85/sf	$30/sf
Retail/Restaurant/Other	$19.85/sf	$19.85/sf

Note:
(a) Adopted fee schedule is effective August 15, 2016.

Sources: Palo Alto Planning and Community Environment Department, 2016; BAE, 2016.

Exemptions include on-site child care or recreational facilities, residential uses, churches, colleges and universities, commercial recreation, hospitals and convalescent facilities, private clubs, private educational facilities, public facilities, and small retail/restaurant/auto spaces of 1,500 square feet or less.[39]

[37] City of Palo Alto Finance Committee, "Residential/Commercial Impact Fee Studies Staff Report." February 16, 2016. Accessed 7/19/16. http://www.cityofpaloalto.org/civicax/filebank/documents/50935.
[38] City of Palo Alto, "Affordable Housing Fund Guidelines." August 17, 2015. PDF. Accessed 7/21/16. http://www.cityofpaloalto.org/civicax/filebank/documents/53195.
[39] See Palo Alto Municipal Code, Chapter 16.47.030.

While determined to be reasonable by the 2014 Residential Nexus Study, Palo Alto's recently adopted fees are among the highest in the Bay Area due to the City's strong housing market conditions, making housing in Palo Alto unaffordable for many new workers. [40]

The commercial fee must be paid before issuance of the first grading or building permit. If a project consists of multiple phases, payments may be submitted proportional to each phase prior to issuance of the grading and building permits for that phase. Fees are adjusted annually based on in the Consumer Price Index (all urban consumers) for the San Francisco-Oakland area.

Revenues generated by the affordable housing impact fee are collected in the Commercial Housing Fund, a "sub-fund" of the City's Affordable Housing Fund, a trust fund to preserve and expand affordable housing for very low-, low-, and moderate-income households. Other "sub-funds" of the Affordable Housing Fund include the Residential In-Lieu Fund, Home Investment Partnership Fund, Community Development Block Grant (CDBG), and Below Market Rate Emergency Fund.

Detailed guidelines for use of Affordable Housing Fund are posted on the City's website. According to these guidelines, specific restrictions apply to the use of funds in each sub-category. Fees generated by the Commercial Housing Fund may be used for the following:

- Construction of new housing units;
- Addition of new units to existing buildings;
- Conversion of non-residential space to housing units;
- Acquisition, rehabilitation, and preservation of existing affordable housing, where rents are controlled by deed restriction or another similar mechanism;
- Administrative costs for the collection of fees and administration of the fund;
- The cost of consultant studies required to update the fees;
- Direct costs for the City to implement an affordable housing construction program.[41]

Alternatives to Fee Payment

As is the case in San Francisco, Palo Alto's commercial affordable housing fee program also permits developers to construct affordable units rather than paying the fee. City staff remarked that while this alternative is available, it is rarely, if ever, pursued by commercial developers in Palo Alto. The formula used to determine the required number of below market-rate units is as follows:

Gross square feet/350 x 0.017 = Number of units required

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[40] City of Palo Alto Finance Committee, "Staff Report Attachment A: Draft Commercial Linkage Fee Nexus Study." November 2015. Accessed 7/19/16. http://www.cityofpaloalto.org/civicax/filebank/documents/50935.

[41] City of Palo Alto, "Affordable Housing Fund Guidelines." August 17, 2015. PDF. Accessed 7/21/16. http://www.cityofpaloalto.org/civicax/filebank/documents/53195.

Put simply, under this alternative, developers are required to construct 1.7 percent of the gross square feet of the nonresidential development divided by 350. If the calculation results in a fraction of a unit, the developer must either provide a whole unit or pay an in-lieu fee based on the square footage of the applicable project.

Outcomes

In fiscal year 2014-15, revenues generated by the commercial affordable housing impact fee contributed approximately $2.3 million to the Commercial Housing In-Lieu Fund, independent of interest earnings. As of June 30, 2015, the Fund contained approximately $14.6 million.[42]

[42] City of Palo Alto, "Annual Status Report Development Impact Fees FY15." January 25, 2016. PDF. Accessed 7/19/16. http://www.cityofpaloalto.org/civicax/filebank/documents/50632.

BOSTON COMMERCIAL IMPACT FEE

Background

In 1983, a non-binding ballot measure to promote development in the neighborhoods (vs. downtown) and institute a commercial linkage fee received strong voter approval. Council then adopted the fee, set at $5.00 per square foot payable in 12 years, on new commercial projects that had over 100.000 square feet. of floor area and received a zoning change. After a change in administration, Boston created the Neighborhood Housing Trust to manage and allocate the fees. Council added a $1.00 square foot fee for job training and shortened the payment period from 12 to 7 years for downtown projects. A Neighborhood Jobs Trust was set up for the new job-training fees in 1987.

Fee Structure

Contrary to most other cities, there is a flat fee for all projects, irrespective of kind or location. It is currently set at $8.34 per square foot. Instead of paying the fee, developers may also build or help build housing that is affordable to low- and moderate-income residents (with an investment at least equal to the amount that would have been paid in fees) or do a combination of fee payment and housing development. The development project in which the developer invests must be approved by the Boston Redevelopment Authority. This provision is the mirror image, so to speak, of the City's Inclusionary Development Policy, under which a developer may pay cash in lieu of building affordable units.

The fee is imposed on "all new large-scale commercial real estate developments exceeding 100,000 square feet and requiring zoning relief, including expansion and rehabilitation projects."[43] The fee applies only to the floor area in excess of 100,000 square feet. This provision applies to phased development and to the Master Plans that health and educational institutions and the City of Boston adopt together to regulate the institution's growth: one cannot development in a number of small phases (< 100,000 square feet) in order to avoid fee payments.

The initial fee of $5.00 per square foot was raised to $7.18 per square foot in 2001. At the same time, the payment period was set at 7 years for both downtown and neighborhood development. In 2006, the fee was raised to $7.87 per square foot was raised again in 2013, to $8.34 per square foot.

43 City of Boston, Neighborhood Housing Trust Annual Report 2014, n. p.; available at http://dnd.cityofboston.gov/portal/v1/contentRepository/Public/dnd%20pdfs/HousingDevelopment/NHT_Report_2014_150406_1230.pdf (last consulted on May 31, 2016).

The timing of fee payments can be spread over seven years, or paid up front (present value). For neighborhood projects, the fee must be paid either at issuance of certificate of occupancy or 24 months after issuance of building permit, whichever is sooner. Downtown projects, in contrast, must pay at building permit issuance.

Fees go to the Neighborhood Housing Trust, which then allocates funds raised from fees to affordable housing projects based on criteria including meeting a "but for" test (fee is needed), serving households at 80 percent or below, and with affordability set for 50 years for for-sale units, and in perpetuity for rental units. [44]

Outcomes

Between 1986 and 2012, commercial fees generated over $133.,8 million.[45] In the same time period (1986 – 2012), fees contributed to the development or preservation of 10,176 units in 193 projects.[46]

Lessons Learned

Boston's regulations are fairly simple compared to those of other cities (e.g., flat fee for all kinds of projects, everywhere in the city). This has limited political debates and the creation of favorable rates for some rather than others. At the same time, flexibility is important, too. For example, Boston allows developers of commercial projects to partner with a community group to build affordable units rather than pay fees, creating partnerships best-equipped to address the underlying goal of affordable housing unit production.

Staff interviews indicated that Boston's lack of a built-in annual fee increase is being reconsidered at present (rather than have to rely on Council to raise fees periodically). Another possible change under consideration is whether the size threshold of 100,000 square feet should be reduced to 50,000 square feet, to provide a more targeted incentive to non-fee paying small projects.

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44 *Ibid*.
45 *Ibid*.
46 *Ibid*.

Seattle Affordable Housing Impact Mitigation Program for Commercial Development

Background

Seattle has had an incentive zoning program for downtown commercial development since 2001, and for residential development since 2006.

In 2013, during the rezoning of the South Lake Union area near downtown, it became clear that these programs were insufficient to meet the need for affordable housing created by new market-rate commercial and residential development. It should also be noted that general interpretations of Washington State laws have meant that fees or inclusionary zoning is considered not possible unless these are paired with upzoning regulations given at the same time.

The initiative to update the city's affordable housing programs started in May 2013. It included best practices studies, the creation of the Housing Affordability and Livability Agenda (HALA), and the institution of the HALA Advisory Committee. This committee submitted its report in July 2015. Its main recommendation was "that the City boost market capacity by extensive citywide upzoning of residential and commercial zones and, in connection with such upzones, implement a mandatory inclusionary housing program for new construction residential development and a commercial linkage fee program for new construction commercial development."[47]

The policy goal is to help produce 6,000 housing units that are affordable to households with incomes below 60 percent of median income over ten years. A nexus study set possible fee levels; the City chose to stay well below those levels in its July 2015 Statement of Intent for Basic Framework for Mandatory Inclusionary Housing and Commercial Linkage Fee, and to monitor their effects. Council passed an ordinance in November 2015 to establish the framework for an Affordable Housing Impact Mitigation Program for commercial development."[48] Upzoning in commercial, industrial and mixed-use districts should take place in 2016 – 2017.

Seattle has had strong grassroots activists and political leaders over the years who have pushed the affordable-housing agenda forward. There is a community of sophisticated affordable-housing developers and experienced city staff in incentive zoning and such measures. Debates between the City and the development community were intense, with

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[47] City of Seattle, Ordinance 124895, p. 2.

48 City of Seattle, Ordinance 124895, "An ordinance relating to land use and zoning; adding a new Chapter 23.58B of the Seattle Municipal Code (SMC) to establish the framework for an Affordable Housing Impact Mitigation Program for commercial development; and amending subsection 23.40.020.A, subsection 23.76.006.B, subsection 23.76.006.C, and subsection 25.05.675.I of the SMC," available at https://seattle.legistar.com/LegislationDetail.aspx?ID=2451973&GUID= 5A771786-2728-4862-AF11-C20A4919A85B&Options=&Search=, last accessed on June 6, 2016.

consulting reports produced on both sides. In the end, the parties struck a "Grand Bargain" in which increased burdens on development to contribute to affordable housing were exchanged for increased development densities. The link between upzoning and the imposition of a commercial linkage fee also serves a legal function: because such a fee was still untested in Washington State, providing extra development density as compensation would make the policy less likely to be challenged in court.

Fee Structure

In all cases, developers may choose to meet the requirements of the ordinance by means of "payment" (fees) or by means of "performance," i.e., in the provision of affordable rental units, on-site or off. Fees are differentiated by location in the city, i.e., inside or outside Downtown and South Lake Union Urban Centers and then by location within these general areas.

Inside Downtown and South Lake Union Urban Centers, the fees are differentiated by land-use zone, and outside these two areas, they are differentiated by land-use zone and by intensity. Given the number of land-use zones in the downtown area and Urban Centers, this approach results in a lengthy fee schedule, but there is simplicity in the fact that there is not differentiation according to the type of development. Among the 43 land-use zones that are listed in the table of fees for Downtown and South Lake Union Urban Centers, four have no impact fee requirement; among the other 39 zones, cash requirements vary from $8.00 per square foot to $17.50 per square foot.

Exemptions are meant to avoid impacting desirable mixed-use development:

- In building in which at least 50 percent of above-ground floor area is devoted to housing, up to 4,000 square feet of street-level floor area used for arts facilities, cafés and restaurants, entertainment venues (except for adult entertainment) and general sales and services
- Along designated "pedestrian streets," all street-level floor area that is necessary to meet standards set by the City for such streets
- Commercial floor area in buildings containing affordable units (with at least 75 percent of units affordable to households with less than 60 percent of median income) and in buildings with rent-controlled or income-controlled units[49]

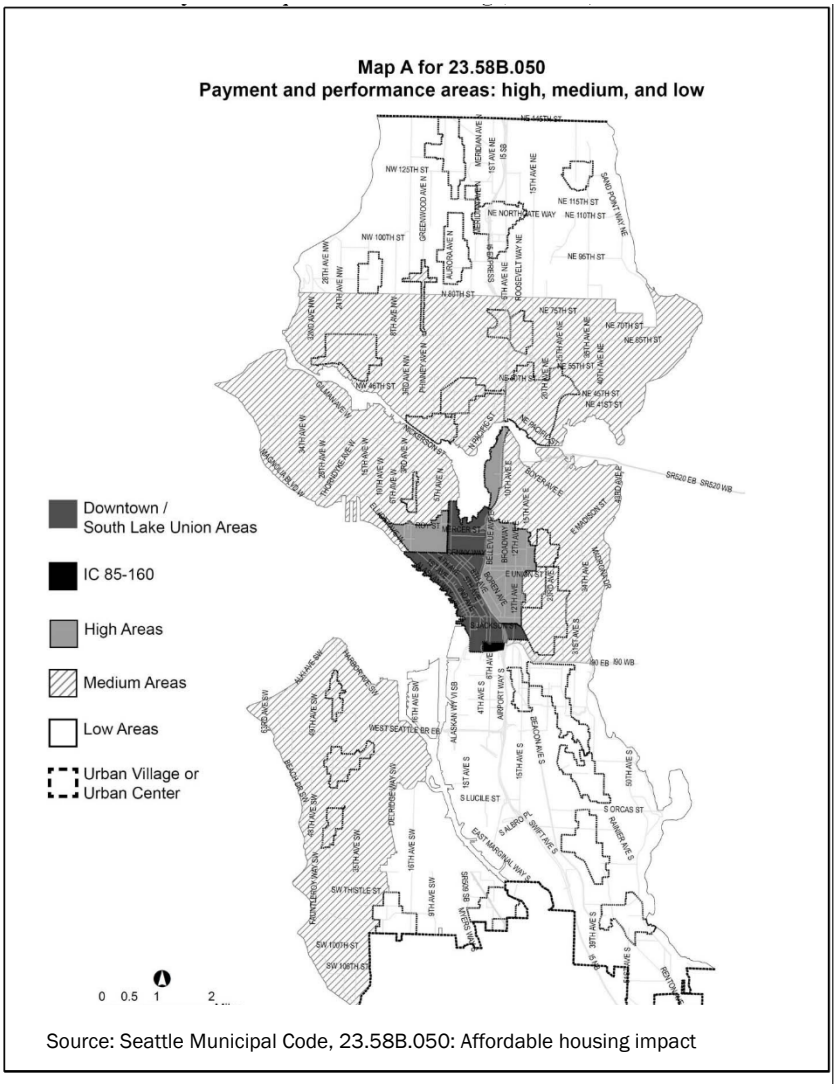
[49] Seattle Municipal Code, Section 23.58B.020: Voluntary agreements for affordable housing, Subsection C: Exemptions.

The Director of Construction and Inspections may, in consultation with the Director of Housing, modify the impact fee in cases where the developer can demonstrate that the housing impact of the project does not warrant the regular fee, or when the project is in a zone with building heights over 85 feet and development standards make it impossible for the project to exceed that height, or when the requirements would cause financial hardship that outweighs the affordable housing impacts"[50][51]

As mentioned above, the ordinance calls for possible fee adjustments during the implementation phase, and every five years thereafter. In addition, there is an automatic adjustment every year, starting March 1, 2016, according to the change in the Consumer Price Index for the preceding calendar year.

Fees must be paid before a construction permit is issued. However, "construction permit" does not include "a demolition, excavation, or shoring permit." If a phased permit application is being used, the fees must be paid "prior to issuance of the portion of the building permit that includes the structural frame for the entire building."[52]

SEATTLE ZONE MAP FOR COMMERCIAL FEES



Source: Seattle Municipal Code, 23.58B.050: Affordable housing impact

[50] Seattle Municipal Code, Section 23.58B.030: Modification of amount of payment or performance, Subsection D. Financial hardship.
51 Although the is given in the section pertaining to the "performance" option, it also applies to the payment option, i.e., to the fees to be paid.
52 Seattle Municipal Code, Section 23.58B.035: Documentation and timing.

All fees will go into a dedicated fund to subsidize affordable projects which preserve or produce rental units affordable to households with incomes up to 60 percent of Area Median Income, and to owner households with incomes up to 80 percent.[53] Allocation of these funds are guided by factors including contribution to fair housing choice, location in an urban center or in an urban village (place types which guide planning in Seattle), proximity to transit service, or contribution to furthering economic opportunity. t[54]

Lessons Learned

The "Grand Bargain" struck by all stakeholders enabled the City to adopt new programs to produce affordable housing and/or generate funding for it. Parties made compromises, resulting in a complex system which links upzoining with fee payments and/or affordable housing unit production.

The ordinance contains strong provisions for monitoring and possible adjustments, including planned upzonings, modifications to development standards, and starting in 2018, and every two years thereafter, staff analysis of the effectiveness of the policies and a report on unit production. The program's rules also required it to be reviewed and possibly amended within five years of its adoption if outcomes are below expectations or if significant changes occur in real-estate markets; otherwise, it has to be reviewed within ten years. To perform a review, the Mayor and Council will appoint and Technical Review Committee with proper representation of all public, private and community stakeholders.

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[53] Seattle Municipal Code, Section 23.58B.040: Affordable housing impact mitigation - payment option, Subsection B: Deposit and use of cash contributions.
[54] *Ibid*.

Appendix B: Commercial Building Permit Analysis

APPENDIX B-1: SUMMARY OF COMMERCIAL PERMITS, CITY OF LOS ANGELES, 2011-2015

Permitted Commercial Space by Use Allocation Code						
Building Type (a)	**Total Permitted (sf)**	**% of Total**	**# of Projects**	**Median Size (sf)**	**Minimum Size (sf)**	**Maximum Size (sf)**
Private Garage	9,976,975	34.7%	82	64,855	5,098	677,569
Public Garage	4,417,752	15.4%	24	122,605	5,180	1,374,661
Commercial Office	4,382,264	15.3%	98	19,145	5,031	439,380
Retail Store	1,988,039	6.9%	94	12,004	5,010	152,865
Hotel/Motel	1,740,870	6.1%	9	80,797	8,915	881,148
Warehouse	1,601,643	5.6%	31	16,212	5,010	271,130
School	1,379,845	4.8%	38	26,760	5,054	172,443
Airport Building	538,633	1.9%	16	17,003	5,000	128,367
Miscellaneous Structure	403,697	1.4%	9	11,085	6,165	284,548
Amusement Building	395,643	1.4%	20	25,510	5,669	112,269
Restaurant	387,297	1.3%	26	10,330	5,072	45,954
School Dormitory	285,050	1.0%	3	85,192	62,025	137,833
Hospital	279,659	1.0%	1	279,659	N/A	N/A
Medical/Dental Clinic	212,566	0.7%	7	16,408	6,135	73,320
Church	175,289	0.6%	5	29,541	6,725	71,817
Manufacturing	174,799	0.6%	10	11,673	5,558	46,398
Service Station/Repair	144,613	0.5%	6	7,045	5,220	110,777
Public Administration Building	103,078	0.4%	5	15,986	7,358	51,856
Cinema/Live Theater	60,590	0.2%	2	30,295	24,782	35,808
Senior Independent Housing (ground floor retail)	23,409	0.1%	1	23,409	N/A	N/A
Consumer Services	14,190	0.0%	1	14,190	N/A	N/A
Public Utility Facility	12,636	0.0%	2	6,318	5,425	7,211
Single - room Occupancy (ground floor retail)	12,506	0.0%	2	6,253	5,511	6,995
Artist-in-Residence/Loft (ground floor retail)	5,370	0.0%	1	5,370	N/A	N/A
Total	**28,716,413**	**100.0%**	**493**			

Notes:
(a) Includes permits for "New" buildings > 5,000 sf issued by City of LA from 1-1-2011 thru 12-31-15.
(b) Land use categories adapted from categories utilized in 2013 Santa Monica Commercial Nexus Study and Linkage Fee Analysis.
Sources: Los Angeles Department of Buildings; BAE, 2016.

APPENDIX B-2: BUILDING PERMIT DATA RE-CATEGORIZED BY PROPOSED COMMERCIAL FEE LAND USES

Permitted Commercial by Proposed Fee Category Fee Category (a)(b)	5-Year Total	% of	# of	Median	Minimum	Maximum Size	Annual Avg.
1. Office							
Commercial Office	4,382,264	15.3%	98	19,145	5,031	439,380	876,453
Subtotal	***4,382,264***	***15.3%***	***98***				**876,453**
2. Retail							
Retail Store	1,988,039	6.9%	94	12,004	5,010	152,865	397,608
Amusement Building	395,643	1.4%	20	25,510	5,669	112,269	79,129
Restaurant	387,297	1.3%	26	10,330	5,072	45,954	77,459
Service Station/Repair	144,613	0.5%	6	7,045	5,220	110,777	28,923
Cinema/Live Theater	60,590	0.2%	2	30,295	24,782	35,808	12,118
Senior Independent Housing (ground floor retail)	23,409	0.1%	1	23,409	N/A	N/A	4,682
Consumer Services	14,190	0.0%	1	14,190	N/A	N/A	2,838
Single - room Occupancy (ground floor retail)	12,506	0.0%	2	6,253	5,511	6,995	2,501
Artist-in-Residence/Loft (ground floor retail)	5,370	0.0%	1	5,370	N/A	N/A	1,074
Subtotal	***3,031,657***	***10.6%***	***153***				**606,331**
3. Industrial							
Manufacturing	174,799	0.6%	10	11,673	5,558	46,398	34,960
Subtotal	**174,799**	***0.6%***	***10***				**34,960**
4. Hotel							
Hotel/Motel	1,740,870	6.1%	9	80,797	8,915	881,148	348,174
Subtotal	***1,740,870***	***6.1%***	***9***				**348,174**
5. Institutional							
School	1,379,845	4.8%	38	26,760	5,054	172,443	275,969
School Dormitory	285,050	1.0%	3	85,192	62,025	137,833	57,010
Church	175,289	0.6%	5	29,541	6,725	71,817	35,058
Subtotal	***1,840,184***	***6.4%***	***46***				**368,037**
6. Medical & Social Services							
Medical/Dental Clinic	212,566	0.7%	7	16,408	6,135	73,320	42,513
Hospital	279,659	1.0%	1	279,659	N/A	N/A	55,932
Public Administration Building	103,078	0.4%	5	15,986	7,358	51,856	20,616
Subtotal	***595,303***	***2.1%***	***13***				**119,061**
7. Warehouse/Utility/Light Industrial							
Warehouse	1,601,643	5.6%	31	16,212	5,010	271,130	320,329
Public Utility Facility	12,636	0.0%	2	6,318	5,425	7,211	2,527
Airport Building	538,633	1.9%	16	17,003	5,000	128,367	107,727
Subtotal	***2,152,912***	***7.5%***	***49***				**430,582**
SUBTOTAL EMPLOYMENT-GENERATING USES	**13,917,989**	**48.5%**	**378**				**2,783,598**
Not Classifed for Fee Purposes							
Private Garage	9,976,975	34.7%	82	64,855	5,098	677,569	883,550
Public Garage	4,417,752	15.4%	24	122,605	5,180	1,374,661	883,550
Miscellaneous Structure	403,697	1.4%	9	11,085	6,165	284,548	57,010
Subtotal	***14,798,424***	***51.5%***	***115***				**2,959,685**
TOTAL ALL PERMITS	**28,716,413**	**100.0%**	**493**				**5,743,283**

Notes:
(a) Includes permits for "New" buildings > 5,000 sf issued by City of LA from 1-1-2011 thru 12-31-15.
(b) Fee categories adapted from 2013 Santa Monica Commercial Nexus Study and Linkage Fee Analysis.
(c) Includes Commercial Office square footage specifically noted as creative or production-oriented in LADBS database.
Sources: Los Angeles Department of Building and Safety; BAE, 2016.

APPENDIX B-3: DISTRIBUTION OF OFFICE AND RETAIL PROJECTS BY SIZE (SQ.FT.)

	Office		Retail	
By Square Feet	**Sq. Ft.**	**% of Total**	**Sq. Ft.**	**% of Total**
<10K Sq. Ft.	194,293	4.5%	449,170	13.6%
>10K Sq. Ft. and <20K Sq. Ft.	334,789	7.8%	530,094	16.1%
>20K Sq. Ft.	3,766,529	87.7%	2,314,717	70.3%
	4,295,611	**100.0%**	**3,293,981**	**100.0%**
By Number of Projects	**Projects**	**% of Total**	**Projects**	**% of Total**
<10K Sq. Ft.	27	28.4%	66	43.1%
>10K Sq. Ft. and <20K Sq. Ft.	22	23.2%	37	24.2%
>20K Sq. Ft.	46	48.4%	50	32.7%
	95	**100.0%**	**153**	**100.0%**

Note:
Data are for permits for "New" buildings > 5,000 sq. ft. issued by City of LA from 1-1-2011 thru 12-31-15.
Sources: Los Angeles Department of Building and Safety; BAE, 2016.

Appendix C: Pro Forma Analysis for Commercial Land Uses

APPENDIX C-1: RETAIL PRO FORMAS

Key Development Assuptions		Alternative 1		Alternative 2		Alternative 3	
		Low Market - Baseline	Low Market with Linkage Fee	Moderate Market-Baseline	Moderate Market with Linkage Fee	Strong Market - Baseline	Strong Market with Linkage Fee
Gross Building Area (sf)		14,000	14,000	14,000	14,000	14,000	14,000
Efficiency Ratio		95%	95%	95%	95%	95%	95%
Net Leaseable Area		13,300	13,300	13,300	13,300	13,300	13,300
Parking Ratio (spaces per square foot)		1 per 250	1 per 250	1 per 250	1 per 250	1 per 250	1 per 250
Number of Parking Spaces		56	56	56	56	56	56
Total Surface Spaces		56	56	56	56	56	56
Total Structured Parking Spaces		-	-	-	-	-	-
Total Underground Spaces		-	-	-	-	-	-
Total Parking Area (sf)	350	19,600	19,600	19,600	19,600	19,600	19,600
Total Number of Stories		1	1	1	1	1	1
Total Number of Stories (Parking)		1	1	1	1	1	1
Built FAR (ratio to 1.0)		0.42	0.42	0.42	0.42	0.42	0.42
Site Size (sf)		33,600	33,600	33,600	33,600	33,600	33,600
Site Size (acres)		0.77	0.77	0.77	0.77	0.77	0.77
Rents			0		0		0
Rent/SF/Year (a)		$ 25.00	$ 25.00	$ 35.00	$ 35.00	$ 50.00	$ 50.00
Development Costs			-		-		-
Site Work		$ 5	$ 5	$ 5	$ 5	$ 5	$ 5
Hard Costs (b)		$ 120	$ 120	$ 120	$ 120	$ 120	$ 120
Tenant Improvements (c)		$ 50	$ 50	$ 50	$ 50	$ 50	$ 50
Parking Costs (per space surface)		$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Parking Costs (per space structured)		$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Parking Costs (per space underground)		$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Soft Costs exc Fees (as % of hard)		20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees			0		0		0
School Fee per sq. ft. (d)		$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54
Commercial Linkage Fee		$ -	$ -	$ -	$ 7.00		$ 28.00
Financing Costs			-		-		23
Loan to Cost Ratio		80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Interest Rate		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)		18	18	18	18	18	18
Average Outstanding Balance		60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Operations			-		-		-
Vacancy		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Op Ex (% of Gross Rent) (a)		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Cap Rate (e)		7.0%	7.0%	6.0%	6.0%	5.5%	5.5%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market - Baseline	Low Market with Linkage Fee	Moderate Market-Baseline	Moderate Market with Linkage Fee	Strong Market - Baseline	Strong Market with Linkage Fee
Land	$ 1,948,800	$ 1,948,800	$ 2,016,000	$ 2,016,000	$ 4,032,000	$ 4,032,000
Land per Site sf	$ 58.00	$ 58.00	$ 60.00	$ 60.00	$ 120.00	$ 120.00
Construction Costs						
Site Work	$ 168,000	$ 168,000	$ 168,000	$ 168,000	$ 168,000	$ 168,000
Hard Costs	$ 1,680,000	$ 1,680,000	$ 1,680,000	$ 1,680,000	$ 1,680,000	$ 1,680,000
Hard Costs - Parking	$ 336,000	$ 336,000	$ 336,000	$ 336,000	$ 336,000	$ 336,000
Tenant Improvements	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000
Soft Costs	$ 576,800	$ 576,800	$ 576,800	$ 576,800	$ 576,800	$ 576,800
School Fee	$ 7,560	$ 7,560	$ 7,560	$ 7,560	$ 7,560	$ 7,560
Commercial Linkage Fee	$ -	$ -	$ -	$ 98,000	$ -	$ 392,000
Subtotal Costs Before Financing	$ 3,468,360	$ 3,468,360	$ 3,468,360	$ 3,566,360	$ 3,468,360	$ 3,860,360
Financing Costs						
Points	$ 41,620	$ 41,620	$ 41,620	$ 42,796	$ 41,620	$ 46,324
Construction Period Interest	$ 390,036	$ 390,036	$ 394,874	$ 401,930	$ 540,026	$ 568,250
Subtotal Financing Costs	$ 431,656	$ 431,656	$ 436,494	$ 444,726	$ 581,646	$ 614,574
Total Development Costs	**$ 5,848,816**	**$ 5,848,816**	**$ 5,920,854**	**$ 6,027,086**	**$ 8,082,006**	**$ 8,506,934**
Total Development Cost per SF	*$ 417.77*	*$ 417.77*	*$ 422.92*	*$ 430.51*	*$ 577.29*	*$ 607.64*
Commerical Linkage Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*1.6%*	*0.0%*	*4.6%*
Total Impact Fees as % of TDC	*0.1%*	*0.1%*	*0.1%*	*1.8%*	*0.1%*	*4.7%*
Valuation						
Operations						
Gross Income	$ 332,500	$ 332,500	$ 465,500	$ 465,500	$ 665,000	$ 665,000
Less: Vacancy	$ (16,625)	$ (16,625)	$ (23,275)	$ (23,275)	$ (33,250)	$ (33,250)
Less: Op Expenses	$ (16,625)	$ (16,625)	$ (23,275)	$ (23,275)	$ (33,250)	$ (33,250)
Net Operating Income (NOI)	$ 299,250	$ 299,250	$ 418,950	$ 418,950	$ 598,500	$ 598,500
Value at Stabilization	$ 4,275,000	$ 4,275,000	$ 6,982,500	$ 6,982,500	$ 10,881,818	$ 10,881,818
Yield on Cost						
Value at Stabilization	$ 4,275,000	$ 4,275,000	$ 6,982,500	$ 6,982,500	$ 10,881,818	$ 10,881,818
Less: Total Development Costs	$ 5,848,816	$ 5,848,816	$ 5,920,854	$ 6,027,086	$ 8,082,006	$ 8,506,934
Profit	$ (1,573,816)	$ (1,573,816)	$ 1,061,646	$ 955,414	$ 2,799,812	$ 2,374,884
Return on Cost	**-26.9%**	**-26.9%**	**17.9%**	**15.9%**	**34.6%**	**27.9%**
Yield on Cost (NOI/TDC)	**5.1%**	**5.1%**	**7.1%**	**7.0%**	**7.4%**	**7.0%**
Project Feasible? (f)	No	No	Yes	Yes	Yes	Yes

Notes:

a) Assumes triple net lease

b) Hard costs were based on data from RS Means with a location factor applied to reflect construction costs in Los Angeles.

c) Estimates for tenant improvements were provided by developers active in Los Angeles building this product type.

d) School Fees for Commercial

Current	$ 0.54	psf
Anticipated to Increase in Fall 2016	$ 0.57	psf

e) Cap rates were estimated based on investor reports, data provided by developers, and a review of Costar data for properties sold between August 2015 and July 2016.

f) Feasibility is based on a minimum Yield on C 7%
and a minimum Return on Cost of 15%
based on interviews with developers active in the Los Angeles.

Source: BAE, 2016.

APPENDIX C-2: OFFICE PRO FORMAS

Key Development Assuptions		Alternative 1		Alternative 2		Alternative 3	
		Low Market - Baseline	Low Market with Linkage Fee	Moderate Market- Baseline	Moderate Market with Linkage Fee	Strong Market - Baseline	Strong Market with Linkage Fee
Gross Building Area (sf)		23,000	23,000	23,000	23,000	23,000	23,000
Efficiency Ratio		100%	100%	100%	100%	100%	100%
Net Leaseable Area		23,000	23,000	23,000	23,000	23,000	23,000
Parking Ratio (spaces per square foot)		1 per 500	1 per 500	1 per 500	1 per 500	1 per 500	1 per 500
Number of Parking Spaces		46	46	46	46	46	46
Total Surface Spaces		46	46	46	46	46	46
Total Structured Parking Spaces		-	-	-	-	-	-
Total Underground Spaces		-	-	-	-	-	-
Total Parking Area (sf)	350	16,100	16,100	16,100	16,100	16,100	16,100
Total Number of Stories (Bldg)		4	4	4	4	4	4
Total Number of Stories (Parking)		1	1	1	1	1	1
Built FAR (ratio to 1.0)		1.05	1.05	1.05	1.05	1.05	1.05
Site Size (sf)		21,850	21,850	21,850	21,850	21,850	21,850
Site Size (acres)		0.50	0.50	0.50	0.50	0.50	0.50
Rents							
Asking Rent/SF/Year (a)		$ 25.00	$ 25.00	$ 35.00	$ 35.00	$ 50.00	$ 50.00
Development Costs							
Site Work		$ 5	$ 5	$ 5	$ 5	$ 5	$ 5
Hard Costs (b)		$ 195	$ 195	$ 195	$ 195	$ 195	$ 195
Tenant Improvements (c)		$ 20	$ 20	$ 20	$ 20	$ 20	$ 20
Parking Costs (per space surface)		$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Parking Costs (per space structured)		$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Parking Costs (per space underground)		$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Soft Costs exc Fees (as % of hard)		20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees							
School Fee per sq. ft. (d)		$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54
Commercial Linkage Fee		$ -	$ -	$ -	$ 14.50	$ -	$ 33.00
Financing Costs							
Loan to Cost Ratio		80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Interest Rate		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)		24	24	24	24	24	24
Average Outstanding Balance		60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Operations							
Vacancy		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Op Ex (% of Gross Rent) (a)		25%	25%	25%	25%	25%	25%
Cap Rate (e)		6.5%	6.5%	5.5%	5.5%	5.5%	5.5%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market - Baseline	Low Market with Linkage Fee	Moderate Market- Baseline	Moderate Market with Linkage Fee	Strong Market Baseline	Strong Market with Linkage Fee
Land	$ 983,250	$ 983,250	$ 1,311,000	$ 1,311,000	$ 4,370,000	$ 4,370,000
Land per Site sf	$ 45.00	$ 45.00	$ 60.00	$ 60.00	$ 200.00	$ 200.00
Construction Costs						
Site Work	$ 109,250	$ 109,250	$ 109,250	$ 109,250	$ 109,250	$ 109,250
Hard Costs	$ 4,485,000	$ 4,485,000	$ 4,485,000	$ 4,485,000	$ 4,485,000	$ 4,485,000
Hard Costs - Parking	$ 276,000	$ 276,000	$ 276,000	$ 276,000	$ 276,000	$ 276,000
Tenant Improvements	$ 460,000	$ 460,000	$ 460,000	$ 460,000	$ 460,000	$ 460,000
Soft Costs	$ 1,066,050	$ 1,066,050	$ 1,066,050	$ 1,066,050	$ 1,066,050	$ 1,066,050
School Fee	$ 12,420	$ 12,420	$ 12,420	$ 12,420	$ 12,420	$ 12,420
Commercial Linkage Fee	$ -	$ -	$ -	$ 333,500	$ -	$ 759,000
Subtotal Costs Before Financing	$ 6,408,720	$ 6,408,720	$ 6,408,720	$ 6,742,220	$ 6,408,720	$ 7,167,720
Financing Costs						
Points	$ 76,905	$ 76,905	$ 76,905	$ 80,907	$ 76,905	$ 86,013
Construction Period Interest	$ 709,629	$ 709,629	$ 741,093	$ 773,109	$ 1,034,757	$ 1,107,621
Subtotal Financing Costs	$ 786,534	$ 786,534	$ 817,998	$ 854,016	$ 1,111,662	$ 1,193,634
Total Development Costs	**$ 8,178,504**	**$ 8,178,504**	**$ 8,537,718**	**$ 8,907,236**	**$ 11,890,382**	**$ 12,731,354**
Total Development Costs/SF	*$ 355.59*	*$ 355.59*	*$ 371.21*	*$ 387.27*	*$ 516.97*	*$ 553.54*
Commerical Linkage Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*3.7%*	*0.0%*	*6.0%*
Total Impact Fees as % of TDC	*0.2%*	*0.2%*	*0.1%*	*3.9%*	*0.1%*	*6.1%*
Valuation						
Operations						
Gross Income	$ 575,000	$ 575,000	$ 805,000	$ 805,000	$ 1,150,000	$ 1,150,000
Less: Vacancy	$ (28,750)	$ (28,750)	$ (40,250)	$ (40,250)	$ (57,500)	$ (57,500)
Less: Op Expenses	$ (143,750)	$ (143,750)	$ (201,250)	$ (201,250)	$ (287,500)	$ (287,500)
Net Operating Income (NOI)	$ 402,500	$ 402,500	$ 563,500	$ 563,500	$ 805,000	$ 805,000
Value at Stabilization	$ 6,192,308	$ 6,192,308	$ 10,245,455	$ 10,245,455	$ 14,636,364	$ 14,636,364
Yield on Cost						
Value at Stabilization	$ 6,192,308	$ 6,192,308	$ 10,245,455	$ 10,245,455	$ 14,636,364	$ 14,636,364
Less: Total Development Costs	$ 8,178,504	$ 8,178,504	$ 8,537,718	$ 8,907,236	$ 11,890,382	$ 12,731,354
Profit	$ (1,986,196)	$ (1,986,196)	$ 1,707,737	$ 1,338,219	$ 2,745,982	$ 1,905,010
Return on Cost	**-24.3%**	**-24.3%**	**20.0%**	**15.0%**	**23.1%**	**15.0%**
Yield on Cost (NOI/TDC)	**4.9%**	**4.9%**	**6.6%**	**6.3%**	**6.8%**	**6.3%**
Project Feasible? (f)	No	No	Yes	Yes	Yes	Yes

Notes:

a) Assumes full-service lease

b) Hard costs were based on data from RS Means with a location factor applied to reflect construction costs in Los Angeles.

c) Estimates for tenant improvements were provided by developers active in Los Angeles building this product type.

d) School Fees for Commercial

Current	$ 0.54	psf
Anticipated to Increase in Fall 2016	$ 0.57	psf

e) Cap rates were estimated based on investor reports, data provided by developers, and a review of Costar data for properties sold between August 2015 and July 2016.

f) Feasibility is based on a minimum Yield on 6%
and a minimum Return on Cost of 15%
based on interviews with developers active in the Los Angeles.

Source: BAE, 2016.

APPENDIX C-4: HOTEL PRO FORMAS

Key Development Assuptions		Alternative 1		Alternative 2		Alternative 3	
		Low Market - Baseline	Low Market with Linkage Fee	Moderate Market- Baseline	Moderate Market with Linkage Fee	Strong Market - Baseline	Strong Market with Linkage Fee
Gross Building Area (sf)		45,000	45,000	45,000	45,000	45,000	45,000
Number of Hotel Rooms	750	60	60	60	60	60	60
Parking Ratio (a)		See (a)	See (a)	See (a)	See (a)	See (a)	See (a)
Number of Parking Spaces		45	45	45	45	45	45
Total Surface Spaces		-	-	-	-	-	-
Total Structured Parking Spaces		-	-	-	-	-	-
Total Underground Spaces		45	45	45	45	45	45
Total Parking Area (sf)	350	15,750	15,750	15,750	15,750	15,750	15,750
Total Number of Stories (Bldg)		5	5	5	5	5	5
Total Number of Stories (Parking)		1	1	1	1	1	1
Built FAR (ratio to 1.0)		2.9	2.9	2.9	2.9	2.9	2.9
Site Size (sf)		15,750	15,750	15,750	15,750	15,750	15,750
Site Size (acres)		0.36	0.36	0.36	0.36	0.36	0.36
Rents							
Average Daily Rate (b)		$ 135	$ 135	$ 250	$ 250	$ 300	$ 300
Occupancy Rate		70%	70%	70%	70%	70%	70%
RevPAR		$ 95	$ 95	$ 175	$ 175	$ 210	$ 210
Other Revenue per Available Room Night		$ 15	$ 15	$ 30	$ 30	$ 30	$ 30
Development Costs							
Site Work		$ 5.0	$ 5.0	$ 5.0	$ 5.0	$ 5.0	$ 5.0
Hard Costs (c)		$ 225	$ 225	$ 225	$ 225	$ 225	$ 225
Tenant Improvements/FFEs (per room) (d)		$ 20,000	$ 20,000	$ 25,000	$ 25,000	$ 40,000	$ 40,000
Parking Costs (per space) (surface)		$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Parking Costs (per space) (structured)		$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Parking Costs (per space) (underground)		$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 45,000
Soft Costs exc Fees (as % of hard)		20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees							
School Fee per sq. ft. (e)		$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54
Commercial Linkage Fee		$ -	$ -	$ -	$ 5.00	$ -	$ 25.00
Financing Costs							
Loan to Cost Ratio		85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Interest Rate		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)		24	24	24	24	24	24
Avg. Outstanding Balance During Construction		60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Operations							
Op Ex (% of revenue per available room)		60%	60%	60%	60%	60%	60%
Cap Rate (f)		7.0%	7.0%	6.0%	6.0%	6.0%	6.0%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market - Baseline	Low Market with Linkage Fee	Moderate Market- Baseline	Moderate Market with Linkage Fee	Strong Market - Baseline	Strong Market with Linkage Fee
Land	$ 787,500	$ 787,500	$ 1,102,500	$ 1,102,500	$ 2,047,500	$ 2,047,500
Land per Site sf	$ 50.00	$ 50.00	$ 70.00	$ 70.00	$ 130.00	$ 130.00
Construction Costs						
Site Work	$ 78,750	$ 78,750	$ 78,750	$ 78,750	$ 78,750	$ 78,750
Hard Costs	$ 10,125,000	$ 10,125,000	$ 10,125,000	$ 10,125,000	$ 10,125,000	$ 10,125,000
Hard Costs - Parking	$ 2,025,000	$ 2,025,000	$ 2,025,000	$ 2,025,000	$ 2,025,000	$ 2,025,000
Tenant Improvements/FFEs	$ 1,200,000	$ 1,200,000	$ 1,500,000	$ 1,500,000	$ 2,400,000	$ 2,400,000
Soft Costs	$ 2,685,750	$ 2,685,750	$ 2,745,750	$ 2,745,750	$ 2,925,750	$ 2,925,750
School Fee	$ 24,300	$ 24,300	$ 24,300	$ 24,300	$ 24,300	$ 24,300
Commercial Linkage Fee	$ -	$ -	$ -	$ 225,000	$ -	$ 1,125,000
Subtotal Costs Before Financing	$ 16,138,800	$ 16,138,800	$ 16,498,800	$ 16,723,800	$ 17,578,800	$ 18,703,800
Financing Costs						
Points	$ 205,770	$ 205,770	$ 210,360	$ 213,228	$ 224,130	$ 238,473
Construction Period Interest	$ 1,726,483	$ 1,726,483	$ 1,795,333	$ 1,818,283	$ 2,001,883	$ 2,116,633
Subtotal Financing Costs	$ 1,932,252	$ 1,932,252	$ 2,005,692	$ 2,031,511	$ 2,226,012	$ 2,355,106
Total Development Costs	**$ 18,858,552**	**$ 18,858,552**	**$ 19,606,992**	**$ 19,857,811**	**$ 21,852,312**	**$ 23,106,406**
Total Development Costs/SF	*419*	*419*	*436*	*441*	*486*	*513*
Commerical Linkage Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*1.1%*	*0.0%*	*4.9%*
Total Impact Fees as % of TDC	*0.1%*	*0.1%*	*0.1%*	*1.3%*	*0.1%*	*5.0%*
Valuation						
Operations						
Revenue - Hotel Rooms	$ 2,069,550	$ 2,069,550	$ 3,832,500	$ 3,832,500	$ 4,599,000	$ 4,599,000
Revenue - Other	$ 328,500	$ 328,500	$ 657,000	$ 657,000	$ 657,000	$ 657,000
Less: Op Expenses	$ (1,438,830)	$ (1,438,830)	$ (2,693,700)	$ (2,693,700)	$ (3,153,600)	$ (3,153,600)
Net Operating Income (NOI)	$ 959,220	$ 959,220	$ 1,795,800	$ 1,795,800	$ 2,102,400	$ 2,102,400
Value at Stabilization	$ 13,703,143	$ 13,703,143	$ 29,930,000	$ 29,930,000	$ 35,040,000	$ 35,040,000
Yield on Cost						
Value at Stabilization	$ 13,703,143	$ 13,703,143	$ 29,930,000	$ 29,930,000	$ 35,040,000	$ 35,040,000
Less: Total Development Costs	$ 18,858,552	$ 18,858,552	$ 19,606,992	$ 19,857,811	$ 21,852,312	$ 23,106,406
Profit	$ (5,155,409)	$ (5,155,409)	$ 10,323,008	$ 10,072,189	$ 13,187,688	$ 11,933,594
Return on Cost	**-27.3%**	**-27.3%**	**52.6%**	**50.7%**	**60.3%**	**51.6%**
Yield on Cost (NOI/TDC)	**5.1%**	**5.1%**	**9.2%**	**9.0%**	**9.6%**	**9.1%**
Project Feasible? (f)	No	No	Yes	Yes	Yes	Yes

Notes:

a) The parking requirements for a hotel/motel are as follows: one parking space for the first 30 guestrooms, 1/2 of a parking space for the next 30 guestrooms, and 1/3 of a parking space for the remaining rooms.

b) Average daily rates were derived from listesd average rooms rates for hotels across market conditions.

c) Hard costs were based on data from RS Means with a location factor applied to reflect construction costs in Los Angeles.

d) Furniture, fixtures, and equipment for hotels in strong markets were assumed to have a greater cost associated with higher grade finishes.

e) School Fees for Commercial

Current	$ 0.54	psf
Anticipated to Increase in Fall 2016	$ 0.57	psf

f) Cap rates were estimated based on investor reports, data provided by developers, and a review of Costar data for properties sold between August 2015 and July 2016.

g) Feasibility is based on a minimum YOC of 9%
and a minimum return on cost of 15%
based on interviews with developers active in the Los Angeles.

Source: BAE, 2016.

APPENDIX C-5: WAREHOUSE PRO FORMAS

Key Development Assuptions		Alternative 1		Alternative 2		Alternative 3	
		Low Market - Baseline	Low Market with Linkage Fee	Moderate Market- Baseline	Moderate Market with Linkage Fee	Strong Market - Baseline	Strong Market with Linkage Fee
Gross Building Area (sf)		16,000	16,000	16,000	16,000	16,000	16,000
Efficiency Ratio		100%	100%	100%	100%	100%	100%
Net Leaseable Area		16,000	16,000	16,000	16,000	16,000	16,000
Parking Ratio (spaces per square foot) (a)		1 per 500	1 per 500	1 per 500	1 per 500	1 per 500	1 per 500
Number of Parking Spaces (a)		21	21	21	21	21	21
Total Surface Spaces		21	21	21	21	21	21
Total Structured Parking Spaces		-	-	-	-	-	-
Total Underground Spaces		-	-	-	-	-	-
Total Parking Area (sf)	350	7,420	7,420	7,420	7,420	7,420	7,420
Total Number of Stories (Bldg)		1	1	1	1	1	1
Total Number of Stories (Parking)		1	1	1	1	1	1
Built FAR (ratio to 1.0)		0.68	0.68	0.68	0.68	0.68	0.68
Site Size (sf)		23,420	23,420	23,420	23,420	23,420	23,420
Site Size (acres)		0.54	0.54	0.54	0.54	0.54	0.54
Rents							
Asking Rent/SF/Year (b)		$ 9.00	$ 9.00	$ 14.00	$ 14.00	$ 20.00	$ 20.00
Development Costs							
Site Work		$ 5	$ 5	$ 5	$ 5	$ 5	$ 5
Hard Costs (c)		$ 110	$ 110	$ 110	$ 110	$ 110	$ 110
Tenant Improvements		$ -	$ -	$ -	$ -	$ -	$ -
Parking Costs (per space surface)		$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Parking Costs (per space structured)		$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Parking Costs (per space underground)		$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Soft Costs exc Fees (as % of hard)		20%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees							
School Fee per sq. ft. (d)		$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54
Commercial Linkage Fee		$ -	$ -	$ -	$ 5.00	$ -	$ 25.00
Financing Costs							
Loan to Cost Ratio		80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Interest Rate		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)		12	12	12	12	12	12
Average Outstanding Balance		60.0%	60.0%	60.0%	60.0%	60.0%	60%
Operations							
Vacancy		5%	5%	5%	5%	5%	5%
Op Ex (% of Gross Rent) (b)		3%	3%	3%	3%	3%	3%
Cap Rate (e)		6.0%	6.5%	5.5%	5.5%	5.5%	5.5%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market - Baseline	Low Market with Linkage Fee	Moderate Market- Baseline	Moderate Market with Linkage Fee	Strong Market - Baseline	Strong Market with Linkage Fee
Land	$ 351,300	$ 351,300	$ 468,400	$ 468,400	$ 1,405,200	$ 1,405,200
Land per Site sf	$ 15.00	$ 15.00	$ 20.00	$ 20.00	$ 60.00	$ 60.00
Construction Costs						
Site Work	$ 117,100	$ 117,100	$ 117,100	$ 117,100	$ 117,100	$ 117,100
Hard Costs	$ 1,760,000	$ 1,760,000	$ 1,760,000	$ 1,760,000	$ 1,760,000	$ 1,760,000
Hard Costs - Parking	$ 127,200	$ 127,200	$ 127,200	$ 127,200	$ 127,200	$ 127,200
Tenant Improvements	$ -	$ -	$ -	$ -	$ -	$ -
Soft Costs	$ 400,860	$ 400,860	$ 400,860	$ 400,860	$ 400,860	$ 400,860
School Fee	$ 8,640	$ 8,640	$ 8,640	$ 8,640	$ 8,640	$ 8,640
Commercial Linkage Fee	$ -	$ -	$ -	$ 80,000	$ -	$ 400,000
Subtotal Costs Before Financing	$ 2,413,800	$ 2,413,800	$ 2,413,800	$ 2,493,800	$ 2,413,800	$ 2,813,800
Financing Costs						
Points	$ 28,966	$ 28,966	$ 28,966	$ 29,926	$ 28,966	$ 33,766
Construction Period Interest	$ 132,725	$ 132,725	$ 138,346	$ 142,186	$ 183,312	$ 202,512
Subtotal Financing Costs	$ 161,690	$ 161,690	$ 167,311	$ 172,111	$ 212,278	$ 236,278
Total Development Costs	**$ 2,926,790**	**$ 2,926,790**	**$ 3,049,511**	**$ 3,134,311**	**$ 4,031,278**	**$ 4,455,278**
Total Development Costs/SF	*$ 183*	*$ 183*	*$ 191*	*$ 196*	*$ 252*	*$ 278*
Commerical Linkage Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*2.6%*	*0.0%*	*9.0%*
Total Impact Fees as % of TDC	*0.3%*	*0.3%*	*0.3%*	*2.8%*	*0.2%*	*9.2%*
Valuation						
Operations						
Gross Income	$ 144,000	$ 144,000	$ 224,000	$ 224,000	$ 320,000	$ 320,000
Less: Vacancy	$ (7,200)	$ (7,200)	$ (11,200)	$ (11,200)	$ (16,000)	$ (16,000)
Less: Op Expenses	$ (4,320)	$ (4,320)	$ (6,720)	$ (6,720)	$ (9,600)	$ (9,600)
Net Operating Income (NOI)	$ 132,480	$ 132,480	$ 206,080	$ 206,080	$ 294,400	$ 294,400
Value at Stabilization	$ 2,208,000	$ 2,038,154	$ 3,746,909	$ 3,746,909	$ 5,352,727	$ 5,352,727
Yield on Cost						
Value at Stabilization	$ 2,208,000	$ 2,038,154	$ 3,746,909	$ 3,746,909	$ 5,352,727	$ 5,352,727
Less: Total Development Costs	$ 2,926,790	$ 2,926,790	$ 3,049,511	$ 3,134,311	$ 4,031,278	$ 4,455,278
Profit	**$ (718,790)**	**$ (888,637)**	**$ 697,398**	**$ 612,598**	**$ 1,321,450**	**$ 897,450**
Return on Cost	**-24.6%**	**-30.4%**	**22.9%**	**19.5%**	**32.8%**	**20.1%**
Yield on Cost (NOI/TDC)	**4.5%**	**4.5%**	**6.8%**	**6.6%**	**7.3%**	**6.6%**
Project Feasible? (f)	No	No	Yes	Yes	Yes	Yes

Notes:

a) The parking ratio for warehouse or storage is 1 per 500 square feet for the first 10,000 square feet, and 1 per 5,000 thereafter.

b) Assumes triple-net lease

b) Hard costs were based on data from RS Means with a location factor applied to reflect construction costs in Los Angeles.

d) School Fees for Commercial

Current	$ 0.54	psf
Anticipated to Increase in Fall 2016	$ 0.57	psf

e) Cap rates were estimated based on investor reports, data provided by developers, and a review of Costar data for properties sold between August 2015 and July 2016.

f) Feasibility is based on a minimum YOC of 6.5%
and a minimum return on cost of 15%
based on interviews with developers active in the Los Angeles.

Source: BAE, 2016.

APPENDIX C-6: INDUSTRIAL PRO FORMAS

Key Development Assuptions		Alternative 1 Low Market - Baseline	Alternative 1 Low Market with Linkage Fee	Alternative 2 Moderate Market- Baseline	Alternative 2 Moderate Market with Linkage Fee	Alternative 3 Strong Market - Baseline	Alternative 3 Strong Market with Linkage Fee
Gross Building Area (sf)		12,000	12,000	12,000	12,000	12,000	12,000
Efficiency Ratio		95%	95%	95%	95%	95%	95%
Net Leaseable Area		11,400	11,400	11,400	11,400	11,400	11,400
Parking Ratio (spaces per square foot)		1 per 500	1 per 500	1 per 500	1 per 500	1 per 500	1 per 500
Number of Parking Spaces		24	24	24	24	24	24
Total Surface Spaces		24	24	24	24	24	24
Total Structured Parking Spaces		-	-	-	-	-	-
Total Underground Spaces		-	-	-	-	-	-
Total Parking Area (sf)	350	8,400	8,400	8,400	8,400	8,400	8,400
Total Number of Stories (Bldg)		1	1	1	1	1	1
Total Number of Stories (Parking)		1	1	1	1	1	1
Built FAR (ratio to 1.0)		0.59	0.59	0.59	0.59	0.59	0.59
Site Size (sf)		20,400	20,400	20,400	20,400	20,400	20,400
Site Size (acres)		0.47	0.47	0.47	0.47	0.47	0.47
Rents							
Asking Rent/SF/Year (a)		$ 10.00	$ 10.00	$ 18.00	$ 18.00	$ 21.00	$ 21.00
Development Costs							
Site Work		$ 5	$ 5	$ 5	$ 5	$ 5	$ 5
Hard Costs		$ 135	$ 135	$ 135	$ 135	$ 135	$ 135
Tenant Improvements		$ -	$ -	$ -	$ -	$ -	$ -
Parking Costs (per space surface)		$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Parking Costs (per space structured)		$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Parking Costs (per space underground)		$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Soft Costs exc Fees (as % of hard)		20%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees							
School Fee per sq. ft. (c)		$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54
Commercial Linkage Fee		$ -	$ -	$ -	$ 14.00	$ -	$ 19.50
Financing Costs							
Loan to Cost Ratio		8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Interest Rate		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)		12	12	12	12	12	12
Average Outstanding Balance		60.0%	60.0%	60.0%	60.0%	60.0%	60%
Operations							
Vacancy		5%	5%	5%	5%	5%	5%
Op Ex (% of Gross Rent) (b)		5%	5%	5%	5%	5%	5%
Cap Rate (d)		6.0%	6.5%	5.5%	5.5%	5.5%	5.5%

Development Costs	Alternative 1 Low Market - Baseline	Alternative 1 Low Market with Linkage Fee	Alternative 2 Moderate Market- Baseline	Alternative 2 Moderate Market with Linkage Fee	Alternative 3 Strong Market - Baseline	Alternative 3 Strong Market with Linkage Fee
Land	$ 306,000	$ 306,000	$ 408,000	$ 408,000	$ 816,000	$ 816,000
Land per Site sf	$ 15.00	$ 15.00	$ 20.00	$ 20.00	$ 40.00	$ 40.00
Construction Costs						
Site Work	$ 102,000	$ 102,000	$ 102,000	$ 102,000	$ 102,000	$ 102,000
Hard Costs	$ 1,620,000	$ 1,620,000	$ 1,620,000	$ 1,620,000	$ 1,620,000	$ 1,620,000
Hard Costs - Parking	$ 144,000	$ 144,000	$ 144,000	$ 144,000	$ 144,000	$ 144,000
Tenant Improvements	$ -	$ -	$ -	$ -	$ -	$ -
Soft Costs	$ 373,200	$ 373,200	$ 373,200	$ 373,200	$ 373,200	$ 373,200
School Fee	$ 6,480	$ 6,480	$ 6,480	$ 6,480	$ 6,480	$ 6,480
Commercial Linkage Fee	$ -	$ -	$ -	$ 168,000	$ -	$ 234,000
Subtotal Costs Before Financing	$ 2,245,680	$ 2,245,680	$ 2,245,680	$ 2,413,680	$ 2,245,680	$ 2,479,680
Financing Costs						
Points	$ 2,695	$ 2,695	$ 2,695	$ 2,896	$ 2,695	$ 2,976
Construction Period Interest	$ 12,248	$ 12,248	$ 12,738	$ 13,544	$ 14,696	$ 15,819
Subtotal Financing Costs	$ 14,943	$ 14,943	$ 15,432	$ 16,440	$ 17,391	$ 18,795
Total Development Costs	**$ 2,566,623**	**$ 2,566,623**	**$ 2,669,112**	**$ 2,838,120**	**$ 3,079,071**	**$ 3,314,475**
Total Development Costs/SF	*$ 214*	*$ 214*	*$ 222*	*$ 237*	*$ 257*	*$ 276*
Commerical Linkage Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*5.9%*	*0.0%*	*7.1%*
Total Impact Fees as % of TDC	*0.3%*	*0.3%*	*0.2%*	*6.1%*	*0.2%*	*7.3%*
Valuation						
Operations						
Gross Income	$ 114,000	$ 114,000	$ 205,200	$ 205,200	$ 239,400	$ 239,400
Less: Vacancy	$ (5,700)	$ (5,700)	$ (10,260)	$ (10,260)	$ (11,970)	$ (11,970)
Less: Op Expenses	$ (5,700)	$ (5,700)	$ (10,260)	$ (10,260)	$ (11,970)	$ (11,970)
Net Operating Income (NOI)	$ 102,600	$ 102,600	$ 184,680	$ 184,680	$ 215,460	$ 215,460
Value at Stabilization	$ 1,710,000	$ 1,578,462	$ 3,357,818	$ 3,357,818	$ 3,917,455	$ 3,917,455
Yield on Cost						
Value at Stabilization	$ 1,710,000	$ 1,578,462	$ 3,357,818	$ 3,357,818	$ 3,917,455	$ 3,917,455
Less: Total Development Costs	$ 2,566,623	$ 2,566,623	$ 2,669,112	$ 2,838,120	$ 3,079,071	$ 3,314,475
Profit	**$ (856,623)**	**$ (988,161)**	**$ 688,706**	**$ 519,698**	**$ 838,384**	**$ 602,980**
Return on Cost	**-33.4%**	**-38.5%**	**25.8%**	**18.3%**	**27.2%**	**18.2%**
Yield on Cost (NOI/TDC)	**4.0%**	**4.0%**	**6.9%**	**6.5%**	**7.0%**	**6.5%**
Project Feasible? (f)	No	No	Yes	Yes	Yes	Yes

Notes:

a) Assumes triple-net lease

b) Hard costs were based on data from RS Means with a location factor applied to reflect construction costs in Los Angeles.

c) School Fees for Commercial

Current	$ 0.54	psf
Anticipated to Increase in Fall 2016	$ 0.57	psf

d) Cap rates were estimated based on investor reports, data provided by developers, and a review of Costar data for properties sold between August 2015 and July 2016.

e) Feasibility is based on a minimum YOC of 6.5%
and a minimum return on cost of 15%
based on interviews with developers active in the Los Angeles.

Source: BAE, 2016.

APPENDIX C-7: MEDICAL (HOSPITAL) PROTOTYPE (COST-BASIS)

Key Development Assuptions (a)		Cost Basis
Gross Building Area (sf)		75,000
Efficiency Ratio		100%
Net Leaseable Area		75,000
Parking Ratio (spaces per square foot)		1 per 200
Number of Parking Spaces		375
Total Surface Spaces		-
Total Structured Parking Spaces		375
Total Underground Spaces		-
Total Parking Area (sf)	350	131,250
Total Number of Stories (Bldg)		6
Total Number of Stories (Parking)		2
Built FAR (ratio to 1.0)		1.0
Site Size (sf)		78,125
Site Size (acres)		1.79
Rents		
Asking Rent/SF/Year		N/A
Development Costs		
Site Work		$ 5
Hard Costs		$ 800
Tenant Improvements		$ -
Parking Costs (per space surface)		$ 6,000
Parking Costs (per space structured)		$ 25,000
Parking Costs (per space underground)		$ 40,000
Soft Costs exc Fees (as % of hard)		20.0%
Impact Fees		
School Fee per sq. ft. (b)		$ 0.54
Commercial Linkage Fee		$ 35.00

Development Costs	Cost Basis
Land	$ 3,906,250
Land per Site sf	$ 50.00
Construction Costs	
Site Work	$ 390,625
Hard Costs	$ 60,000,000
Hard Costs - Parking	$ 9,375,000
Tenant Improvements	$ -
Soft Costs	$ 13,953,125
Subotoital Before Fees	**$ 83,718,750**
School Fee	$ 40,500
Commercial Linkage Fee	$ 2,625,000
Subtotal Fees	**$ 2,665,500**
Total Development Costs	**$ 90,290,500**
Total Development Costs/SF	*$ 1,204*
Commerical Linkage Fee as % of TDC	*2.9%*
Total Impact Fees as % of TDC	*3.0%*

Notes:

a) The hospital/medical office prototype was evaluated using a total development cost metric because it is difficult to obtain data on revenue, which varies depending on the type of medical services offered. Data from the Office of Statewide Health Planning and Development was evaluated for new hospital expansion projects between 2010 and 2016, with construction costs averaging $600-$1,200 per square foot. For each cost threshold, the fee was set at 1% of total development cost.

b) School Fees for Commercial

Current	$ 0.54
Anticipated to Increase in Fall 2016	$ 0.57

Source: BAE, 2016.

APPENDIX C-8: LAND SALES FOR COMMERCIAL AND RESIDENTIAL PROJECTS

Commercial Land Comps	City	Neighborhood	APN	Zoning	Sale Date	Land SF	Sales Price	Price/SF	Market
7221 Canby Avenue	Reseda	Reseda	2119-020-901	C2	4/3/2015	10,994	$ 439,760	$ 40.00	Low
18854 Sherman Way	Reseda	Reseda	2126-001-001	C2	4/17/2014	36,690	$ 1,600,000	$ 43.61	Low
18854-18860 Sherman Way	Reseda	Reseda	2126-001-001	C2	4/17/2014	36,220	$ 1,600,000	$ 44.17	Low
18447 Sherman Way	Reseda	Reseda	2119-020-900	C2	4/3/2015	8,400	$ 420,000	$ 50.00	Low
7324-7332 Reseda Blvd	Reseda	Reseda	2119-019-032	C2/P	3/3/2015	29,142	$ 1,550,000	$ 53.19	Low
7332 Reseda Blvd	Reseda	Reseda	2119-019-032	C2	9/19/2013	29,140	$ 1,555,000	$ 53.36	Low
22112 Sherman Way	Canoga Park	Canoga Park	2024-012-007	R2	5/4/2015	15,719	$ 880,000	$ 55.98	Low
7304 Canby Avenue	Reseda	Reseda	2119-021-039	C2	4/18/2014	8,003	$ 540,000	$ 67.47	Low
18438 Bryant Street	Northridge	Northridge	2786-005-011	CM	3/2/2016	14,192	$ 1,040,000	$ 73.28	Low
20460 Sherman Way	Winnetka	Winnetka	2136-002-024	C4-5/P	6/6/2014	16,533	$ 1,500,000	$ 90.73	Low
Average								***$ 57.18***	
16623 Sherman Way	Van Nuys	Lake Balboa	2226-006-016	C2	2/28/2011	16,552	$ 840,000	$ 50.75	Moderate
16836 Sherman Way	Van Nuys	Lake Balboa	2225-018-012	LAR3	3/14/2014	14,462	$ 967,000	$ 66.86	Moderate
Average								***$ 58.81***	
Industrial Land Comps									
930 East 111th Place	Los Angeles	Green Meadows	Multiple	M-1	-	395,555	$ 7,900,000	$ 19.97	Moderate
338 East Beach Avenue	Inglewood	N/A	4015-017-017	Industrial	11/1/2014	61,468	$ 1,100,000	$ 17.90	Outside of City
9415 Burtis Street	South Gate	N/A	622-001-015	Industrial	11/1/2014	187,508	$ 5,250,000	$ 28.00	Outside of City
21038 South Wilmington Avenue	Carson	N/A	7316-028-014	Industrial	12/1/2013	435,164	$ 14,200,000	$ 32.63	Outside of City
Average								***$ 24.62***	
Residential Land Comps						**# of Units**		**Price/Unit**	
1030-48 N. Soto Street	Los Angeles	Boyle Heights	N/A	N/A	Escrow	49	$ 2,000,000	$ 40,816	Low
2423-31 East 1st Street	Los Angeles	Boyle Heights	N/A	N/A	8/1/2014	31	$ 1,483,100	$ 47,842	Low
1836-42 Sichel Street	Los Angeles	Lincoln Heights	N/A	N/A	2/1/2015	20	$ 1,195,000	$ 59,750	Low
516 Echandia Street	Los Angeles	Boyle Heights	N/A	N/A	4/1/2015	3	$ 230,000	$ 76,667	Low
Average								***$ 56,269***	
G12	Los Angeles	Downtown	N/A	N/A	Oct-13	640	$ 45,000,000	$ 70,313	High
Hanover	Los Angeles	Downtown	N/A	N/A	Jan-13	231	$ 18,000,000	$ 77,922	High
1027 Olive	Los Angeles	Downtown	N/A	N/A	Jan-14	201	$ 20,000,000	$ 99,502	High
Average								***$ 82,579***	

Source: Data based on multiple appraisals provided by the City of Los Angeles in 2016

Appendix D: Residential Fee Case Studies

The following profiles several residential fee programs established in cities throughout California. First, larger cities' programs are summarized, including San Francisco, Sacramento, Oakland, and San Diego. Next, several smaller cities located near Los Angeles are profiled to provide context for more localized real estate economics and policy considerations.

It should be noted that these profiles are not exhaustive; numerous other cities in California have pre-existing inclusionary housing programs, and almost all of these jurisdictions have an in-lieu fee option (especially post-Palmer for rental housing projects).

The only city profiled in this chapter that did not have an existing inclusionary housing ordinance at the time of the Palmer decision is Oakland, which just recently adopted it's housing impact fee, as described below.

San Francisco Inclusionary Program and In-Lieu Fees

Background

San Francisco's Inclusionary Housing Program dates back to 1992, though substantial amendments in 2002 extended applicability to as-of-right projects with ten units or more, and established the option to pay an in-lieu fee that in large part remains in place today.

Since its inception, the inclusionary requirements and scope have been modified numerous times to account for changing economic conditions, growing affordable housing needs. and legal challenges to inclusionary housing policies across the State.[55] At the time of the policy's adoption in 1992, the program established a 10 percent on-site affordable housing (60% AMI) requirement that applied only to projects seeking conditional uses. Changes to the policy in 2002 cited declining vacancy rates and dramatic increases in average housing prices as the impetus for the imposition of stricter requirements, including expanding its applicability to as-of-right projects.[56]

Rather than constructing inclusionary units, market-rate residential developers have had an option to pay an in-lieu fee, based on the number of off-site inclusionary units (typically a higher percentage than those required on-site), the affordability gap identified by way of a nexus study, and annual adjustments.

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[55] A summary of the evolution of San Francisco's Inclusionary Housing Program has been compiled by the Mayor's Office of Housing and Community Development and may be accessed at the following URL as of 7/21/16: http://sfmohcd.org/sites/default/files/FileCenter/Documents/7252-Evolution%20of%20Inclusionary%20Housing%20Program%20110513.pdf.

[56] San Francisco Ordinance No. 37-02, "Inclusionary Affordable Housing Program." Amended 3/18/02. Accessed 7/18/16. http://sfmohcd.org/sites/default/files/FileCenter/Documents/3780-Inclusionary%20Housing%20LawOrdinance37-02.pdf.

In 2010, the Program's in-lieu fee evolved into the Affordable Housing Fee following the 2009 California Court of Appeal's decision in *Palmer/Sixth Street Properties L.P. v. City of Los Angeles*, which effectively prohibited the enforcement of inclusionary housing programs and associated in-lieu fees on rental developments. The current ordinance imposes the Affordable Housing Fee on residential projects of ten or more units and provides developers with an option to construct units rather than paying the Fee, provided they meet certain requirements. This setup is opposite the original policy, which required the construction of units but offered the option to pay an in-lieu fee, subject to conditions.

Most recently, in June 2016, San Francisco voters passed Proposition C, which removed the existing inclusionary rates from the City Charter to allow for easier routine adjustment and increased the affordable housing obligations applicable for larger market-rate residential developments. The requirements set forth in Proposition C will be enforced on an interim basis until the City enacts an ordinance to amend the Planning Code and adopt inclusionary and/or affordable housing obligations.[57] As such, the inclusionary standards described in this section reflect those in Proposition C.

Today, San Francisco's program applies broadly to any residential development project that consists of at least ten units (even if units are located on separate adjacent lots), with standard exemptions such as developments located on property owned or leased continuously by the United States or State of California used exclusively for governmental or educational purposes, and those located on property owned by the San Francisco Redevelopment Agency or Port of San Francisco where application is prohibited by State or local law. Projects in which 100 percent of units will be affordable and regulated by a government unit, agency, or authority and qualified student housing projects are also exempt from the inclusionary requirement, subject to specific requirements and conditions.[58]

As part of the program, all project sponsors or developers are required to submit a Declaration of Intent specifying how the inclusionary requirements will be fulfilled to the Planning Department before payment of any fees. The Planning Department is then responsible for notifying the Development Fee Collection Unit at the Department of Building Inspection of their choice. Should a developer opt to proceed with an alternative option rather than paying the

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[57] The full text of Proposition C may be accessed at the following URL as of 7/21/16: http://sfgov.org/elections/sites/default/files/Documents/candidates/IHR%20Legal%20Text.pdf.

[58] Section 415.3 of the Municipal Code states, "If a project qualifies as exempt because it consists of 100 percent affordable units, the project sponsor must record an NSR against the property that provides that, in the event of foreclosure or for any other reason, the project no longer qualifies as a project meeting the requirements of [the exemption], the project will either pay the Affordable Housing Fee plus interest from the date the project received its first construction document for the project if no affordable units were ever provided, or if affordable units were provided and occupied, then the Affordable Housing Fee with no interest is due on the dates the units were no longer occupied by qualifying households; or provide the required number of on-site affordable units required at time of original project approval and that those units shall be subject to all of the requirements of [the inclusionary program]." In order to qualify as exempt, a Student Housing project must be part of a larger institutional master plan, which is to be filed with the Planning Department prior to the issuance of any building permit or alteration permit.

fee, they must submit an Affidavit of Eligibility for an Alternative to the Affordable Housing Fee in addition to the Declaration of Intent.

Fee Structure

The amount of the Affordable Housing Fee (formerly the in lieu fee) is charged on a per-unit basis for either 20 percent of the total number of units in the principal project for projects with 10 to 24 units or 33 percent for projects with 25 units or more, without rounding up to the nearest whole number. The current fee schedule is shown in the table below. Fees charged per unit reflect the unit mix of the principal project.

The inclusion of a fee specific to single room occupancy (SRO) and Group Housing Units in 2016 is unique among the case study areas analyzed for this report and accounts for the finding that these units are typically smaller than studios.

MARKET-RATE RESIDENTIAL AFFORDABLE HOUSING FEES

	Project Size	
Unit Type (a)	**10-24 Units** (b)	**25+ Units** (c)
SRO/Group Housing Unit	$29,701	$49,007
Studio	$39,602	$65,343
1 Bedroom	$53,792	$88,757
2 Bedroom	$73,274	$120,902
3 Bedroom	$83,560	$137,874
4 Bedroom	$104,286	$172,072

Note:
(a) Fees shown are those effective June 1, 2016.
(b) Reflects an off-site inclusionary requirement of 20% of units in the principal project.
(c) Reflects an off-site inclusionary requirement of 33% of units in the principal project.

Sources: SF Mayor's Office of Housing and Community Development, 2016; BAE, 2016.

The Affordable Housing Fee must be paid in full before issuance of the first construction document, though in the past, the Board of Supervisors has adopted deferral mechanisms. For example, during the Great Recession, development projects in the pipeline were permitted to defer payment of the in-lieu fee, in addition to all other impact fees, to prior to issuance of the first certificate of occupancy, subject to a deferral surcharge deposited into the Downtown Park Fund. This option expired in July 2013, though the language still exists in the Planning Code, in the event that the Board of Supervisors is motivated to reactivate such provisions.

All monies collected by the Affordable Housing Fee and any lien proceedings are deposited into the Citywide Affordable Housing Fund, which is managed by the Mayor's Office of Housing. Funds generated by the Inclusionary Housing Program are used as a source of gap financing to

support affordable housing developments,[59] assist low and moderate income homebuyers, and pay the expenses of the Mayor's Office of Housing and Community Development (MOHCD) as necessary to administer and monitor compliance with the Program, but not exceeding $200,000 every five years.

The Mayor's Office of Housing and Community Development updates and publishes annual adjustments to the Affordable Housing Fee, based on the annual percent change in the Construction Cost Index (CCI) for San Francisco as published by Engineering News Record.

Alternatives

As noted previously, developers may choose to construct inclusionary units, either on- or off-site (or provide a combination of units and paying the fee) rather than paying the Affordable Housing Fee in full.[60] If a developer chooses to construct units rather than paying the fee, they must either (a) construct, market and sell all units as ownership units that will remain ownership units for the life of the project, or (b) submit a contract to the City demonstrating that construction of the inclusionary units is not in violation of the Costa-Hawkins Rental Housing Act because they have entered into an agreement with a public entity to receive a direct financial contribution or other form of assistance, thereby exempting the development from the requirements of Costa-Hawkins.[61] Typically, off-site units must be located within one mile of the principal project, to support an even distribution of market-rate and subsidized housing across the City. Special requirements may apply to individual projects subject to standards established in a developer agreement.

Pursuant to recent changes adopted in Proposition C, the number of inclusionary units required is dependent on project size as follows:

Projects with 10-24 Units

For projects with fewer than 25 units, developers may choose to construct inclusionary units on- or off-site, equivalent to either 12 percent of the number of units in the principal project for on-site units or 20 percent for off-site units, and affordable to low-income households.[62]

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[59] Based on an interview with a Development Project Manager in the Mayor's Office of Housing and Community Development, the amount of gap financing contributed by the Affordable Housing Fund typically does not exceed $200,000 per unit. The City has established supportive service requirements for affordable projects, and these standards which may be increased especially when the City has invested funds into the project; however, funds are generally not used directly for supportive services, which are typically shown as an operating expense (rather than construction cost), and paid by the developer over the life of the project.

[60] In certain geographic areas such as the UMU and Mission Transit Districts, developers also have an additional option to contribute land to the City whose value is at least equivalent to payment of the Affordable Housing Fee.

[61] Refer to California Civil Code Section 1954.53(a)(2).

[62] The percentage requirement of off-site affordable units is slightly different for tall projects. Section 415.7 of the Municipal Code provides that any project that is over 120 feet in height and does not require a Zoning Map amendment or Planning Code text amendment related to its project approvals that results in a net increase in the number of permissible residential units or in a material increase in the net permissible residential square footage is required to construct 17 percent times the number of units in the principal project, rounded up from fractions of 0.5 or more.

Projects with 25+ Units

For projects with twenty-five dwelling units or more, the minimum required number of on-site affordable units be must be equal to at least 25 percent of the units in the principal project, rounded up from fractions of 0.5 or more, with 15 percent of units affordable to low- and very low-income households and 10 percent affordable to middle-income households. If inclusionary units are constructed off-site, the developer must construct at least the number of units equivalent to 33 percent of all units constructed in the principal project, rounded up from fractions of 0.5 or more, with 20 percent of units affordable to low- and very low-income households and 13 percent of units affordable to middle-income households.

These alternative scenarios are summarized in the table below.

INCLUSIONARY HOUSING REQUIREMENTS FOR ON- AND OFF-SITE UNITS

Project Size	On-Site Requirement (a)	On-Site Minimum Affordability Requirement	Off-Site Requirement (b)	Off-Site Minimum Affordability Requirement
< 10 units	0	N/A	0	N/A
10 - 24 units	12% of units on project site	Affordable to LI households	20% of units in principal project	Affordable to LI households
> 24 units	25% of units on project site	15% affordable to LI households; 10% affordable to LI/MI households	33% of units in principal project	20% affordable to LI households; 13% affordable to LI/MI households

Notes:
(a) The requirements shown are general, city-wide requirements. Specific requirements may apply to the UMU District and Eastern Neighborhood.
(b) Subject to a pending feasibility study.

Sources: SF Planning Code, Sec. 415, 2016; SF Planning, 2016; BAE, 2016.

Outcomes

Since its inception in 1992, the inclusionary housing program has resulted in the production of 2,157 total below market-rate (BMR) units with an average of 86 units completed per year[63] Due to the nature of the program, the magnitude of BMR inclusionary housing units completed in a particular year is dependent on market-rate construction trends and consequently broader economic conditions. In 2008, for example, 311 BMR units were completed, the peak year since the program's establishment in 1992. Following the Great Recession, the program saw its lowest production of BMR inclusionary units, with just four completed in 2011. Since 2012, production of BMR units has grown annually, but has not yet exceeded the 2008 pre-recession peak. In addition to the units produced on-site, as of FY 2011-12, $50,321,468 in Inclusionary Housing Fees had been deposited into the Affordable Housing Fund.[64]

Lessons Learned

[63] Based on an inventory of projects completed between Q1 1992 and Q2 2016. Source data provided by the SF MOHCD and may be downloaded at https://data.sfgov.org/Housing-and-Buildings/Residential-Projects-With-Inclusionary-Requirement/nj3x-rw36n. Accessed 7/19/16.

[64] City and County of San Francisco Controllers Office, "FY 2011-12 Development Impact Fee Report." November 30, 2012. Accessed 7/19/16. http://sfcontroller.org/sites/default/files/FileCenter/Documents/3770-ImpactReport_2011-12.pdf.

City staff interviewed for this study remarked that while the City is not legally able to require developers to select one particular option to comply with the ordinance, construction of on-site units is the City's preferred option in most cases.[65] This is partially due to the challenge of using of Affordable Housing Fee funds in housing boom cycles, when land prices and construction costs are high, making affordable projects difficult to build.

By imposing a smaller proportion of affordable units when constructed on-site, San Francisco's program incentivizes on-site construction of affordable units.

Since the transition of the in-lieu fee to the Affordable Housing Fee in 2010 and realignment of the policy towards a fee-based program, 60 percent of projects approved by the Planning Department have elected to construct on-site units. Of those projects electing to provide on-site affordable units, a slightly greater proportion have built ownership units (54 percent ownership compared to 46 percent rental units.)[66] Approximately 34 percent of projects approved since 2011 have chosen to pay the Affordable Housing Fee and approximately three percent have sought a combination of units and fees.

These program outcomes are summarized below.

INCLUSIONARY PROGRAM OUTCOMES, Q1 2011 - Q2 2016

Option	Projects (a)	Percent
On-Site BMR Project	82	60.3%
Fee Payment	46	33.8%
Combination Project	4	2.9%
Land Dedication	2	1.5%
Units for Off-Site Project with Onsite Obligation	1	0.7%
Units for Off-Site Project	1	0.7%
Total	**136**	**100.0%**

Note:
(a) Based on the date of planning approval.

Sources: San Francisco MOHCD, 2016; BAE, 2016.

[65] One case in which on-site units are not a preference are those in which luxury units have particularly high homeowners' association fees that may ultimately make a technically "affordable" unit exceed allowable housing payments.
[66] Based on a total of 83 projects that chose to provide on-site BMR units and received planning approval between 1/1/11 and 6/9/2016.

OAKLAND AFFORDABLE HOUSING IMPACT FEE

Background

The City of Oakland had undertaken various efforts to study inclusionary housing ordinances prior to the City's recent adoption of an affordable housing impact fee in May 2016. For example, in 2000, a City Housing Task Force recommended that the City consider adopting an inclusionary housing policy, though the City did not act on the recommendation at that time. In 2006, the City Council established a Blue Ribbon Commission to study a proposed inclusionary ordinance, condominium conversions, and a comprehensive housing strategy, and formulate a set of recommendations. The Commission's final report was presented to Council in September 2007. Among other recommendations, the Commission recommended that the City adopt an inclusionary housing ordinance for new residential ownership developments. An economic feasibility report that was completed to inform the Commission's work found that development of rental housing was economically infeasible at the time even without an additional affordable housing impact fee, leading the Commission to elect not to recommend inclusionary requirements for rental projects.

In late 2007, shortly after the release Blue Ribbon Commission's recommendations, the Oakland housing market began to experience the impacts of the recent recession, stalling the City's consideration of an inclusionary housing ordinance. However, in the past few years, Oakland's housing market, including the market for rental housing, has experienced a dramatic boom. Significant increases in housing costs and concerns about displacement have led housing advocates to call for affordable housing impact fees, particularly within the context of the City's recent adoption of four major Specific Plans.

At roughly the same time, the City began to consider adoption of a transportation impact fee, causing City staff and Council members to call attention to the need for an affordable housing impact fee, along with fees for other capital improvements.

In 2013 the City Council authorized funding for the affordable housing impact fee nexus study, which was completed in 2016. The Nexus Study analyzed seven types of residential development and found the maximum legal fees per unit of each type of housing to be as follows:

- Single-Family Homes – Urban $34,833
- Single-Family Homes – Hills $81,729
- Townhomes – Urban $44,693
- Townhomes – Hills $53,258
- Multifamily – Lower/Mid-Rise $35,172
- Multifamily – Mid-Rise $39,887
- Multifamily – High-Rise $50,804

Alongside the nexus study, the City commissioned an Economic Feasibility Study to evaluate the impacts of all three new impact fees (affordable housing, transportation, and capital facilities) on development feasibility. The study found that single-family homes and townhouses were feasible in most parts of Oakland, multifamily rental housing was marginally feasible without the new impact fees, and condominium development was not feasible even without the new fees.

The Oakland City Council adopted substantially lower-than-maximum housing fees (see next section) on May 2016. The adopted fee schedule is effective on September 1, 2016.

Fee Structure

Oakland's affordable housing impact fee applies to all new residential units constructed in the City, regardless of the number of units in the project. The fee structure has different rates for each of three product types - multifamily, townhome, and single-family units - as well as different fees and phase-in schedules for each of three geographic zones. In the two geographic zones with stronger current residential market conditions, the fee will be phased in starting on September 1, 2016 and increasing on July 1, 2017 and July 1, 2018. The third zone, with a more moderate residential market, has a slower phase-in period. Starting on July 1, 2021, the fee will increase on an annual basis based on the Marshall & Swift building cost index. The adopted fee rates and phasing through July 1, 2020 are as shown in the table below. Affordable units and accessory dwelling units are exempt from the fee.

OAKLAND AFFORDABLE HOUSING IMPACT FEE (PER UNIT)

	Sept. 1, 2016	July 1, 2017	July 1, 2018	July 1, 2019	July 1, 2020
Zone 1					
Multifamily	$5,500	$11,500	$22,000	$22,000	$22,000
Townhome	$6,500	$12,000	$20,000	$20,000	$20,000
Single-Family	$6,000	$12,500	$23,000	$23,000	$23,000
Zone 2					
Multifamily	$4,550	$9,250	$17,750	$17,750	$17,750
Townhome	$2,600	$7,200	$14,250	$14,250	$14,250
Single-Family	$3,750	$9,000	$16,500	$16,500	$16,500
Zone 3					
Multifamily	$0	$0	$3,000	$6,000	$12,000
Townhome	$0	$0	$1,000	$4,000	$8,000
Single-Family	$0	$0	$1,000	$4,000	$8,000

Sources: City of Oakland, 2016; BAE, 2016.

Oakland's affordable housing impact fee is collected in two installments: half prior to issuance of a building permit for all or any part of the project, and half prior to issuance of a certificate of occupancy or temporary certificate of occupancy. The City has the ability to enforce payment of the fee by withholding building permits, recording a special assessment or other

lien against the property, revoking or suspending the certificate of occupancy or temporary certificate of occupancy, assessing civil penalties, or taking any other action necessary and appropriate to secure payment.

Project applicants have the option to provide affordable units on- or off-site rather than pay the fee. Affordable units provided off site must be completed within 18 months of the issuance of a certificate of occupancy for the market-rate units, and in most cases must be located within one half mile of the market-rate project site. In order to qualify for a fee exemption, the project must provide ten percent of units to low- or moderate-income households or five percent of units to very low-income households. In effect, these provisions exempt projects that are developed pursuant to the State Density Bonus Ordinance from the fee.[67] The City enacted these provisions in part to encourage developers to apply for density bonuses to address a lack of developer interest in pursuing density bonus projects in Oakland. In addition, City staff and leadership are hoping that use of the density bonus will make it feasible for a larger number of developers to provide units on-site within market-rate developments.

Applicants can also petition the City Manager for fee waivers or reductions on the basis that the fee would make a project infeasible and there are no feasible means of compliance, that the specific project will not generate a need for affordable housing (or only a limited need for affordable housing), or that the project has been subjected to atypical delays beyond the applicant's control due to litigation or similar circumstances.

Once the fee is implemented, revenues will be deposited into Oakland's Housing Trust Fund and can be used to support primarily the development of units for very low- or low-income households; up to 15 percent of revenues can be used to support the development of moderate-income households.

Outcomes

Because the fee has not yet gone into effect, the program has not generated any revenue or units to date.

Lessons Learned

Stakeholder working groups are often essential to creating a feasible fee, but can be controversial. Oakland engaged a stakeholder working group comprised of housing advocates and developers in order to gain technical insight and ensure that the adopted fee rate would be feasible. City staff report that this process was essential to determine feasible fee rates.

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[67] Oakland's affordability requirements for fee exemptions differ slightly from the affordability requirements under the State Density Bonus Ordinance in that the State Density Bonus does not include provisions that allow for additional density for rental projects that provide units for moderate-income households, while Oakland's ordinance does allow fee exemptions for projects that provide moderate-income units.

However, the working group process did receive some negative media attention because meetings were not open to the public in order to ensure candid stakeholder input.

Adopting different fees in different geographic areas can be politically controversial. The City of Oakland adopted different fee rates for each residential unit type based on three geographic zones. In general, the adopted fee rates and are lower and phased in more slowly in areas of the City that have experienced minimal recent developer interest in order to avoid the potential negative impacts of fees in areas with weaker real estate market conditions and encourage additional development in those areas. As the City began discussing the proposed fee rates with the public, some residents expressed dissatisfaction with the difference in rates on the basis that the differing rates send a message that the area with lower fee rates are not as desirable as other areas.

Stakeholders have differing views on fee collection vs. units on site. Affordable housing advocates in Oakland generally supported policies that would encourage most developers to provide fee revenue rather than construct units on site. Because Housing Trust Fund revenue can be used to leverage other sources of affordable housing financing, many affordable housing developers and advocates prefer fee revenue on the basis that it can generate a larger total number of affordable units. However, City staff and elected officials developed fee exemptions for on-site units with the goal of encouraging a greater mix of incomes at both the project and neighborhood level, and therefore adopted less stringent requirements for onsite units than many housing advocates requested. The City expects some developers to elect to pay the fees regardless of exemptions for on or offsite units due to the relative simplicity of providing the fee or economic feasibility considerations specific to each project. Notably, some areas of Oakland have no height or density limits, thereby negating any potential benefit of a density bonus that would be provided in exchange for affordable units.

Eligible activities for fee expenditures should be related to nexus study methodology. Affordable housing advocates lobbied to have all affordable housing fee revenues dedicated to support units serving lower-income households. In contrast, due to high market-rate housing costs, Oakland City staff and elected officials identified a need to also serve moderate-income households. Consequently, the City adopted policies that would allow up to 15 percent of housing impact fee revenue to support moderate-income units.

Adopting a charge based on square footage can lead to different outcomes than per-unit charges. The City of Oakland's adopted fees are charged on a per-unit basis, despite prior consideration of a fee that would be based on square footage. In part, the City decided on a per unit fee because developers often make a larger profit on a per-square-foot basis for smaller units. A per-unit fee effectively results in a higher fee rate per square foot for smaller units than for larger units, thereby capturing a larger share of any excess profit from smaller units relative to larger units, which may have lower profit margins. Perhaps more importantly,

the City has identified a need for increased construction of larger multifamily units, and therefore sought to avoid charging higher fees for larger units.

SACRAMENTO HOUSING IMPACT FEE

Background

In 2005, housing advocates pushed for making inclusionary housing requirements citywide. (The 2000 regulations on inclusionary housing concerned only certain growth areas.) A new council member elected in District 1 (with one of the growth areas) also wanted a fairer distribution of affordable housing units. The Housing Element update of 2008 put the shift to city-wide affordable housing policy on paper. The Palmer and Patterson decision and the loss of the Redevelopment Agency both forced the city to look for new ways of producing affordable housing or revenue for affordable housing. A linkage fee was chosen. Keyser Marston did a nexus study in 2015, and a new ordinance was passed in the summer of that year. Fees go into the Housing Trust Fund that was created in 1989, for the commercial impact fee program.

The "Mixed Income Housing" ordinance was enacted on Sept. 1, 2015.

Fee Structure

The fee structure shown below aims to foster higher densities of development and to steer development into specific locations: the fee of $2.58 per square foot is waived for high-density housing and greatly reduced in a Housing Incentive Zone (see figure on next page).

SACRAMENTO HOUSING FEES

Type	Fee Per Square Foot
Single/Duplex	$ 2.58
High Density Single/Duplex (a)	$ -
Multi-Unit Dwelling	$ 2.58
High Density Multi-Unit Dwelling (b)	$ -
Nonresidential to Residential Conversion	$ -
DU in Housing Incentive Zone	$ 1.11

Notes:
(a) "High Density" single/duplex is defined as 20 dwelling units or more per acre.
(b) "High Density" multi-unit is defined as 40 dwelling units or more per acre.

Sources: City of Sacramento, 2016; BAE, 2016.
Effective 11/1/2015

The Housing Incentive Zone (HIZ) is made up of areas where the market supplies housing that is actually affordable. The reduction in the fee represents an incentive to build there and helps to keep prices affordable. The ratio of HIZ fee to citywide fee is the same as the ratio of the median home price in the HIZ to the median home price in the rest of the city.

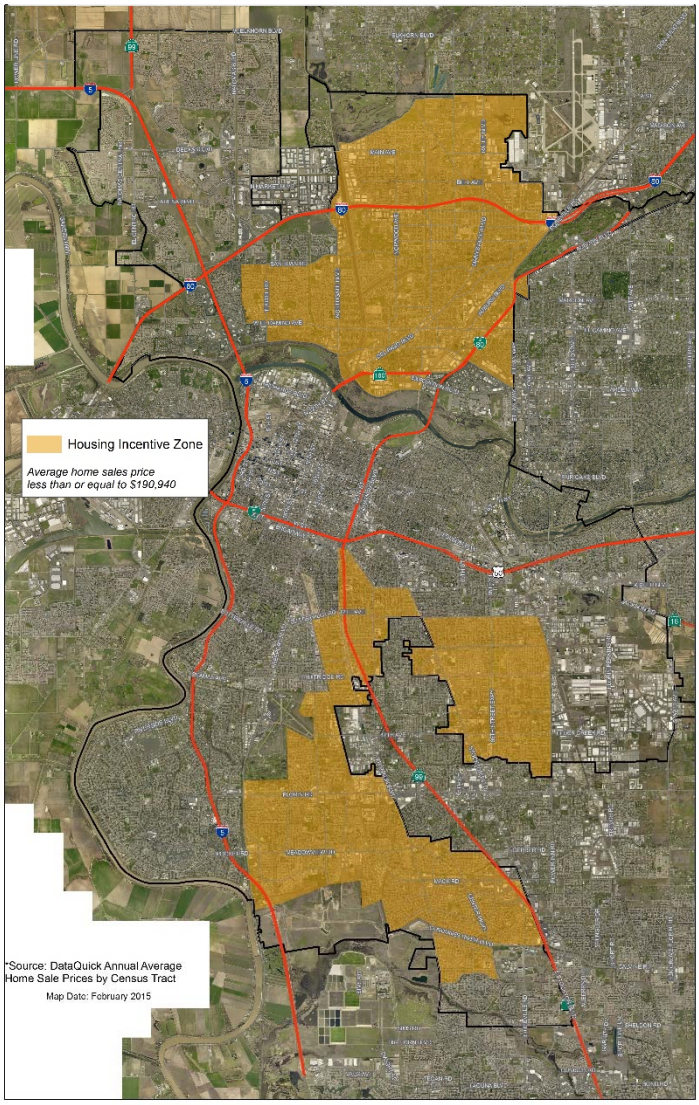
Note that for projects on parcels larger than 100 acres in area, the developer, in addition to paying impact fees, must gain approval of a "mixed income housing strategy" in the project.

Aside from grandfathered projects (with varying conditions according to the type of the project), several categories of project are exempt, including mobile home parks, development projects with at least 10 percent of affordable units, a new single-unit dwelling built by an owner-builder on his/her property (under certain conditions), a secondary dwelling unit, uninhabitable square footage without conditioned air, and community rooms for residential developments.[68]

Increases occur annually, on July 1, according to the San Francisco Construction Cost Index.

Fees are collected prior to (and as condition for) the issuance of the building permit. No provisions exist for the deferral of fees (but see below, planned revisions) and no provisions exist for refunds. However, as long as the monies have not been transferred into the Housing Trust Fund itself, it should be possible for a developer who decides not to build to negotiate a refund.

SACRAMENTO HOUSING INCENTIVE ZONES



According to staff interviewed for this report, there is little interplay between the fee program with the density bonus program, because the current zoning code is very permissive in terms of densities. Only two bonuses have been awarded in the last 20 years.

[68] Sacramento City Code, section 17.712.040 Exempted development projects.

Fees accrue to the Housing Trust Fund, founded in 1989 (when the commercial linkage fee program was initiated. The objective of the Housing Trust Fund is "to increase and improve the supply of housing affordable to households of low income, with priority given to very low income households."[69] "Low income" is defined as being below 80% of countywide median income; "very low income" is defined as below 50% of median income.

Housing that is financed by the Housing Trust Fund does not include housing for the homeless and housing dedicated to seniors.

Outcomes

Since Sept. 1, 2016, only about $30,000 has been collected. This small amount can be explained by three factors: the limited time since the adoption of the ordinance; the fact that many projects were already in the pipeline at the time of adoption; the fact that many projects are at densities or in locations that make them exempt from the fee.

No affordable housing units have been produced.

Lessons Learned

The requirement to pay the whole housing linkage fee upfront is a burden to developers. Council is currently studying a fee deferral ordinance, to enable developers to pay housing linkage fees over a certain amount of time.

The fees apply to all housing projects in which units are "market-rate," i.e., "not restricted to an affordable housing price or affordable rent."[70] This includes projects such as those built by Habitat for Humanity, in which owners invest sweat equity. The Planning Division would like to amend definitions so as to exempt such projects. Planners also would like to clarify the ways in which fees are assessed on multi-use projects or projects with different forms of tenure.

Finally, the price differential between market-rate housing in the Housing Incentive Zone and housing elsewhere in the city needs to be monitored, to know whether the ratio of HIZ fee to "regular" fee is still correct.

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[69] Sacramento City Code, section 17.708.020 Low income housing fund.
[70] Sacramento City Code, section 17.712.020 Definitions.

San Jose Affordable Housing Impact Fee

Background

The City of San Jose wanted to have additional tools to implement some of its housing policy goals (as spelled out in the Housing Element of its General Plan), in particular the objective to have 15 percent of new residential units be affordable units. Other goals served by the provision of affordable housing is a better jobs-housing balance and reduced pressure on traffic, and the attraction and retention of employees by the city's businesses.[71] A nexus analysis was prepared in 2014, and a new regulation was passed by City Council later that year. The Affordable Housing Impact Fee ordinance will take effect on July 1, 2016.

The Affordable Housing Impact Fee applies only to rental housing projects in large part because the *Palmer* decision limited the City's ability to generate revenue for affordable housing through in-lieu fees on rental development as part of its Inclusionary Housing Policy. San Jose's Inclusionary Housing Ordinance was adopted in 2010 (though it will take effect only this year, after a long legal battle). Legally distinct from the in-lieu fee, the Affordable Housing Impact Fee is an alternative mechanism to increase the City's supply of both affordable rental and ownership units.

Fee Structure

Fees apply to all market-rate rental developments (i.e., not to homeownership projects). Floor areas on which the fee is calculated are the residential areas of units (i.e., not including balconies, loggias, etc. or common areas in buildings).

Two categories of projects exist: Rental Development and Downtown High Rise Rental Development. The latter are projects in the Downtown Core Area in which the highest occupied floor is 150 feet or more above street level. The fees are $17.00 per square foot for both categories. (The two categories of projects reflect the categorization that exists in the Inclusionary Housing Ordinance, where downtown high-rise buildings had a lower in-lieu fee.) It is also noteworthy that the fee on rental units is the same as the in-lieu fee per the inclusionary program charged on for-sale units.[72]

Exemptions to the fee include pipeline projects, downtown high-rise projects which obtain a certificate of occupancy by July 1, 2021, and projects for which the developer is able to demonstrate no impact or standard violations of the US Constitution or California Constitution."[73]

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[71] City of San Jose, Resolution No. 77218, "A Resolution of the Council of the City of San Jose Adopting a Housing Impact Fee," available at http://www.sanjoseca.gov/DocumentCenter/View/37779, last accessed on June 1, 2016.
[72] This equality is due to the fact that the nexus study gave a range of possible levels for the impact fee and that $17.00 per square foot was within that range and seemed to all to be a good compromise.
[73] City of San Jose, Resolution No. 77218, Section 11, par. A.

Fees are adjusted annually at a fixed rate of 2.4 percent. In addition, the resolution allows the City to adjust the fee schedule from time to time if conditions change, such as an economic downturn.

Fees must be paid prior to issuance of the building permit. Developers may petition the Director of Housing of the City to delay payment of the fees to the time of delivery of the Certificate of Occupancy or the date of the final inspection if the City is not yet able to spend impact fees.

A Housing Impact Fee Fund was set up to manage the monies collected. It can be used to purchase affordable housing, finance the development of affordable housing, or to acquire affordability covenants. This fund is different from the Affordable Housing Fund set up with the adoption of the Inclusionary Housing Policy in 1988 (revised 2010).

The City has prepared an "Expenditure Plan for Housing Impact Fee Revenue" based on the nexus study of 2014 and demographic projections from ABAG.

Outcomes

The program has not yet generated fees. The City received 34 applications for exemptions as pipeline projects.

Lessons Learned

The ordinance was produced on the basis of a robust consultation process, in which developers and the public were heard. This produced a good compromise (e.g., 5-year exemption for downtown high-rise rental projects, but the same fee of $17.00 per square foot fee as on rental projects elsewhere), and provided solid support when City Council voted on the ordinance.

SANTA MONICA AFFORDABLE HOUSING PRODUCTION PROGRAM

Background

In 1990, Santa Monica voters approved Proposition R, which required that at least 30 percent of all housing units produced in any given year be affordable to low- and moderate-income households. Other ordinances were adopted over the years, including the Affordable Housing Production Program (AHPP) in 1998. The current ordinance took effect in May 2006 and was revised in June 2015.

Santa Monica's inclusionary housing policy mandates that 20 to 25 percent of market-rate units on-site, or 25 percent more than the on-site requirement for inclusionary units built off-site, be made affordable to low- and moderate-income households, depending on tenure and project size. The current residential Affordable Housing Fee originated from the option for residential developers to pay an in-lieu fee, rather than constructing affordable units, to satisfy the requirements of the AHPP.

Fee Structure

In-lieu fees are required for all rental projects, irrespective of the number of units[74] As an option for rental projects, a developer of a project with two or more units may dedicate land to the City or to a non-profit housing developer, sell either party land below market rate, or pay for an option on a piece of land. In all of these land options, the developer's loss or investment must equal the fee amount.

Fees can also be an option for or-sale projects that contain two or three units. For-sale projects with four or more units must provide affordable units either on- or off-site.

Currently, the Unit Base Fee is $31.25 per square foot for rental projects and $36.51 per square foot for condominium projects. [75]

Exemptions in addition to pipeline and other standard exemptions include single-unit projects, and designated landmark buildings or structures that are part of a historic district (fee only applies to new structures on site).

Fees are reviewed annually and are set by Council. Increases are based on changes in construction costs and on changes in land costs in the past year. The former are assessed by means of the relevant Construction Cost Index published by the Engineering New Record; the

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[74] City of Santa Monica, "Affordable Housing Production Program," at http://www.smgov.net/Departments/HED/Housing_and_Redevelopment/Housing/Production_Program_(Inclusionary)/AHPP.aspx, last accessed on June 5, 2016. In the Municipal Code that is available on the web at this time (June 5, 2016), there is no differentiation between condominium and apartment projects.

[75] City of Santa Monica, "Fee – Affordable Housing," available at https://smgov.net/Departments/HED/ Housing_and_Redevelopment/Housing/Fee_-_Affordable_Housing/Fee_-_Affordable_Housing.aspx

latter are determined by data on the median condominium prices in the city. The precise methodology for revising the "Affordable housing unit base fee" is described in internal guidelines, the latest version of which was approved by Council in April 2016.[76]

Fees must be paid between issuance of the first building permit and issuance of the certificate of occupancy. No certificate will be issued without fees having been paid.

Fees are deposited a reserve account separate from the General Fund, and are to be used only for development of affordable housing, administrative costs related to the production of this housing, and monitoring and evaluation of this affordable housing production program."[77]. Fees must be used within five years of payment or approval of the project, whichever occurs later. An interesting enforcement mechanism has been adopted to manage the fee program: If fees are not used in the five-year time period, they will be returned to all developers who paid fees during the relevant five-year period, on a pro-rata basis.

The City of Santa Monica has also adopted an extensive Land Use and Circulation Element of the General Plan (LUCE), which provides for density bonuses in exchange for providing affordable housing along with an array of other incentives to direct denser development to certain locations. However, these provisions have been in flux in the past several years, with changes to implementing policies (not detailed herein).

Outcomes

Approximately $17 million has been received as in-lieu fees between 1998 and 2015.[78]

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[76] City of Santa Monica Housing Division, "Affordable Housing Production Program Administrative Guidelines (Pursuant to Chapter 9.64 of the Municipal Code)," April 12, 2016, available at http://www.smgov.net/uploadedFiles/Departments/HED/Housing_and_Redevelopment/Housing/Production_Program_(Inclusionary)/AHPP_Administrative_Guidelines_2016-04-12.pdf, last accessed on June 5, 2016.

[77] Santa Monica Municipal Code, Section 9.64.070: Affordable Housing Fee, paragraph F.

[78] This sum was obtained by adding in-lieu fees reported in the annual "Housing Reports" of the City of Santa Monica, available at https://www.smgov.net/Departments/HED/Housing_and_Redevelopment/Housing/Reports/Housing_ Reports.aspx, last consulted on June 7, 2016. The exact sum is $16,863,380. It was obtained by adding (1) fees collected in the first half of 1998 and in fiscal year 1998-1998 from all projects approved in that time period, (2) fees collected in fiscal years 1999-2000 to 2013-2014 for all projects completed in that time period, and (3) fees collected in fiscal year 2014-2015 from all projects completed, under construction or approved in that year.

West Hollywood Affordable Housing Impact Fee

Background

Established in 1986, West Hollywood's original Inclusionary Housing Program required developers to construct at least one unit affordable to low- or moderate-income households for projects with ten or fewer units and 20 percent affordable units in projects with over ten units.[79] Only projects of ten or fewer units have historically had the option to pay an Affordable Housing Fee in-lieu of providing units.

Subsequent to *Palmer/Sixth Street Properties, L.P v. City of Los Angeles* (2009), the City modified its inclusionary program by expanding the in-lieu fee option to rental projects of any size, provided the project does not utilize the State Density Bonus program or any other form of assistance described in Section 65915 of the California Civil Code. Condominiums, cooperatives, and apartments constructed using the Density Bonus program or other forms of assistance are still required to construct inclusionary units.[80]

In 2014 the City commissioned a residential nexus study to ensure that even if such requirements faced legal challenge, the requisite fees would survive the reasonable nexus test.[81] The Nexus Study prepared in 2014 confirmed that the in-lieu fee charged as part of the City's inclusionary program is supported by the analysis of all three residential prototypes studied. Nevertheless, the City is in the process of converting the Inclusionary Housing Ordinance into a Residential Affordable Housing Impact Fee program to establish consistent fee requirements for all residential development, regardless of tenure, and reduce the opportunity for legal challenge. While inclusionary units are still required of condominiums, cooperatives, and apartments constructed with a density bonus, this section describes the Residential Affordable Housing Fee as it applies to rental projects constructed without a density bonus or other form of financial assistance.

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[79] City of West Hollywood, "2013-2021 Housing Element." December 2013. PDF. Accessed 7/14/16. http://www.hcd.ca.gov/housing-policy-development/housing-resource-center/plan/he/housing-element-documents/west_hollywood_5th_adopted121313.pdf.

[80] City staff expressed that while their program has faced legal challenge, it has withstood such scrutiny due to the fact that the court's ruling in the *Palmer* case was that density bonuses and other types of incentives qualify as "direct financial contribution or any other [form] of assistance" specified in CA Civil Code Section 65915 (Density Bonus Program), therefore exempting development projects utilizing such incentives or assistance from the requirements of the Costa-Hawkins Rental Housing Act (CA Civil Code Section 1954.50).

[81] West Hollywood Department of Human Services and Rent Stabilization, "Non-Residential Jobs-Housing Nexus Study and Residential Nexus Study." December 15, 2014 City Council Agenda Report.

Fee Structure

In general, all residential development projects are required to either construct inclusionary units or pay the Affordable Housing Fee, with the exception of new single family dwelling units or the replacement of one single family dwelling with another single family dwelling, and projects developed, owned, or operated by a nonprofit housing provider (including residential care facilities), where all units are exclusively for low- or low- and moderate-income persons.[82]

The City provides density bonuses in excess of what is currently required per State law, allowing a maximum density increase of up to 100 percent the maximum density permitted by the underlying zone, subject to conditions of approval. In addition, the Inclusionary Housing Program offers concessions to developers including modified development standards such as height limits, setback, and open space requirements, in addition to reduced parking requirements. If a density bonus or other financial incentives are utilized, developers are required to construct inclusionary units (with an option to construct a greater proportion of inclusionary units off-site) and comply with the development standards as described in Chapter 19.22 of the West Hollywood Municipal Code.

The amount of the Affordable Housing Fee depends on project size (in terms of the number of units) and calculated based on the square feet of gross livable area (GLA) (including balconies and porches, but excluding parking.) Projects with 10 or fewer units pay a fee per square foot of GLA based on the sliding scale shown below. Projects with greater than ten units are required to pay a fee of $27.13 per square foot of GLA. Note that the figures in the table below reflect current amounts for the 2016-2017 fiscal year.

WEST HOLLYWOOD AFFORDABLE HOUSING IN-LIEU FEES

Project Size	Fee per Square Foot
2 Units	$12.65
3 Units	$14.47
4 Units	$16.28
5 Units	$18.09
6 Units	$19.90
7 Units	$21.71
8 Units	$23.53
9 Units	$25.33
10+ Units	$27.13

Sources: City of West Hollywood, 2016; BAE, 2016.

The adopted Affordable Housing Fee is a fraction of the maximum fees supported by the 2014 Residential Nexus Study. The Nexus Study arrived at a maximum supportable per square foot

[82]West Hollywood Municipal Code, Chapter 19.22 (Affordable Housing Requirements and Incentives).

fee of $33.00 for small condo projects, $40.30 for medium rental projects, and $47.20 for large rental projects.

The Affordable Housing Fee is adjusted based on changes in the Construction Cost Index (CCI) and adopted annually by the City Council. Fees must be paid in full upon issuance of a building permit for all units incurring the fees. If the project consists of multiple detached units, fees for the whole project must be paid before building permit issuance. Currently, there is no option for fee deferral. Impact fees are generally nonrefundable; however, funds may be issued if the building permit expires and is not extended or if the fees were collected illegally or erroneously. To request a refund, applicants must file a written request with the City no later than 90 days after the initial payment date to be considered.[83]

Outcomes

Revenue generated by the Affordable Housing Fee is deposited into the City's Affordable Housing Trust Fund. In fiscal year 2014-15, the Affordable Housing Fee generated approximately $1.3 million.[84]

Established in 1986, the Affordable Housing Trust Fund receives funds from residential and commercial development impact fees, as well as settlement funds. Funds are used exclusively for projects that include a minimum of 20 percent of the total units affordable to low income households and at least 60 percent affordable to low- and moderate-income households. Tax-exempt, non-profit corporations are eligible to apply to receive funds from the Affordable Housing Trust Fund which may be used for predevelopment costs, land or air rights acquisition, administrative costs, gap financing, or to lower the interest rate of construction loans or permanent financing. As of June 20, 2015, loans disbursed from the Affordable Housing Trust Fund and the Housing Asset Fund to qualified non-profit housing and community development corporations had an outstanding balance of $28,996,603.[85] The City does not have an updated estimate of the funds generated by the Residential Affordable Housing Fee or the number of units constructed by the program. City staff expressed a desire to maintain records of this progress in the future.

Lessons Learned

Of the case study areas analyzed, the City of West Hollywood's detailed sliding scale for smaller projects is unique; this approach lessens the burden of impact fees on small projects.

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[83] West Hollywood Municipal Code, Chapter 19.64 (Development Fees).
[84] City of West Hollywood, "Comprehensive Annual Financial Report." Fiscal Year Ending June 30, 2015. Accessed 7/14/16. http://www.weho.org/home/showdocument?id=25132. Page 14.
[85] City of West Hollywood, "Comprehensive Annual Financial Report." Fiscal Year Ending June 30, 2015. Accessed 7/14/16. http://www.weho.org/home/showdocument?id=25132. Page 66.

SANTA ANA INCLUSIONARY IN-LIEU FEE

Background

The Housing Opportunity Ordinance was adopted in 2011 to support implementation of the 2009 Housing Element Update. Other major land use changes underway in the City of Santa Ana at the time, including major rezoning of large industrial areas (Transit Zoning Code) and for the Harbor Boulevard Corridor, underscored the need to address affordable housing as well.

Santa Ana's inclusionary housing policy is contained in the Housing Opportunity Ordinance and requires that 15 percent of new, market rate residential projects consisting of five or more units be made affordable on-site to very low- or low-income households. Rather than constructing affordable units, developers may opt to pay an in-lieu fee, whose revenues are collected in an Inclusionary Housing Fund and used to produce affordable housing.

It is important to note that the Ordinance applies only to three types of projects: (1) housing developments that exceed the density otherwise available under applicable zoning and development standards, (2) projects that require a change in land use classification from a land use that does not permit residential uses to one that does, and (3) the conversion of rental units to condominiums.[86]

Fee Structure

The in-lieu fee varies by size of project, from $5.00 per square foot for projects with 5 to 20 units, to $15.00 per square foot for projects with over 20 units. This fee is applied only to the number of units that exceed land use density regulations allow at the time of the application. The fee is also used to deal with fractions of units that are normally required but are not included among those being built on-site or off-site.

The structure of the in-lieu fee has changed over time, with a recent shift to a higher fee per square foot on smaller projects because City Council realized that it is difficult for smaller projects (less than 20 units) to incorporate affordable units within them, so a fee payment is preferable.

Aside from pipeline projects and projects subject to California statues, projects with fewer than five units are exempt from the inclusionary requirement and thus the fee. In addition, the ordinance exempts conversion or adaptive reuse projects that change the use of the property from non-residential to residential; this exemption is provided in recognition of the fact that conversion and adaptive reuse projects are often made very expensive by code upgrades

[86] City of Santa Ana, "Affordable Rental Housing Administrative Procedures." January 2015. PDF. Accessed 8/9/16. http://www.santa-ana.org/pba/planning/documents/3AdminProcedures-RentALL.pdf.

The fee is due at issuance of the building permit. In the case of mixed-use projects, the rule applies even if the first building permit concerns only the non-residential portion of the project.

Outcomes

Fees are deposited in an Inclusionary Housing Fund, and combined with other affordable housing funding sources. Uses of in-lieu and other Trust funds can be used for rental or ownership projects. The ordinance contains a provision that invites developers paying the fees to provide input into their use, which according to staff interviewed for this study, is present to prevent political pressure from directing the affordable housing funds to a particular project or affordable housing developer.

As of June 2016, $4,302,000 has been received. So far, $1,875,000 has been committed to a project with 64 units.

Palo Alto Below Market Rate Housing Program

Background

Palo Alto's Below Market Rate (BMR) Housing Program was implemented in 1974, concurrent with the City's first receipt of Community Development Block Grant funding, to increase the City's supply of affordable housing.[87] Like other cities with inclusionary housing programs that predate the *Palmer* decision, Palo Alto is in the process of converting its residential inclusionary in-lieu fee to an impact fee supported by a reasonable nexus. In 2014, the City completed both residential and commercial nexus studies to determine the maximum legal fees justified by the impact of market-rate residential development in the City.

The City's existing BMR Housing program, adopted in 2008, is contained in Chapter 18.14 of the Municipal Code. The policy requires developers of projects with five or more units to construct 15 percent of units in the principal project as BMR units, or pay an in-lieu fee. Today this requirement applies only to ownership housing units, unless the developer agrees by contract to restrict rents in exchange for financial incentives such as a density bonus. Rental projects were once subject to this requirement before the 2009 California Court of Appeal ruled, in *Palmer/Sixth Street Properties L.P. v. City of Los Angeles,* that the application of inclusionary housing requirements and associated in-lieu fees on rental residential development was a violation of the Costa-Hawkins Rental Housing Act. In 2014, the City completed a residential nexus study to transform the in-lieu fee into a market-rate residential affordable housing impact fee.

Palo Alto's home prices and rental rates surged during its recovery from the Great Recession. A 2016 staff report explains that, "Since 2010 the purchase price of an average priced home in Palo Alto has increased 259% from $900,785 to $2,337,500. Rental costs have also skyrocketed from an average of $1,695 in 2010 to $3,105 in 2015."[88] Combined with the *Palmer* decision, these factors formed the impetus for the City to undertake commercial and residential nexus studies to establish impact fees and generate revenue for affordable housing.

Fee Structure

Historically, the City has imposed an inclusionary in-lieu fee equivalent to 7.5 to 10 percent of the sales price for market-rate single-family detached, single family attached, and condominiums. Following the results of recent nexus studies, the City has adopted flat fees per unit, rather than the existing percentage of sales price, that will take effect on August 15, 2016.

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[87] City of Palo Alto Finance Committee, "Residential/Commercial Impact Fee Studies Staff Report." February 16, 2016. Accessed 7/19/16. http://www.cityofpaloalto.org/civicax/filebank/documents/50935.
[88] City of Palo Alto Finance Committee, "Residential/Commercial Impact Fee Studies Staff Report." February 16, 2016. Accessed 7/19/16. http://www.cityofpaloalto.org/civicax/filebank/documents/50935. Page 3.

Both the existing and adopted fees are shown in the table below.

PALO ALTO RESIDENTIAL FEES

Unit Type	Existing Fee	Adopted Fee (a)
Single Family Detached	7.5 to 10% of sales price	$95/sf
Single Family Attached	7.5 to 10% of sales price	$50/sf
Condominium	7.5 to 10% of sales price	$50/sf
Rental Housing	None	$50/sf

Note:
(a) Adopted fee schedule is effective August 15, 2016.

Sources: Palo Alto Planning and Community Environment Department, 2016; BAE, 2016.

Revenues generated by the affordable housing impact fee are collected in the City's Residential Housing Fund, a "sub-fund" of the City's Affordable Housing Fund, a trust fund that exists to preserve and expand affordable housing for very low-, low-, and moderate-income households. Other sub-funds of the Affordable Housing Fund include the Commercial In-Lieu Fund, Home Investment Partnership Fund, Community Development Block Grant (CDBG), and Below Market Rate Emergency Fund. Detailed guidelines dictating the use of Affordable Housing Fund are posted on the City's website. According to these guidelines and the City's Notice of Funding Availability application, specific restrictions apply to the use of funds in each sub-category. Fees generated by the Residential Housing Fund may be used for the following:

- Construction of new housing units;
- Addition of new units to existing buildings;
- Conversion of non-residential space to housing units;
- Acquisition, rehabilitation, and preservation of existing affordable housing, where rents are controlled by deed restriction or another similar mechanism;
- Administrative costs of operating the BMR housing program.[89]

There is currently no limit on the amount of funding that can be allocated to a single development.[90]

Established in 2002 and distinct from the Residential Affordable Housing Fund, the Below-Market Rate Emergency Fund is used chiefly for activities necessary to preserve existing BMR housing by providing assistance such as deferred payment, low interest loans in the event that an owner of BMR housing faces "severe financial hardship" in paying major capital assessment on condominiums (not including monthly homeowners dues), acquiring units in

[89] City of Palo Alto, "Affordable Housing Fund Guidelines." August 17, 2015. PDF. Accessed 7/21/16. http://www.cityofpaloalto.org/civicax/filebank/documents/53195.
[90] City of Palo Alto, "Notice of Funding Availability." May 20, 2014. PDF. Accessed 7/21/16. http://www.cityofpaloalto.org/civicax/filebank/documents/42343.

foreclosure, repairing and reselling BMR units acquired by the City, or issuing short-term loans to rehabilitate older BMR housing stock.[91]

Outcomes

In Fiscal Year 2014-15, $19,800 in housing in-lieu fees was collected and deposited into the City's Residential Housing In-Lieu Fund, which as of June 30, 2015 had an ending balance of approximately $17.6 million.

[91] City of Palo Alto, "Affordable Housing Fund Guidelines." August 17, 2015. PDF. Accessed 7/21/16. http://www.cityofpaloalto.org/civicax/filebank/documents/53195. Page 5.

PASADENA INCLUSIONARY HOUSING ORDINANCE

Background

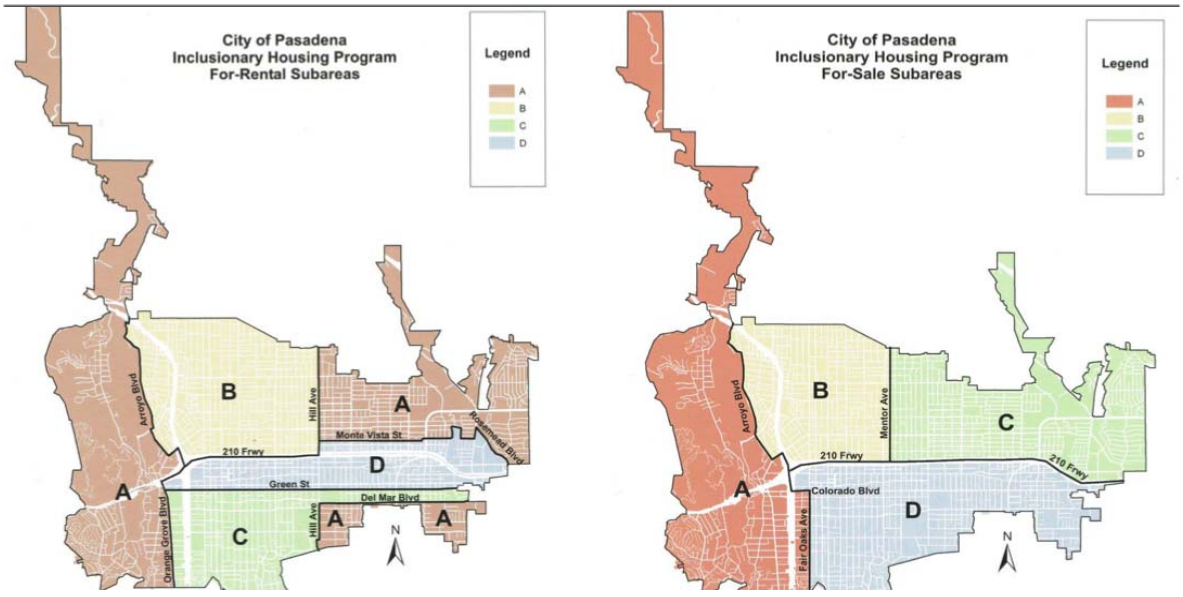
Pasadena's Inclusionary Housing Ordinance was adopted in 2001.[92] The policy requires either that 15 percent of all newly constructed, market-rate residential units be made affordable to low- and moderate- income households and constructed on-site, or payment of a fee based on project size and tenure, and assessed per square foot.

As with most inclusionary housing ordinances in California, the residential fee was originally established as an option "in-lieu" of producing the required number of affordable units. After the California courts limited mandatory unit production in the case of market-rate rental units, Pasadena revisited its rental housing in-lieu fee. In 2015 the City commissioned an Affordable Housing In-Lieu Analysis to recalculate the fee based on the affordability gap between the cost of market-rate housing units and the price that a low- or moderate-income household could afford to pay.[93] The City is currently considering raising its ordinance requirements based on a recent nexus study presented to City Council in April 2016.

Fee Structure

Inclusionary requirements and in-lieu fees vary by zone, with the four zones also varying slightly by tenure (rental vs. ownership projects) as shown below.

PASADENA INCLUSIONARY HOUSING ZONES



Source: City of Pasadena: http://ww5.cityofpasadena.net/housing/wp-content/uploads/ sites/3/2016/04/City-presentation-April-12-2016-.pdf

[92] City of Pasadena, Ordinance #6868, "An Ordinance of the City of Pasadena Amending Title 17"
[93] David Paul Rosen and Associates, "Pasadena Affordable Housing In Lieu Fee Analysis." March 10, 2016. PDF. Accessed 8/9/16. http://ww5.cityofpasadena.net/housing/wp-content/uploads/sites/3/2016/03/DRAFT-Inclusionary-In-Lieu-Fee-Analysis-.pdf.

Current and proposed fees as of April 2016 are shown below:

PASADENA CURRENT AND PROPOSED IN-LIEU FEES

	Fee Per Square Foot	
	FY 2016 Rate	Proposed Rate
10-49 Rental Units		
Sub-area A	$ -	$ 35.37
Sub-area B	$ 1.14	$ 19.97
Sub-area C	$ 25.21	$ 32.89
Sub-area D	$ 22.92	$ 35.37
50+ Rental Units		
Sub-area A	$ -	$ 49.12
Sub-area B	$ 1.14	$ 27.74
Sub-area C	$ 34.39	$ 45.68
Sub-area D	$ 32.10	$ 49.12
10-49 Ownership Units		
Sub-area A	$ 43.56	$ 47.01
Sub-area B	$ 16.04	$ 19.01
Sub-area C	$ 26.36	$ 29.66
Sub-area D	$ 20.63	$ 47.01
50+ Ownership Units		
Sub-area A	$ 60.75	$ 65.30
Sub-area B	$ 21.78	$ 26.40
Sub-area C	$ 36.68	$ 41.20
Sub-area D	$ 28.65	$ 65.30

Sources: David Paul Rosen and Associates; 2016, BAE, 2016.

Projects with fewer than 10 units are exempt from the Inclusionary Ordinance.

Half of the fee is due prior to obtaining the first building permit, with the balance due prior to obtaining a certificate of occupancy. Fees accrue to the Inclusionary Housing Trust Fund. There are no guidelines or limitations on the use of the fees collected.

Outcomes

The total amount collected between 2001 and April 2016 was $19.6 million.[94] Fee revenues have varied dramatically year by year: revenue dropped from about $5,000,000 in 2006 to about $100,000 six years later, during the Great Recession. These fluctuations have spurred the City to consider other options currently, including a commercial fee.[95]

As of 2016, Pasadena reports that there have been 1,507 "city-funded affordable units" produced.

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[94] City of Pasadena, "Affordable Housing Workshop: Pasadena Inclusionary Housing Ordinance" (presentation by Jim Wong, Senior Project Manager, April 12, 2016), p. 7, available at http://ww5.cityofpasadena.net/housing/wp-content/uploads/sites/3/2016/04/City-presentation-April-12-2016-.pdf, last accessed on June 6, 2016.

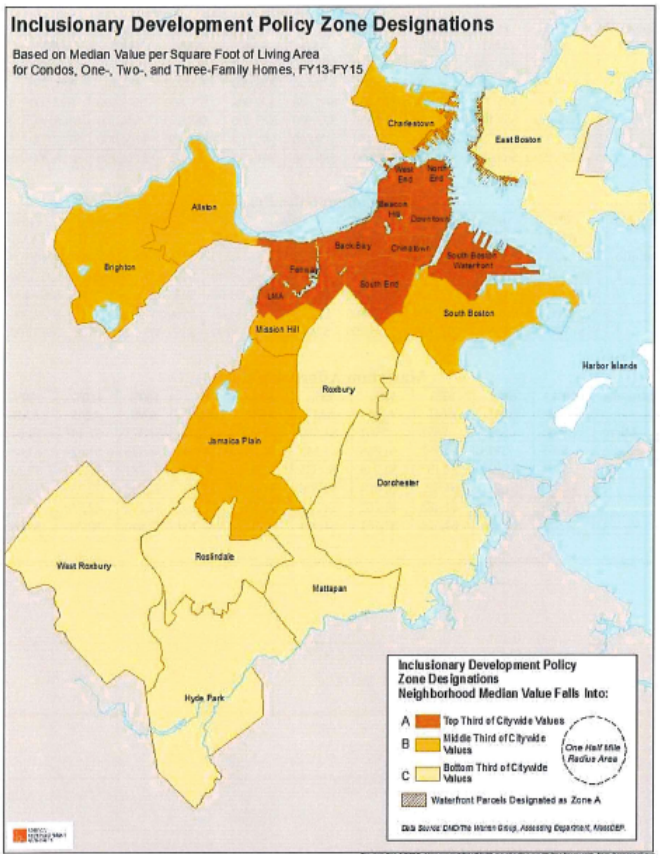
95 City of Pasadena, "City Council Affordable Housing Workshop" (PowerPoint presentation by William Huang, Director of the Housing Department, January 11, 2016),available at ww2.cityofpasadena.net/councilagendas/2016%20Agendas/ Jan_11.../AR%2014.ppt, last accessed on June 6, 2016.

BOSTON INCLUSIONARY DEVELOPMENT IN-LIEU FEE

Background

An executive order created the Boston inclusionary housing policy in 2000. The policy allowed for in-lieu fees: instead of including a number of affordable units equivalent to 10 percent of the total number of units in the project, the developer could pay a fee of $52,000 per unit on a number of units equivalent to 15 percent of the total number of units in the project. In 2003, a revision required that an in-lieu fee also be paid for the fraction of affordable unit that was not built when the number of affordable units was rounded off to the nearest lower number. The program has been revised several times to improve implementation since its inception.

BOSTON INCLUSIONARY DEVELOPMENT ZONES



Source: City of Boson. Inclusionary Development Policy. Exhibit B

The Inclusionary Development Program (IDP) applies to all residential projects that have ten units or more that are financed by the City, that are located on land that belongs to the City or to the Boston Redevelopment Authority, or for which zoning relief is sought.

Fee Structure

Fees vary by location and by tenure. The territory of the city was divided into three zones: Zone A comprise neighborhoods whose median value of a square foot of residential living area is in the top third of city valuations; Zone B has neighborhood medians close to the city average; and Zone C has neighborhood medians in the bottom third of city valuations. Different fees apply in each zone.

Contributions for rental projects are $380,000 per unit for projects in Zone A, $300,000 per unit for projects in Zone B, and $200,000 per unit for projects in Zone C. These unit costs are called “Zone Factors.” The number of units on which the IDP Contribution is calculated is 18 percent of the total number of units for projects in Zone A and in Zone B and 15 percent in Zone C. The total contribution is therefore Zone Factor X number of units.

Contributions per unit for homeownership projects are the highest of two figures: the Zone Factor or 50 percent of the difference between the market rate price and the affordable price for each unit type. The number of units is the same as for rental projects: 18 percent of total project units in Zones A and B, 15% in Zone C.

Note that an in-lieu contribution is also required in cases where affordable units are built on site to compensate for the loss of a fraction of an affordable unit in the project. For example, if the number of affordable units that is required is 7.35 and 7 units are built, the developer owes 35 percent of the in-lieu fee for a unit.

Exemptions include grandfathered projects, projects in which 40 percent or more of the units have income restrictions or are otherwise protected as affordable units, and dormitories.

There are no automatic fee increases; the unit factor was first set at $52,000, raised to $97,000 in 2005, and then to $200,000 in 2006. The 2006 revisions included a provision that contributions for rental projects could be paid in seven annual installments rather than all at once. The fee structure was amended again in 2015, to its current status.

Developers of rental housing may pay the IDP Contribution in 7 annual installments or all at once (using the current yield of a 10-year Treasury bond to calculate NPV). The first installment is due within 30 days of receipt of the "initial full building permit." Developers of ownership projects must pay 25 percent of the IDP Contribution based on Zone Factors within 30 days of receiving the building permit and the remaining 75 percent within 30 days of receiving the Certificate of Occupancy for their project.

Fees normally go into the IDP Fund. However, developers may ask that some or all of their IDP Contribution be used to finance an affordable housing project in the vicinity of their own development project.

Outcomes

Between 2000 and 2015, $119,700,542 was generated by in-lieu IDP Contributions. About $80,000,000 were already collected at that time, and the remainder was committed but not collected. An additional $22,176,190 was estimated to be in the pipeline, from projects that had been approved by the Boston Redevelopment Authority but had not yet been granted a development permit.[96]

In the same time period (2000 – 2015), contributions helped to build 1,597 new affordable housing units. Of these, 1,215 units were for low-income households (< 60% AMI) and 382 units were middle-income households (60% - 120% AMI).[97]

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[96] *Ibid*.
[97] *Ibid*.

Lessons Learned

The City would like a maximum number of projects to be built with affordable housing units on-site. Developers prefer either building off-site units or paying in-lieu fees. City staff reports that most projects chose a combination of units and fees.

Staff are currently considering revisions or clarifications on a number of elements of the ordinance including:

- The provision that allows developers to identify a specific project to target their in-lieu fees; because fee payments may be made in 7 years, this provision raises a serious problem for the financing of the affordable housing project. If the developer does not pay all fees upfront (with NPV calculation), the City must utilize the IDP fund to finance the affordable housing project and then use future fee payment to repay the IDP
- The distribution of monies to affordable housing projects; more emphasis on unit preservation vs. new construction may be needed. New units are generally in less attractive locations with fewer services, and preservation may also be cheaper in some cases.

CHICAGO AFFORDABLE REQUIREMENTS ORDINANCE

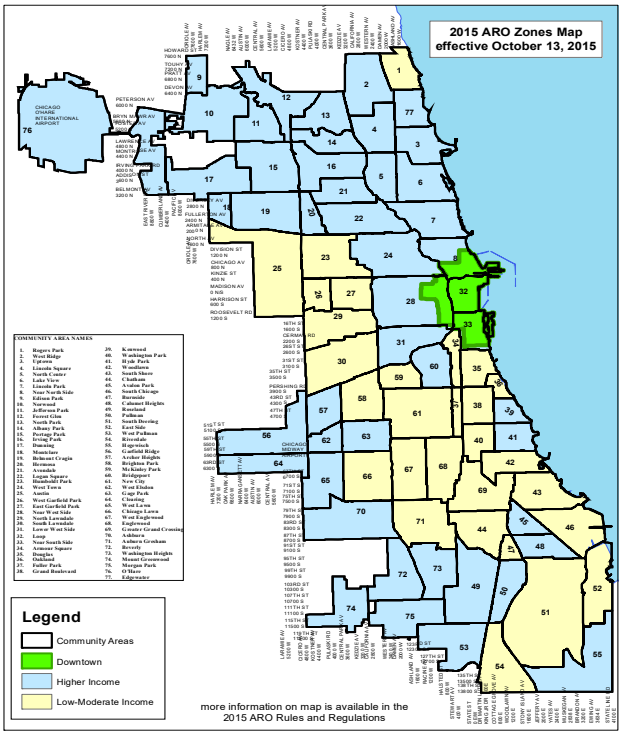
Background

Chicago adopted the first version of the Affordable Requirements Ordinance (ARO) in 2003. A few years later, as the market grew stronger and affordable units lost to new development increased, community groups pushed for stronger inclusionary requirements and Mayor Daley supported their goals. A much stronger ordinance was adopted in 2007, which started to generate more in-lieu fees (see Fees collected since inception, below). After the Great Recession, a new market upswing provoked a new push for generating affordable housing funding. Thus in 2015, requirements were strengthened again in order to generate more in-lieu fees.

Fee Structure

The fees are differentiated in several ways. First, they are differentiated geographically, according to local market conditions. Where the market is strongest ("Downtown"), the fees are highest. Lower fees are charged in medium strength markets (e.g., "Higher Income" areas, with low poverty rates), and still lower fees are charged in areas where markets are weakest (e.g., "Low-Moderate Income" areas, with high poverty rates). This scale is viewed as an incentive for developers to invest in Low-Moderate Income areas. A simplified map of the three zones will be updated every five years, based on new census data.

CHICAGO ZONE MAP



Source: City of Chicago, available at http://www.cityofchicago.org/content/dam/city/depts/dcd/general/housing/2015_ARO_ Zone_Map _JULY_28_2015.pdf

Second, the fees are differentiated according to tenure in the Downtown zone. Third, the fees are differentiated according to the developer's effort to contribute to the supply of affordable housing by means of construction (rather than in-lieu fees; see three green columns). Thus in the table on the next page, the "Final In-lieu Fee" applies today for regular projects; the "Final Authorized Agency In-lieu Fee" applies to projects in which the developer builds and sells or leases to an "authorized

agency" (for use as affordable housing, in the project at hand) a number of housing units at least equal to 25 percent of the total number of affordable units required under the ARO (i.e., the number of affordable units that should be built if no in-lieu fees were paid). The "Final In-lieu Premium" applies to downtown for-sale projects in which the developer fails to build, on-site or off-site, at least 25 percent of the number of required affordable units.[98]

Finally, fee increases were phased in over a year: "initial" levels are replaced by "final" levels after about 6 months.

CHICAGO IN-LIEU FEES

	In-Lieu Fee Per Unit					
Zone	Initial (a)	Final (b)	Initial Authorized Agency	Final Authorized Agency	Initial Premium	Final Premium
Low-Moderate Income	$ 50,000	$ 50,000	n/a	n/a	n/a	n/a
Higher Income	$ 125,000	$ 125,000	$ 100,000	$ 100,000	n/a	n/a
Downtown Rental	$ 140,000	$ 175,000	$ 115,000	$ 150,000	n/a	n/a
Downtown For Sale	$ 140,000	$ 175,000	$ 115,000	$ 150,000	$ 160,000	$ 225,000

Notes:
(a) "Initial" denotes an effective date of October 13, 2015.
(b) "Final" denotes an effective date of April 16, 2015.

Sources: City of Chicago, 2016; BAE, 2016.

Chicago, unlike other cities, does not require the payment of in-lieu fees for fractions of units that are required under the percentage-based formulas for on-site or off-site affordable housing construction. Results are rounded off to the nearest whole number.

A number of projects are exempt from affordable housing requirements under ARO including grandfathered projects, projects that do not call for a rezoning, do not benefit from the sale of City land and do not benefit from the City's financial assistance (i.e., require a rezoning, include the purchase of City land or benefit from City subsidies); and existing housing units, except in projects for which the developer received financial assistance from the City (i.e., for projects that involve existing buildings and are not subsidized, the requirements are calculated only on the new units added to the project)

Like other cities, Chicago also has a "waiver" option in its ordinance, which allows, the Commissioner of Planning and Development, "in certain limited circumstances as specified in the rules and regulations, to waive, adjust or reduce the requirements of this section [i.e., ARO]."[99] However, the rules were written is such a way as to limit the number of requests for

98 Chicago Municipal Code, Section 2-45-115 2015 Affordable Requirements, subsection F Methods of compliance. Note that the price of units sold to an authorized agency is not regulated; i.e., the sale can be done at market prices.
99 Chicago Municipal Code, 2-45-115 2015 Affordable Requirements, subsection P Hardship Waiver.

waivers to a minimum. In fact, no developer has yet attempted to obtain a waiver under this article of the ordinance.

Until 2015, fees were being updated periodically. The new ARO specifies that as of 2018, fees will be increased on January 1 of every year, at the rate given by the change in the Consumer Price Index for the metropolitan area of Chicago (using the annual change posted in September of the previous year).

Fees are due prior (and as a condition for) the issuance of the first building permit. The applicable fees are calculated by the Project Manager when the project is submitted for review and are valid for two years only; after that time period they must be calculated again, in light of any changes in the ARO.

In-lieu fees are deposited in the Affordable Housing Opportunity Fund ("unless required to be deposited into another fund pursuant to federal or state law"[100]). The funds will be divided two, one half being used for the production of affordable housing (new construction, rehabilitation or preservation), the other half is to be transferred to the Chicago Low-Income Housing Trust Fund, which provides rental subsidies.

To date, the fee program has raised approximately $50 million since 2007. Because of the economic downturn of 2008 and subsequent years, most fees have been collected since 2014. To date, in-lieu fees have been used to produce an estimated 310 affordable units, with an addition 242 units were built by developers as part of their projects.

Developers of projects who have received extra density under Chicago's Affordable Housing Zoning Bonus program (which give extra floor area in exchange for cash payments to the City) must first pay the fees owed under that program. Sums paid are then credited toward the in-lieu fees to be paid under the ARO.[101]

Lessons Learned

Sensitivity to context, i.e., to the socioeconomic geography of the city, is important. In Chicago, the very robust downtown market is key to the generation of fees for affordable housing and for other city priorities. (A new Neighborhood Opportunity Bonus was instituted in May 2016, whereby developers can earn a density bonus in exchange for a contribution to a newly established Neighborhood Opportunity Fund, which will be used to finance local economic development programs and projects.[102]) The distinction by zone, recognizing market

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[100] Chicago Municipal Code, 2-45-115 2015 Affordable Requirements, subsection G Affordable Housing Opportunity Fund.
101 Chicago Municipal Code, 2-45-115 2015 Affordable Requirements, subsection E Relationship between 2015 ARO and Affordable Housing Density Bonus. See also Section 17-4-1004-C Bonus Formula.
[102] City of Chicago, Neighborhoods Opportunity Fund Ordinance, available at http://chicagotonight.wttw.com/sites/default/files/article/file-attachments/Neighborhood%20Opportunity%20Fund%20Ordinance.pdf, last accessed on June 4, 2016.

conditions, is also important, so that modulated fees can help to generate more fee income in areas where development is robust and encourage developers to do projects in areas where economic development is needed.

One important issue noted during interviews for this case study is the balance between certainty and discretion in the use of funds generated by the in-lieu fee. On the one hand, the funds must be earmarked for specific purposes. However, planners feel that they must be able to allocated the funds without constraints on the location or type of project. In Chicago as in other cities, there was pressure from the community to earmark in-lieu fees from a project to affordable units in the same neighborhood. Planners resisted the pressure and maintained their right to allocate fees to projects throughout the city, on the basis of need.

A similar tension exists in the provision about waivers: use of this provision must be very tightly regulated, to prevent abuse, but it remains useful as an escape valve for truly exceptional cases.

Appendix E: Residential Building Permit Analysis

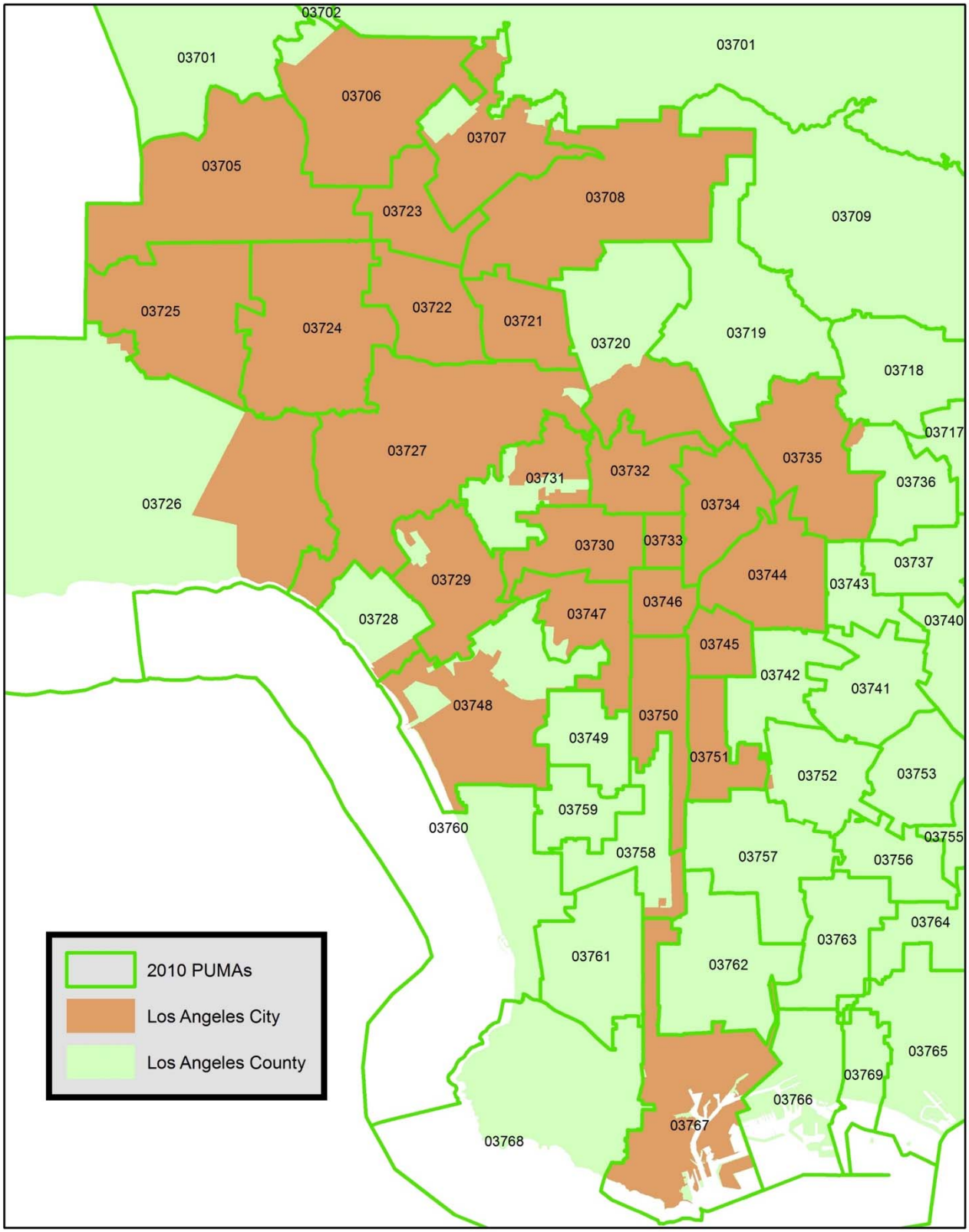
APPENDIX E-1: RESIDENTIAL UNITS PERMITTED, CITY OF LOS ANGELES, 2011-2015

Permit database does not differentiate between single family small lots and conventional lots. Thus, single family attached and single family detached categories include small lot projects.

Residential Units Permitted 2011-2015								
	Total for 2011-2015							
Building Type (a)(b)	Total Sq. Ft. Permitted	Percent of Total Sq.Ft.	Number of Permits	Total Units	Median Building Size (sf)	Avg. Units Per Permit	Avg, Sq,Ft, Per Year	Avg. Units Per Year
Single Family Detached (b)	**18,386,907**	**26.2%**	**4,973**	**4,952**	**3,088**		**3,677,381**	**990**
Single Family Attached/Townhouse								
Single Family Attached	1,266,345	1.8%	550	550	2,150		253,269	
Condominium	167,341	0.2%	56	61	2,632		33,468	
Duplex Condominium	16,093	0.0%	4	8	4,019		3,219	
Subtotal	**1,449,779**	**2.1%**	**610**	**619**			**289,956**	**124**
Multifamily Condominium								
Condominium 2-3 story	551,298	0.8%	48	313	9,511	7	110,260	
Condominium 4-5 story	876,126	1.2%	51	396	11,379	8	175,225	
Condominium > 6 story	0	0.0%	0	0	N/A	N/A	-	
Subtotal	**1,427,424**	**2.0%**	**99**	**709**			**285,485**	**142**
TOTAL OWNERSHIP UNITS	**21,264,110**	**30.3%**	**5,682**	**6,280**			**4,252,822**	**1,256**
Mutlifamily Rental								
Accessory Living Quarters	157,676	0.2%	74	67	1,477		31,535	
Duplex	3,105,698	4.4%	907	1,810	3,334		621,140	
Artist-in-Residence/Loft	7,049	0.0%	3	4	2,998		1,410	
Apartment 2-3 story	5,588,337	8.0%	321	4,272	10,248	13	1,117,667	
Apartment 4-5 story	17,333,097	24.7%	273	14,488	38,302	53	3,466,619	
Apartment 6-12 story	15,052,510	21.4%	70	14,343	161,060	205	3,010,502	
Apartment > 12 story	6,524,181	9.3%	15	5,225	358,796	348	1,304,836	
Senior Independent Housing	1,189,081	**1.7%**	15	1,132	68,404	75	237,816	
TOTAL RENTAL UNITS	**48,957,629**	**69.7%**	**1,678**	**41,341**			**9,791,526**	**8,268**
TOTAL ALL UNITS	**70,221,739**	**100.0%**	**7,360**	**47,621**			**14,044,348**	**9,524**

Notes:
(a) Includes permits for "New" buildings > 1,000 sf issued by City of LA from 1-1-2011 thru 12-13-15.
(b) Excludes Miscellaneous Structure Use Codes.
Sources: Los Angeles Department of Building and Safety; BAE, 2016.

Appendix F: Los Angeles PUMAs



Appendix G: Overview of IMPLAN

This appendix provides additional clarification of the workings of the IMPLAN input-output model. It provides a step-by-step account of how IMPLAN estimates economic impacts using new residential development as an illustrative example. Definitions of key *italicized* terms are provided in footnotes for the benefit of the reader. This section begins with an overview of the data that IMPLAN uses internally, and moves forward through the process of how the model estimates the impacts of the construction phase of the proposed casino.

What is IMPLAN?

As stated in the main body of the text, IMPLAN is an input-output model that estimates the total economic implications of new economic activity within a specified geography. The model uses national industry data and county-level economic data to generate a series of multipliers, which in turn estimate the total economic implications of economic activity.

At the heart of the model is a national input-output dollar flow table called the Social Accounting Matrix (SAM). Unlike other static input-output models, which just measure the purchasing relationships between industry and household sectors, SAM also measures the economic relationships between government, industry, and household sectors, allowing IMPLAN to model transfer payments such as unemployment insurance. Thus, for the specified region, the input-output table accounts for all the dollar flows between the different sectors within the economy.

National Industry Data. The model uses national production functions for 440 sectors to determine how an industry spends its operating receipts to produce its commodities. The model also uses a national matrix to determine the *byproducts*[103] that each industry generates. To analyze the impacts of household spending, the model treats households as an "industry" to determining their expenditure patterns. IMPLAN couples the national production functions with a variety of county-level economic data to determine the impacts for our example.

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County-Level Economic Data. In order to estimate the county-level impacts, IMPLAN combines national industry production functions with county-level economic data. IMPLAN collects data from a variety of economic data sources to generate average output, employment, and productivity for each of the industries in a given county. It also collects data on average prices for all of the goods sold in the local economy. In the case of our example, IMPLAN uses economic data for Los Angeles County. IMPLAN gathers data on the types and amount of output that each industry generates within the region. In addition, the IMPLAN model uses county-level data on the prices of goods and household expenditures to determine the

[103] The byproducts refer to any secondary commodities that the industry creates.

consumption functions of regional households and local government, taking into account the availability of each commodity within the specified geography.

Multipliers. IMPLAN combines this data to generate a series of SAM-type multipliers for the local economy. The multiplier measures the amount of total economic activity that results from an industry (or household) spending an additional dollar in the local economy. Based on these multipliers, IMPLAN generates a series of tables to show the economic event's *direct*, *indirect*, and *induced* impacts to gross receipts, or output, within each of the model's 536 sectors. These outputs are described below:

- **Direct Impacts**. Direct impacts refer to the dollar value of economic activity available to circulate through the economy. In the case of new residential development, the direct impacts are equal to the new households' discretionary spending. The direct impacts do not include household savings and payments to federal, state, and local taxes, as these payments do not circulate through the economy.

  It should be noted that impacts from retail expenditures differ significantly between the total economic value of retail and the amount available to circulate through the local economy. The nature of retail expenditures accounts for this difference. The model assumes that only the retail markup impacts the local economy, particularly for industries heavily populated with national firms such as gas stations and grocery stores. Since local stores buy goods from wholesalers and manufacturers outside of the area, and corporate profits also leave the local economy, only the retail markup will be available for distribution within the local economy. To the extent that retailers' headquarters are located within the county or region, the model allocates their portions of the impacts to the local economy.

- **Indirect Impacts.** The indirect impacts refer to the inter-industry impacts of the input-output analysis. Since IMPLAN is only used for the housing analysis for this report to assess the impacts of new resident household expenditures, there are no indirect impacts to assess as there are no industry expenditures as inputs to the model.

- **Induced Impacts.** The induced impacts refer to the impacts of household spending by the employees generated by the direct and indirect impacts. In other words, induced impacts result from the household spending of employees of business establishments that the new households patronize (direct) and their suppliers (indirect). The model accounts for local commute patterns in the geography. For example, if 20 percent of construction workers who work in the region live outside of the region, the model will allocate 80 percent of labor's disposable income into the model to generate induced impacts. The model excludes payments to federal and state taxes and savings based on the geography's average local tax and savings rates. Thus, only the disposable incomes from local workers are included in the model.

Specifying the "Event" and Running the Model

Once the model is built for the specified geographies, it is time to specify the "event" that the model will analyze and run the model.

Specifying the "Event." The "event" refers to the total economic value of industry output that we are interested in analyzing. In the case of the ongoing economic impacts of a new residential development, the "event" would be the total household incomes of the households that buy or rent the homes.

Running the Model. Once the event is specified, IMPLAN runs the event through the model to generate the results. IMPLAN applies the local data on average output per worker and compensation per worker to determine the direct impacts. It then applies the value of the event to the national production functions and runs a number of iterations of this value through the production functions for the local economy to determine the indirect and induced impacts. For each iteration, the model removes expenditures to government, savings, and for goods bought outside of the local economy so that the results only include those dollars that impact the local economy.

Summarizing the Impacts

Once the model is run, IMPLAN generates a series of output tables to show the direct, indirect, and induced impacts within each of the model's 536 sectors. IMPLAN generates these tables for three types of impacts: output, employment, and value added. This nexus study is concerned with the employment impacts.

- *Output* refers to the total economic value of the project in the local economy.
- *Employment* shows the number of employees needed to support the economic activity in the local economy. It should be noted that for annual impacts of ongoing operations, the employment figure shown represents the amount of employment needed to support that activity for a year. Furthermore, IMPLAN reports the number of jobs based on average output per employee for a given industry within the geography. This is not the same as the number of full-time positions.
- *Value Added* shows the total income that the event generates in the local economy. This income includes:
    - *Employee Compensation* – total payroll costs, including benefits
    - *Proprietary Income* – payments received by self-employed individuals as income
    - *Other Property Type Income* – payments for rents, royalties, and dividends
    - *Indirect Business Taxes* – excise taxes, property taxes, fees, and sales taxes paid by businesses. These taxes occur during the normal operation of businesses, but do not include taxes on profits or income.

Appendix H: Detailed Pro Forma Analysis for Residential Land Uses

APPENDIX H-1: MULTIFAMILY RENTAL PRO FORMAS

Key Development Assuptions		Alternative 1		Alternative 2		Alternative 3	
		Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Site Size (sf)		43,560	43,560	43,560	43,560	43,560	43,560
Less: Open Space (sf of site per unit) (a)	125	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Developed Footprint (sf)		38,560	38,560	38,560	38,560	38,560	38,560
Number of Units		80	80	80	80	80	80
Average Unit Size (mix of studios, 1s, 2s)		1,150	1,150	1,150	1,150	1,150	1,150
Net Residential Space (sf)		92,000	92,000	92,000	92,000	92,000	92,000
Common Area	15.0%	13,800	13,800	13,800	13,800	13,800	13,800
Total Residential Space (sf)		105,800	105,800	105,800	105,800	105,800	105,800
FAR		2.4	2.4	2.4	2.4	2.4	2.4
Parking Ratio (spaces per unit)		1.5	1.5	1.5	1.5	1.5	1.5
Number of Parking Spaces		120	120	120	120.00	120	120
Total Parking Garage (sf)	350	42,000	42,000	42,000	42,000	42,000	42,000
Number of Residential Floors		3	3	3	3	3	3
Total Number of Stories		1	1	1	1	1	1
Rents							
Average Rent per Unit		$ 2,500	$ 2,500	$ 3,200	$ 3,200	$ 3,800	$ 3,800
Development Costs							
Site Work		$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00
Hard Costs - Res (wood frame)		$ 175	$ 175	$ 175	$ 175	$ 210	$ 210
Parking Costs (per space)		$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000
Soft Costs exc Fees (as % of hard)		20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees							
Quimby/Park Fee per Unit (b)		$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000
School Fee per sq. ft. (c)		$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36
Residential Fee per sq. ft.		$ -	$ -	$ -	$ 18.00	$ -	$ 24.00
Residential Fee per unit		$ -	$ -	$ -	$ 23,805	$ -	$ 31,740
Financing Costs							
Loan to Cost Ratio		85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Interest Rate		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)		18	18	18	18	18	18
Avg. Outstanding Balance During Construction		60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Operations							
Vacancy		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
OpEx per unit		$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 9,500	$ 9,500
Cap Rate		6.0%	6.0%	5.0%	5.0%	5.0%	5.0%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Land	$ 4,000,000	$ 4,000,000	$ 6,000,000	$ 6,000,000	$ 8,000,000	$ 8,000,000
Land per Residential Unit	$ 50,000	$ 50,000	$ 75,000	$ 75,000	$ 100,000	$ 100,000
Land per Site sf	$ 91.83	$ 91.83	$ 137.74	$ 137.74	$ 183.65	$ 183.65
Construction Costs						
Site Work	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800
Hard Costs - Residential	$ 18,515,000	$ 18,515,000	$ 18,515,000	$ 18,515,000	$ 22,218,000	$ 22,218,000
Hard Costs - Parking	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000
Soft Costs	$ 4,346,560	$ 4,346,560	$ 4,346,560	$ 4,346,560	$ 5,087,160	$ 5,087,160
Quimby/Park Fee	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000
School Fee	$ 355,488	$ 355,488	$ 355,488	$ 355,488	$ 355,488	$ 355,488
Residential Linkage Fee	$ -	$ -	$ -	$ 1,904,400	$ -	$ 2,539,200
Subtotal Const Costs Before Financing	$ 26,834,848	$ 26,834,848	$ 26,834,848	$ 28,739,248	$ 31,278,448	$ 33,817,648
Financing Costs						
Points	$ 342,144	$ 342,144	$ 342,144	$ 366,425	$ 398,800	$ 431,175
Construction Period Interest	$ 2,358,866	$ 2,358,866	$ 2,511,866	$ 2,657,552	$ 3,004,801	$ 3,199,050
Subtotal Financing Costs	$ 2,701,010	$ 2,701,010	$ 2,854,010	$ 3,023,978	$ 3,403,601	$ 3,630,225
Total Development Costs	**$ 33,535,858**	**$ 33,535,858**	**$ 35,688,858**	**$ 37,763,226**	**$ 42,682,049**	**$ 45,447,873**
Total Development Cost per SF (excl land)	*$ 279*	*$ 279*	*$ 281*	*$ 300*	*$ 328*	*$ 354*
Total Development Cost per SF (inc. land)	*$ 317*	*$ 317*	*$ 337*	*$ 357*	*$ 403*	*$ 430*
Residential Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*5.0%*	*0.0%*	*5.6%*
Total Impact Fees as % of TDC	*2.3%*	*2.3%*	*2.1%*	*7.0%*	*1.8%*	*7.2%*
Valuation						
Operations						
Gross Income	$ 2,400,000	$ 2,400,000	$ 3,072,000	$ 3,072,000	$ 3,648,000	$ 3,648,000
Less: Vacancy	$ (120,000)	$ (120,000)	$ (153,600)	$ (153,600)	$ (182,400)	$ (182,400)
Less: Op Expenses	$ (640,000)	$ (640,000)	$ (640,000)	$ (640,000)	$ (760,000)	$ (760,000)
Net Operating Income (NOI)	$ 1,640,000	$ 1,640,000	$ 2,278,400	$ 2,278,400	$ 2,705,600	$ 2,705,600
Value at Stabilization	$ 27,333,333	$ 27,333,333	$ 45,568,000	$ 45,568,000	$ 54,112,000	$ 54,112,000
Return on Cost						
Value at Stabilization	$ 27,333,333	$ 27,333,333	$ 45,568,000	$ 45,568,000	$ 54,112,000	$ 54,112,000
Less: Total Development Costs	$ 33,535,858	$ 33,535,858	$ 35,688,858	$ 37,763,226	$ 42,682,049	$ 45,447,873
Profit	$ (6,202,525)	$ (6,202,525)	$ 9,879,142	$ 7,804,774	$ 11,429,951	$ 8,664,127
% Return on Cost	**-18.5%**	**-18.5%**	**27.7%**	**20.7%**	**26.8%**	**19.1%**
Yield on Cost (NOI/TDC)	**4.9%**	**4.9%**	**6.4%**	**6.0%**	**6.3%**	**6.0%**
Feasible? (d)	No	No	Yes	Yes	Yes	Yes

Notes:

a) Assumes 50% of open space requirement is satisfied on first floor as common open space, pursuant to LAMC Section 12.21G. The remaining open space requirement will be satisifed on private balconies and a roof top deck.

b) Proposed park fees under study by City Council are:

Quimby (for subdivisions)	$ 10,000	per dwelling unit
Park Facililties Fee (applicable to all rental units)	$ 5,000	per dwelling unit

c) School Fees for Residential

Current	$ 3.36	psf
Anticipated to Increase in Fall 2016	$ 3.54	psf

d) Project feasibility assumes a minimum return on cost of 15%
and a minimum yield on cost of 6%

APPENDIX H-2: CONDOMINIUM PRO FORMAS

Key Development Assuptions		Alternative 1		Alternative 2		Alternative 3	
		Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Site Size (sf)		43,560	43,560	43,560	43,560	43,560	43,560
Less: Open Space (sf of site per unit) (a)	125	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Developed Footprint (sf)		38,560	38,560	38,560	38,560	38,560	38,560
Number of Units		80	80	80	80	80	80
Average Unit Size (mix of studios, 1s, 2s)		1,485	1,485	1,485	1,485	1,485	1,485
Net Residential Space (sf)		118,800	118,800	118,800	118,800	118,800	118,800
Common Area	15.0%	17,820	17,820	17,820	17,820	17,820	17,820
Total Residential Space (sf)		136,620	136,620	136,620	136,620	136,620	136,620
FAR		3.1	3.1	3.1	3.1	3.1	3.1
Parking Ratio (spaces per unit)		1.5	1.5	1.5	1.5	1.5	1.5
Number of Parking Spaces		120	120	120	120.00	120	120
Total Parking Garage (sf)	350	42,000	42,000	42,000	42,000	42,000	42,000
Number of Residential Floors		4	4	4	4	4	4
Total Number of Stories (Parking)		1	1	1	1	1	1
Sales Price		3.54					
Average Sales Price PSF		$ 329	$ 329	$ 521	$ 521	$ 785	$ 785
Average Sales Price per Unit		488,565	488,565	773,685	773,685	1,165,725	1,165,725
Development Costs							
Site Work		$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00
Hard Costs		$ 185	$ 185	$ 200	$ 200	$ 310	$ 310
Parking Costs (per space)		$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000
Soft Costs exc Fees (as % of hard)		20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees							
Quimby/Park Fee per Unit (b)		$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000
School Fee per sq. ft. (c)		$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36
Residential Fee per sq. ft.		$ -	$ -	$ -	$ 22.00	$ -	$ 45.00
Residential Fee per unit		$ -	$ -	$ -	$ 37,571	$ -	$ 76,849
Financing Costs							
Loan to Cost Ratio		85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Interest Rate		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)		18	18	18	18	18	18
Avg. Outstanding Balance During Construction		60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Sales Assumptions							
Marketing Costs		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Land	$ 4,800,000	$ 4,800,000	$ 6,000,000	$ 6,000,000	$ 8,000,000	$ 8,000,000
Land per Residential Unit	$ 60,000	$ 60,000	$ 75,000	$ 75,000	$ 100,000	$ 100,000
Land per Site sf	$ 110.19	$ 110.19	$ 137.74	$ 137.74	$ 183.65	$ 183.65
Construction Costs						
Site Work	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800
Hard Costs - Residential	$ 25,274,700	$ 25,274,700	$ 27,324,000	$ 27,324,000	$ 42,352,200	$ 42,352,200
Hard Costs - Parking Garage	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000
Soft Costs	$ 5,698,500	$ 5,698,500	$ 6,108,360	$ 6,108,360	$ 9,114,000	$ 9,114,000
Quimby/Park Fee	$ 800,000	$ 800,000	$ 800,000	$ 800,000	$ 800,000	$ 800,000
School Fee	$ 459,043	$ 459,043	$ 459,043	$ 459,043	$ 459,043	$ 459,043
Residential Linkage Fee	$ -	$ -	$ -	$ 3,005,640	$ -	$ 6,147,900
Subtotal Const Costs Before Financing	$ 35,450,043	$ 35,450,043	$ 37,909,203	$ 40,914,843	$ 55,943,043	$ 62,090,943
Financing Costs						
Points	$ 451,988	$ 451,988	$ 483,342	$ 521,664	$ 713,274	$ 791,660
Construction Period Interest	$ 3,079,128	$ 3,079,128	$ 3,359,054	$ 3,588,986	$ 4,891,643	$ 5,361,957
Subtotal Financing Costs	$ 3,531,116	$ 3,531,116	$ 3,842,396	$ 4,110,650	$ 5,604,917	$ 6,153,617
Total Development Costs	**$ 43,781,160**	**$ 43,781,160**	**$ 47,751,600**	**$ 51,025,493**	**$ 69,547,960**	**$ 76,244,560**
Total Development Cost per SF (excl land)	*$ 285*	*$ 285*	*$ 306*	*$ 330*	*$ 451*	*$ 500*
Total Development Cost per SF (inc. land)	*$ 320*	*$ 320*	*$ 350*	*$ 373*	*$ 509*	*$ 558*
Residential Linkage Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*5.9%*	*0.0%*	*8.1%*
Total Impact Fees as % of TDC	*2.9%*	*2.9%*	*2.6%*	*8.4%*	*1.8%*	*9.7%*
Valuation						
Sales						
Condominium Sales	$ 39,085,200	$ 39,085,200	$ 61,894,800	$ 61,894,800	$ 93,258,000	$ 93,258,000
Less: Marketing Costs	$ (1,954,260)	$ (1,954,260)	$ (3,094,740)	$ (3,094,740)	$ (4,662,900)	$ (4,662,900)
Net Sales Revenue	$ 37,130,940	$ 37,130,940	$ 58,800,060	$ 58,800,060	$ 88,595,100	$ 88,595,100
Return on Cost						
Net Sales Revenue	$ 37,130,940	$ 37,130,940	$ 58,800,060	$ 58,800,060	$ 88,595,100	$ 88,595,100
Less: Total Development Costs	$ 43,781,160	$ 43,781,160	$ 47,751,600	$ 51,025,493	$ 69,547,960	$ 76,244,560
Profit	$ (6,650,220)	$ (6,650,220)	$ 11,048,460	$ 7,774,567	$ 19,047,140	$ 12,350,540
% Return on Cost	**-15.2%**	**-15.2%**	**23.1%**	**15.2%**	**27.4%**	**16.2%**
Feasible? (d)	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

Notes:

a) Assumes 50% of open space requirement is satisfied on first floor as common open space, pursuant to LAMC Section 12.21G.
The remaining open space requirement will be satisifed on private balconies and a roof top deck.

b) Proposed park fees under study by City Council are:

Quimby (for subdivisions)	$ 10,000	per dwelling unit
Park Facililties Fee (applicable to all rental units)	$ 5,000	per dwelling unit

c) School Fees for Residential

Current	$ 3.36	psf
Anticipated to Increase in Fall 2016	$ 3.54	psf

d) Project feasibility assumes a minimum return on cost of 15%

APPENDIX H-3: SINGLE-FAMILY ATTACHED PRO FORMAS

Key Development Assuptions	Alternative 1		Alternative 2		Alternative 3	
	Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Site Size (sf)	43,560	43,560	43,560	43,560	43,560	43,560
Minimum Lot Size (a)	3,000	3,000	3,000	3,000	3,000	3,000
Total Lots	14	14	14	14	14	14
Average SFR Size (sf)	1,650	1,650	1,650	1,650	1,650	1,650
Total Residential Space (sf)	23,100	23,100	23,100	23,100	23,100	23,100
Number of Residential Floors	2	2	2	2	2	2
FAR	0.5	0.5	0.5	0.5	0.5	0.5
Parking Ratio (spaces per unit) (parking in unit)	2.0	2.0	2.0	2.0	2.0	2.0
Number of Parking Spaces	28	28	28	28.00	28	28
Sales Price						
Average Sales Price PSF	$ 251	$ 251	$ 450	$ 450	$ 656	$ 656
Average Sales Price Per Unit	$ 414,150	$ 414,150	$ 742,500	$ 742,500	$ 1,082,400	$ 1,082,400
Development Costs						
Site Work	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00
Hard Costs - Res (wood frame)	$ 185	$ 185	$ 195	$ 195	$ 295	$ 295
Parking Costs (per space)	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Soft Costs exc Fees (as % of hard)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees						
Quimby/Park Fee per Unit (b)	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000
School Fee per sq. ft. (c)	$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36
Residential Fee per sq. ft.	$ -	$ -	$ -	$ 26.00	$ -	$ 32.00
Residential Fee per unit	$ -	$ -	$ -	$ 42,900	$ -	$ 52,800
Financing Costs						
Loan to Cost Ratio	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Interest Rate	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)	18	18	18	18	18	18
Avg. Outstanding Balance During Construction	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Sales Assumptions						
Marketing Costs	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Land	$ 1,050,000	$ 1,050,000	$ 1,400,000	$ 1,400,000	$ 2,100,000	$ 2,100,000
Land per Residential Unit	$ 75,000	$ 75,000	$ 100,000	$ 100,000	$ 150,000	$ 150,000
Land per Site sf	$ 24.10	$ 24.10	$ 32.14	$ 32.14	$ 48.21	$ 48.21
Construction Costs						
Site Work	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800
Hard Costs - Residential	$ 4,273,500	$ 4,273,500	$ 4,504,500	$ 4,504,500	$ 6,814,500	$ 6,814,500
Hard Costs - Parking (in unit)	$ -	$ -	$ -	$ -	$ -	$ -
Soft Costs	$ 898,260	$ 898,260	$ 944,460	$ 944,460	$ 1,406,460	$ 1,406,460
Quimby/Park Fee	$ 140,000	$ 140,000	$ 140,000	$ 140,000	$ 140,000	$ 140,000
School Fee	$ 77,616	$ 77,616	$ 77,616	$ 77,616	$ 77,616	$ 77,616
Residential Linkage Fee	$ -	$ -	$ -	$ 600,600	$ -	$ 739,200
Subtotal Const Costs Before Financing	$ 5,607,176	$ 5,607,176	$ 5,884,376	$ 6,484,976	$ 8,656,376	$ 9,395,576
Financing Costs						
Points	$ 71,491	$ 71,491	$ 75,026	$ 82,683	$ 110,369	$ 119,794
Construction Period Interest	$ 509,274	$ 509,274	$ 557,255	$ 603,201	$ 822,863	$ 879,412
Subtotal Financing Costs	$ 580,765	$ 580,765	$ 632,281	$ 685,884	$ 933,232	$ 999,205
Total Development Costs	**$ 7,237,941**	**$ 7,237,941**	**$ 7,916,657**	**$ 8,570,860**	**$ 11,689,608**	**$ 12,494,781**
Total Development Cost per SF (excl land)	*$ 268*	*$ 268*	*$ 282*	*$ 310*	*$ 415*	*$ 450*
Total Development Cost per SF (inc. land)	*$ 313*	*$ 313*	*$ 343*	*$ 371*	*$ 506*	*$ 541*
Residential Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*7.0%*	*0.0%*	*5.9%*
Total Impact Fees as % of TDC	*3.0%*	*3.0%*	*2.7%*	*9.5%*	*1.9%*	*7.7%*
Valuation						
Sales						
Sales	$ 5,798,100	$ 5,798,100	$ 10,395,000	$ 10,395,000	$ 15,153,600	$ 15,153,600
Less: Marketing Costs	$ (289,905)	$ (289,905)	$ (519,750)	$ (519,750)	$ (757,680)	$ (757,680)
Net Sales Revenue	$ 5,508,195	$ 5,508,195	$ 9,875,250	$ 9,875,250	$ 14,395,920	$ 14,395,920
Return on Cost						
Net Sales Revenue	$ 5,508,195	$ 5,508,195	$ 9,875,250	$ 9,875,250	$ 14,395,920	$ 14,395,920
Less: Total Development Costs	$ 7,237,941	$ 7,237,941	$ 7,916,657	$ 8,570,860	$ 11,689,608	$ 12,494,781
Profit	$ (1,729,746)	$ (1,729,746)	$ 1,958,593	$ 1,304,390	$ 2,706,312	$ 1,901,139
% Return on Cost	**-23.9%**	**-23.9%**	**24.7%**	**15.2%**	**23.2%**	**15.2%**
Feasible? (d)	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

Notes:

a) Assumes minimum associated with RD-3-1 zoning

The remaining open space requirement will be satisifed on private balconies and a roof top deck.

b) Current Quimby/Finn fees for parks only apply to projects with a zone change. This pro forma assumes no zone change.

b) Proposed park fees under study by City Council are:

Quimby (for subdivisions)	$ 10,000	per dwelling unit
Park Facililties Fee (applicable to all rental units)	$ 5,000	per dwelling unit

c) School Fees for Residential

Current	$ 3.36	psf
Anticipated to Increase in Fall 2016	$ 3.54	psf

d) Project feasibility assumes a minimum return on cost of 15%

APPENDIX H-4: SINGLE-FAMILY DETACHED PRO FORMAS

Key Development Assuptions	Alternative 1		Alternative 2		Alternative 3	
	Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Site Size (sf)	43,560	43,560	43,560	43,560	43,560	43,560
Minimum Lot Size (a)	5,000	5,000	5,000	5,000	5,000	5,000
Total Lots	8	8	8	8	8	8
Average SFR Size (sf)	3,000	3,000	3,000	3,000	3,000	3,000
Total Residential Space (sf)	24,000	24,000	24,000	24,000	24,000	24,000
Number of Residential Floors	2	2	2	2	2	2
FAR	0.6	0.6	0.6	0.6	0.6	0.6
Parking Ratio (spaces per unit) (parking in unit)	-	-	-	-	-	-
Number of Parking Spaces	-	-	-	-	-	-
Sales Price						
Average Sales Price PSF	$ 263	$ 263	$ 444	$ 444	$ 953	$ 953
Average Sales Price Per Unit	$ 789,000	$ 789,000	$ 1,332,000	$ 1,332,000	$ 2,859,000	$ 2,859,000
Development Costs						
Site Work	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00
Hard Costs	$ 165	$ 165	$ 185	$ 185	$ 250	$ 250
Parking Costs (per space)	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Soft Costs exc Fees (as % of hard)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Impact Fees						
Quimby/Park Fee per Unit (b)	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000
School Fee (c)	$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36	$ 3.36
Residential Fee per sq. ft.	$ -	$ -	$ -	$ 31.00	$ -	$ 48.63
Residential Fee per unit	$ -	$ -	$ -	$ 93,000	$ -	$ 145,890
Financing Costs						
Loan to Cost Ratio	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Interest Rate	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Loan Fees	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Construction Period (months)	18	18	18	18	18	18
Avg. Outstanding Balance During Construction	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Sales Assumptions						
Marketing Costs	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Development Costs	Alternative 1		Alternative 2		Alternative 3	
	Low Market Baseline	Low Market with Res. Linkage Fee	Moderate Market Baseline	Moderate Market with Res. Linkage Fee	Strong Market Baseline	Strong Market with Res. Linkage Fee
Land	$ 800,000	$ 800,000	$ 1,600,000	$ 1,600,000	$ 3,200,000	$ 3,200,000
Land per Residential Unit	$ 100,000	$ 100,000	$ 200,000	$ 200,000	$ 400,000	$ 400,000
Land per Site sf	$ 18.37	$ 18.37	$ 36.73	$ 36.73	$ 73.46	$ 73.46
Construction Costs						
Site Work	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800	$ 217,800
Hard Costs - Residential	$ 3,960,000	$ 3,960,000	$ 4,440,000	$ 4,440,000	$ 6,000,000	$ 6,000,000
Hard Costs - Parking (in unit)	$ -	$ -	$ -	$ -	$ -	$ -
Soft Costs	$ 835,560	$ 835,560	$ 931,560	$ 931,560	$ 1,243,560	$ 1,243,560
Quimby/Park Fee	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000
School Fee	$ 80,640	$ 80,640	$ 80,640	$ 80,640	$ 80,640	$ 80,640
Residential Linkage Fee	$ -	$ -	$ -	$ 744,000	$ -	$ 1,167,120
Subtotal Const Costs Before Financing	$ 5,174,000	$ 5,174,000	$ 5,750,000	$ 6,494,000	$ 7,622,000	$ 8,789,120
Financing Costs						
Points	$ 65,969	$ 65,969	$ 73,313	$ 82,799	$ 97,181	$ 112,061
Construction Period Interest	$ 457,011	$ 457,011	$ 562,275	$ 619,191	$ 827,883	$ 917,168
Subtotal Financing Costs	$ 522,980	$ 522,980	$ 635,588	$ 701,990	$ 925,064	$ 1,029,229
Total Development Costs	**$ 6,496,980**	**$ 6,496,980**	**$ 7,985,588**	**$ 8,795,990**	**$ 11,747,064**	**$ 13,018,349**
Total Development Cost per SF (excl land)	*$ 237*	*$ 237*	*$ 266*	*$ 300*	*$ 356*	*$ 409*
Total Development Cost per SF (inc. land)	*$ 271*	*$ 271*	*$ 333*	*$ 366*	*$ 489*	*$ 542*
Residential Linkage Fee as % of TDC	*0.0%*	*0.0%*	*0.0%*	*8.5%*	*0.0%*	*9.0%*
Total Impact Fees as % of TDC	*2.5%*	*2.5%*	*2.0%*	*10.3%*	*1.4%*	*10.2%*
Valuation						
Sales						
Sales	$ 6,312,000	$ 6,312,000	$ 10,656,000	$ 10,656,000	$ 22,872,000	$ 22,872,000
Less: Marketing Costs	$ (315,600)	$ (315,600)	$ (532,800)	$ (532,800)	$ (1,143,600)	$ (1,143,600)
Net Sales Revenue	$ 5,996,400	$ 5,996,400	$ 10,123,200	$ 10,123,200	$ 21,728,400	$ 21,728,400
Return on Cost						
Net Sales Revenue	$ 5,996,400	$ 5,996,400	$ 10,123,200	$ 10,123,200	$ 21,728,400	$ 21,728,400
Less: Total Development Costs	$ 6,496,980	$ 6,496,980	$ 7,985,588	$ 8,795,990	$ 11,747,064	$ 13,018,349
Profit	$ (500,580)	$ (500,580)	$ 2,137,613	$ 1,327,211	$ 9,981,337	$ 8,710,051
% Return on Cost	**-7.7%**	**-7.7%**	**26.8%**	**15.1%**	**85.0%**	**66.9%**
Feasible? (d)	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**
Cost per unit	$ 812,122	$ 812,122	$ 998,198	$ 1,099,499	$ 1,468,383	$ 1,627,294

Notes:

a) Assumes RD-1.5-1 zoning

The remaining open space requirement will be satisifed on private balconies and a roof top deck.

b) Proposed park fees under study by City Council are:

Quimby (for subdivisions)	$ 10,000	per dwelling unit
Park Facililties Fee (applicable to all rental units)	$ 5,000	per dwelling unit

c) School Fees for Residential

Current	$ 3.36	psf
Anticipated to Increase in Fall 2016	$ 3.54	psf

d) Project feasibility assumes a minimum return on cost of 15%

Appendix I: Minimum Wage Analysis

This appendix provides additional detail on the methodology and calculations that supported the analysis of the potential impacts of the future increase in the City of Los Angeles minimum wage, as summarized in the body of this report. In summary, BAE analyzed the potential impacts of the minimum wage increase by determining the household AMI levels for workers that will earn the new minimum wage and adjusting the household income distribution among the workers generated by each residential or commercial land use type accordingly. BAE then re-calculated the maximum fee based on the adjusted household income distribution. The detailed steps and calculation tables are discussed below.

Step 1: Determine AMI bands for households with workers earning the new minimum wage

Step 1A: Discount the minimum wage to 2016 dollars

Since the full $15 minimum wage will take effect beginning in 2020 (2021 for some employers), this analysis is based on an estimate of the $15 hourly wage in current (2016) dollars. Although the $15 minimum wage will take full effect with all employers in 2021, this analysis discounts the $15 wage assuming implementation in 2020, when it will apply to the majority of employers. Assuming three percent annual inflation, $15 in 2020 is equivalent to approximately $13.33 in 2016 dollars.

Step 1B: Calculate the annual household income for workers earning the new minimum wage

Assuming full-time employment, the discounted 2020 minimum wage would result in an annual income of approximately $27,700 ($13.33 per hour x 2,080 work hours per year) in 2016 dollars, as shown below. According to the US Census American Community Survey, as of 2014 the City of Los Angeles had 1,849,845 workers living in households and 1,047,928 households with at least one worker, averaging approximately 1.77 workers per household with workers. Therefore, this analysis uses an average of 1.77 workers per worker household to calculate household income among minimum wage workers, resulting in an annual worker household income equal to approximately $48,900.

Step 1C: Determine the AMI level for minimum wage worker households

According to 2016 HCD income limits for a household in Los Angeles County, a household earning the annual income derived in Step 1B ($48,900 per year) falls within the low-income AMI band for any household size from two to five people. Accordingly, this analysis places minimum wage worker households into the low-income AMI band.

TABLE I-1: HOUSEHOLD INCOME AT INCREASED MINIMUM WAGE, LOS ANGELES, 2020

2020 Minimum Hourly Wage (Nominal) (a)	$15
2020 Minimum Hourly Wage in 2016 $ (b)	$13
Annual Worker Income at Minimum Wage (2016 $) (c)	$27,721
Minimum Wage Worker Household Income (2016 $) (d)	$48,934
Minimum Wage Worker Household Income Level (e)	Low Income

Notes:
(a) 2020 Minimum Wage for businesses with 26 or more employees per City of Los Angeles Minimum Wage Ordinance. The mimimum wage for businesses with 25 or fewer employees will increase to $15 per hour in 2021.
(b) Assumes 3% annual inflation.
(c) Assumes 2080 work hours per year (40 hrs per week x 52 weeks per year).
(d) Average number of workers per worker household calculated for Los Angeles County based on American Community Community Survey data, 2010-2014.

Total Workers	1,849,845
Total Households with Workers	1,047,928
Avg. Workers per Household	*1.765*

(e) Based on 2016 HCD income limits for a 3-person household.
Sources: City of Los Angeles, 2016; ACS, 2010-2014; CA Dept. of Housing and Community Development, 2016; BAE, 2016.

Step 2: Adjust the household income distribution for workers generated by new development.

The findings from Step 1 indicate that all worker households that fall into the extremely low- or very low-income AMI bands under current minimum wage requirements would fall into the low-income AMI band following an increase in the minimum wage to $15 in 2020. As a result, all of the extremely low- and low-income housing need generated by the eight commercial land use types and the four residential product types analyzed in the Nexus Study would instead constitute low-income housing need.

Accordingly, in Step 2 of the minimum wage analysis, BAE adjusted the income distribution among the worker households generated by each commercial and residential land use type (from Step 6 in the commercial maximum fee calculations and Step 5 in the residential maximum fee calculations) by moving all extremely low- and very low-income households into the low-income AMI band. The resulting household income distributions are shown below.

Step 3: Re-calculate the maximum legal fees using the adjusted AMI distributions

Step 2 results in an income distribution that shows a reduction in extremely low- and very low-income households (to zero) and a commensurate increase in low-income households. As shown in Step 7 of the commercial and residential maximum fee calculations in the body of this report, the subsidy gap for low-income units is smaller than the subsidy gap for extremely low- or very low-income units. Consequently, the cost associated with providing housing for households below the moderate income level decreases as extremely low- and very low-income households shift to become low-income households as discussed in Step 2 above. The lower per-unit cost associated with housing low-income households as compared to

extremely low- and very low-income households results in a lower maximum legal fee under the new minimum wage requirements. The adjusted fee calculations are shown below.

APPENDIX I-2: MAXIMUM COMMERCIAL LINKAGE FEES PER NEW CITY MINIMUM WAGE, LA, 2016

Affordable Housing Need	Office	Creative Office	Retail	Hotel/ Motel	Industrial	Institutional	Medical & Social Assistance	Construction, Warehousing, & Wholesale Trade
Extremely Low Income (up to 30% AMI)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Very Low Income (31-50% AMI)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Low Income (51-80% AMI)	61.4	44.5	73.9	31.5	31.3	45.9	46.2	28.1
Moderate Income (81-120% AMI)	9.1	8.1	8.1	4.2	3.9	6.8	7.0	3.3
Total Affordable Housing Need	70.5	52.6	82.0	35.7	35.3	52.7	53.2	31.4
Financing Gap (a)								
Extremely Low Income Units	$0	$0	$0	$0	$0	$0	$0	$0
Very Low Income Units	$0	$0	$0	$0	$0	$0	$0	$0
Low Income Units	$19,704,956	$14,300,108	$23,747,066	$10,114,661	$10,055,821	$14,748,770	$14,835,009	$9,010,563
Moderate Income Units	$2,695,275	$2,398,078	$2,392,525	$1,240,985	$1,167,458	$2,017,919	$2,067,181	$983,651
Total Financing Gap	**$22,400,231**	**$16,698,186**	**$26,139,592**	**$11,355,646**	**$11,223,278**	**$16,766,688**	**$16,902,190**	**$9,994,214**
Maximum Impact Fee per Sq. Ft.	**$224.00**	**$166.98**	**$261.40**	**$113.56**	**$112.23**	**$167.67**	**$169.02**	**$99.94**
Assumptions								
Building Size	100,000							
Financing Gap								
Extremely Low Income Units	$448,500							
Very Low Income Units	$399,600							
Low Income Units	$321,129							
Moderate Income Units	$296,199							

Note:
(a) The financing gap is calculated by multiplying the number of employee households at each income level by the financing gap per unit (from Step 7 of the commercial maximum fee calculation) at each affordability level.
Source: BAE, 2016.

APPENDIX I-3: MAXIMUM RESIDENTIAL IMPACT FEES PER NEW CITY MINIMUM WAGE, LA 2016

Employee Households in City by Income Level	Multifamily Rental	Condominium	Single-Family Attached	Single-Family Detached
Extremely Low Income (up to 30% AMI)	0.0	0.0	0.0	0.0
Very Low Income (31-50% AMI)	0.0	0.0	0.0	0.0
Low Income (51-80% AMI)	20.1	22.6	16.6	34.6
Moderate Income (81-120% AMI)	2.6	2.9	2.1	4.5
Subtotal - Affordable Housing Need (Units)	***22.8***	***25.6***	***18.7***	***39.1***
Above Moderate Income (over 120% AMI)	19.7	22.0	16.1	33.5
Total Housing Need	**42.5**	**47.6**	**34.8**	**72.5**
Financing Gap (a)				
Extremely Low Income Units	$0	$0	$0	$0
Very Low Income Units	$0	$0	$0	$0
Low Income Units	$6,468,714	$7,271,117	$5,322,875	$11,110,478
Moderate Income Units	$774,962	$867,372	$634,966	$1,323,442
Total Financing Gap per 100 Units	**$7,243,676**	**$8,138,489**	**$5,957,841**	**$12,433,919**
Maximum Impact Fee per Unit	**$72,437**	**$81,385**	**$59,578**	**$124,339**
Assumptions				
Building Size (# of units)	100			

Note:
(a) The financing gap is calculated by multiplying the number of employee housesholds at each income level by the financing gap per unit (from Step 7 of the residential maximum fee calculation) at each affordability level.
Source: BAE, 2016.

Att. K

STRATEGICECONOMICS

COMMERCIAL LINKAGE FEE NEXUS AND FEASIBILITY STUDY

DRAFT REPORT

Prepared for:
City of Santa Rosa
May 2019

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I. EXECUTIVE SUMMARY

Introduction

The City of Santa Rosa is considering implementing a commercial linkage fee on new development projects. The purpose of this fee is to mitigate the impact of new market rate development on the demand for affordable housing. When a city or county adopts a development impact fee, it must establish a reasonable relationship or connection between the development project and the fee that is charged. Studies undertaken to demonstrate this connection are called nexus studies. This nexus study quantifies the connection between the development of market rate commercial space and the demand for affordable housing units.

This commercial linkage fee nexus study quantifies the connection between the development of commercial hotel, retail/restaurants/services, and business park/light industrial projects and the demand for affordable housing units. The study also considers feasibility and other policy implications of implementing an impact fee.

Report Organization

This executive summary highlights the study's approach, the results of the analysis, and recommendations. Subsequent chapters provide more detailed information on the data sources, methodology used in this analysis, and study findings.

The report is organized into five sections, an appendix, and a glossary of terms. Following this Executive Summary, Section II provides an introduction to the purpose of the study, and an overview of the nexus concept. Section III provides a detailed description of the methodology and the results of the maximum fee calculation. Section IV discusses financial feasibility testing of the maximum justified fee and other fee scenarios. Section V discusses other policy considerations that jurisdictions typically weigh before implementing a nexus fee and provides implementation options for the City of Santa Rosa.

Nexus Analysis Methodology and Results

This nexus study uses a 5 – step methodology to calculate the maximum legal fee charged on new commercial development for affordable housing. This section summarizes the steps taken to calculate the nexus-based maximum fee amount per rentable square foot of new commercial space. More detail on each step can be found in later sections of this report.

Step 1: Establish commercial prototypes representing typical commercial development in Santa Rosa.

The first step in the nexus study is to identify commercial prototypes. The prototypes used in this study are not intended to represent specific development projects; rather, they represent commercial development recently constructed or proposed in Santa Rosa. This study examined the jobs-housing linkage for three commercial development prototypes, shown in Figure 1.

FIGURE 1: COMMERCIAL PROTOTYPES

	Hotel	Retail/ Restaurants/ Services	Business Park/ Light Industrial
Gross Building Area (SF)	100,000	100,000	100,000
Efficiency Ratio (a)	N/A	0.95	0.95
Net Leasable Sq. Ft. (NSF)	N/A	95,000	95,000
Hotel Rooms	175		
Net Leasable Office Area (SF)			4,750
Parking Ratio (per Room/1000 SF)	1	4	3
Parking Spaces	175	400	300
Floor Area Ratio	1.0	0.2	0.4
Land Area (Acres)	2.3	11.5	5.7
Land Area (SF)	100,000	500,000	250,000

Notes:
(a) Refers to ratio of gross building area to net leasable area. An efficiency ratio of 0.95 means that 95% of the gross building area is leasable.
(b) The floor-area-ratio (FAR) is often used as a measure of density. In this analysis, it is calculated as the gross building area divided by the total land area.
Source: City of Santa Rosa, 2018; Strategic Economics, 2019.

Step 2: Estimate the number of workers that will work in the new commercial space.

The next step is to calculate the number of workers associated with each building prototype. These estimates are based on a review of national survey data for existing commercial buildings, as well as from recently completed linkage fee nexus studies in the Bay Area. These density factors represent the average density for the prototypes. The density factors were multiplied by the building size (100,000 square feet) to calculate the total number of workers occupying each commercial prototype, as shown in Figure 2.

FIGURE 2: EMPLOYMENT DENSITY AND NUMBER OF WORKERS BY PROTOTYPE

Commercial Prototype	Prototype Size (SF)	Average Density (SF per Worker)	Number of Workers in Prototype
Hotel	100,000	1,000	100
Retail/Restaurant/Services	100,000	300	333
Business Park/Light Industrial	100,000	350	286

Sources: Vallen and Vallen, "Chapter 1: The Traditional Hotel Industry," Check-In, Check-Out, 2012; Sonoma County Housing Needs Study, Economic & Planning Systems, 2006; A.C. Nelson, "Reshaping Metropolitan America," 2013; Jobs Housing Impact Fee Draft Nexus Study: City of Napa, CA, Vernazza Wolfe Associates Inc., 2011; City of Santa Rosa, 2018; Strategic Economics, 2019.

Step 3: Estimate Worker Household Incomes.

Next, the wages of workers who would be employed in the commercial prototypes were estimated. This step determines the proportion of households eligible for affordable housing. Estimating worker household incomes involves the following 4 steps:

A. Establish a list of industries and occupations associated with each prototype.

B. Estimate worker wages.

C. Convert worker wages to household incomes.

D. Determine the number of worker households eligible for affordable housing.

Figure 3 shows the number of households in four income categories by prototype.

FIGURE 3: NUMBER OF WORKER HOUSEHOLDS BY INCOME CATEGORY

Prototype	Number of Employee Households
Hotel	
Very Low Income (<=50% AMI)	2.4
Low Income (51-80% AMI)	45.6
Moderate Income (81-120% AMI)	8.0
Above Moderate (>120%)	6.5
Total	**62.4**
Retail/Restaurant/Personal Services	
Very Low Income (<=50% AMI)	65.8
Low Income (51-80% AMI)	125.4
Moderate Income (81-120% AMI)	9.9
Above Moderate (>120%)	7.0
Total	**208.1**
Business Park/Light Industrial	
Very Low Income (<=50% AMI)	0.6
Low Income (51-80% AMI)	48.8
Moderate Income (81-120% AMI)	51.6
Above Moderate (>120%)	77.4
Total	**178.4**

Sources: Strategic Economics, 2019.

Step 4: Calculate the affordability gap for new, lower income households.

The fourth step is to calculate the housing affordability gap. The housing affordability gap is defined as the difference between what very low, low, and moderate-income households can afford to pay for housing, and the cost to develop new, modest housing units. Calculating the housing affordability gap involves the following three steps:

A. Estimate affordable rents and housing prices for very low, low, and moderate-income households.

B. Estimate development costs of building new, modest housing units, based on current construction and land cost data.

C. Calculate the difference between what renters and owners can afford to pay for housing and the cost of development of rental and ownership units.

Figure 4 shows estimates of the housing affordability gap for very low, low, and moderate-income households.

FIGURE 4: AVERAGE AFFORDABILITY GAP BY INCOME GROUP

Income Level	Rental Gap	Ownership Gap	Average Affordability Gap
Very Low-Income (<=50% AMI)	$210,392	N/A	$210,392
Low-Income (50% - 80% AMI)	$133,981	N/A	$133,981
Moderate-Income (80% - 120% AMI)	$75,924	$82,003	$78,963

Source: Strategic Economics, 2019.

Step 5: Calculate maximum commercial linkage fee for each prototype.

Finally, the maximum commercial linkage fee for each prototype was derived by multiplying the total number of very low, low, and moderate- income new worker households for each prototype (calculated in Step 3), by the corresponding affordable housing gap figure (calculated in Step 4). The total affordability gap was then divided by 100,000 SF, the size of each commercial prototype, to generate a maximum fee per square foot.

Figure 5 presents the results of the linkage fee calculations for each prototype.

FIGURE 5: MAXIMUM COMMERCIAL LINKAGE FEES

	Worker Households Requiring Affordable Housing	Affordability Gap for All New Worker Households	Size of Prototype (SF)	Maximum Fee per SF
Hotel	56	$7,513,688	100,000	$75
Retail/Restaurants/Personal Services	204	$32,015,109	100,000	$320
Business Park/Light Industrial	102	$11,357,815	100,000	$114

Source: Strategic Economics, 2019.

Policy and Feasibility Considerations

There are a number of policy considerations jurisdictions take into account when they consider a new commercial linkage fee. These may include factors such as:

- Development feasibility.
- Total development costs.
- Comparison to neighboring jurisdictions.
- The fee's role in the City's overall strategy for affordable housing implementation.

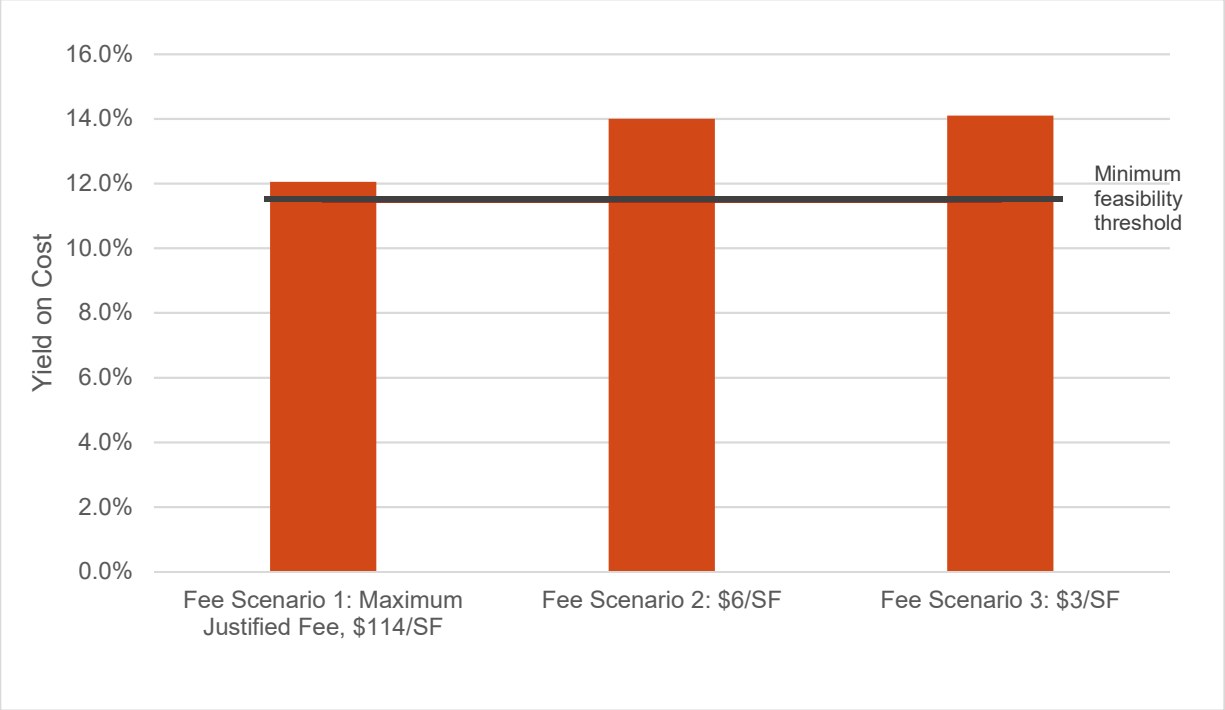
Financial Feasibility

Financial feasibility is just one of several factors to consider in making a decision regarding a potential nexus fee. In order to provide Santa Rosa with guidance on how proposed fees could impact

development decisions, the Consultant Team conducted a pro forma analysis that tested the financial impact of the maximum and reduced fee scenarios for each prototype.

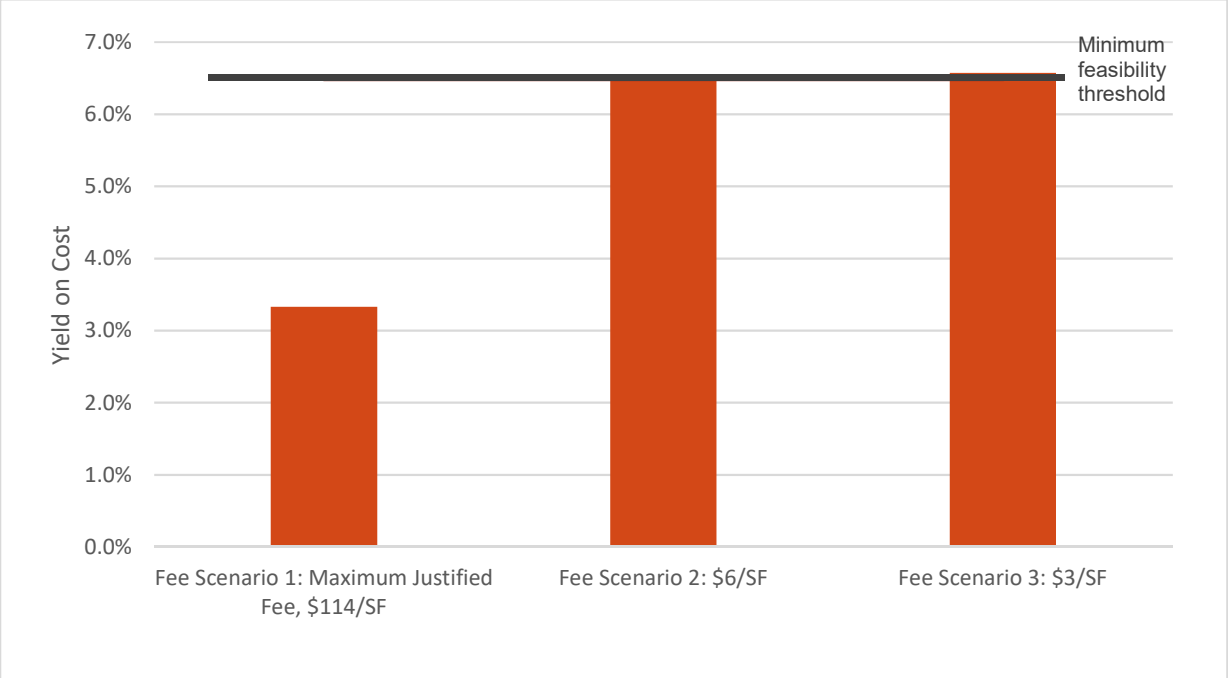
- **Hotel:** The feasibility analysis indicates that under current economic conditions, the maximum justified fee ($75 per square foot) meets the required threshold (11.5%-13.5%) for financial feasibility as do two reduced fee levels of $6 and $3 per square foot (Figure 6).
- **Retail/Restaurants/Services:** The feasibility analysis indicates that under current economic conditions, the maximum justified fee ($320 per square foot) does not meet the required threshold (6.5%-7.5%) for financial feasibility, but reduced fee levels of $6 and $3 per square foot do marginally meet the minimum feasibility threshold (Figure 7).
- **Business Park/Light Industrial:** The feasibility analysis indicates that under current economic conditions, the maximum justified fee ($114 per square foot) does not meet the required threshold (6.0%-7.0%) for financial feasibility, but reduced fee levels of $6 and $3 per square foot do marginally meet the minimum feasibility threshold (Figure 8).

FIGURE 6: FEASIBILITY RESULTS, HOTEL PROTOTYPE



Source: Strategic Economics, 2019.

FIGURE 7: FEASIBILITY RESULTS, RETAIL/RESTAURANTS/SERVICES PROTOTYPE



Source: Strategic Economics, 2019.

FIGURE 8: FEASIBILITY RESULTS, BUSINESS PARK/LIGHT INDUSTRIAL PROTOTYPE



Source: Strategic Economics, 2019.

Total Development Cost

Currently, the total development costs (including building and onsite improvements, land, parking, indirect costs, financing costs, developer overhead, and existing fees) are $423 per square foot for the hotel prototype, $323 per net square foot for the retail/restaurant/services prototype, and $125 per net square foot for the business park/light industrial prototype. The addition of the maximum housing impact fees would represent 15 percent, 50 percent, and 48 percent of total development cost of the hotel, retail/restaurant/services, and business park/light industrial prototypes, respectively. A fee of $6 per square foot represents 1.4 percent, 1.8 percent, and 4.6 percent of total development cost of the hotel, retail/restaurant/services, and business park/light industrial prototypes, respectively, and a fee of $3 per square foot represents 0.7 percent, 0.9 percent, and 2.3 percent of total development cost of the hotel, retail/restaurant/services, and business park/light industrial prototypes, respectively.

Comparison to Neighboring Jurisdictions

A comparison to current commercial linkage fees charged in nearby or comparison cities can be a helpful consideration. Figure 9 provides available information on commercial linkage fees to compare Santa Rosa's potential fee scenarios to existing fees in selected jurisdictions.

If the maximum commercial linkage fees calculated for Santa Rosa were adopted, they would significantly exceed the fees charged in neighboring and comparison jurisdictions, as listed in Figure 9. Current fees in neighboring and comparison jurisdictions range from $0.69 per square foot for hotel in Rohnert Park to $6.00 per square foot for hotel in Fremont and Napa and for retail uses in Fremont.

The recommended fee level of $3 per square foot is comparable to or lower than the fees in place in several jurisdictions including Cotati, Napa, Petaluma, Pleasanton, and Sonoma County.

FIGURE 9: EXISTING COMMERCIAL LINKAGE FEES IN SELECTED CITIES

City/County	Hotel	Retail/Restaurant/ Personal Services	Business Park/Light Industrial
Berkeley	$4.50	$4.50	$2.25
Cotati	$2.08	$3.59	$2.15
Fremont	$6.00	$6.00	$3.00
Napa	$6.00	$3.55	$3.50
Petaluma	$2.42	$4.17	$2.49
Pleasanton	$3.15	$3.15	$3.15
Rohnert Park	$0.69	$1.19	$0.71
San Rafael	$1.91	$5.73	$4.14
Sonoma County	$2.92	$5.05	$3.01

Source: Strategic Economics, 2019.

Implementation Options and Recommendations

This study finds the maximum justified linkage fees are $75 per square foot for hotel, $320 per square foot for retail/ restaurants/ services, and $114 per square foot for business park/light industrial.

If Santa Rosa elects to impose a new commercial linkage fee, the recommended fee level is $3 per square foot for the three land uses. These recommendations are based on the findings of the financial feasibility analysis, a comparison of fees in neighboring jurisdictions, and other factors as explained in the Policy Considerations section, above. The recommended fee levels are shown in Figure 10.

FIGURE 10: RECOMMENDED LINKAGE FEES BY COMMERCIAL PROTOTYPE

Prototype	Maximum Fee per SF	Recommended Fee per SF
Hotel	$75	$3
Retail/Restaurants/Personal Services	$320	$3
Business Park/Light Industrial	$114	$3

Sources: Strategic Economics, 2019.

II. INTRODUCTION

The City of Santa Rosa is considering implementing a commercial linkage fee charged on new retail, hotel, and light industrial/ business park development projects. The purpose of a commercial linkage fee is to mitigate the impact of new commercial development on the demand for affordable housing from new workers.

When a city or county adopts a commercial linkage fee, it must establish a reasonable relationship or connection between the development project and the fee that is charged. Studies undertaken to demonstrate this connection are called nexus studies. The nexus study quantifies the connection between new commercial development and the demand for affordable housing units.

Background

For more than thirty years, California cities and counties have imposed commercial linkage fees on new, non-residential developments. Linkage fees are one of several funding sources that jurisdictions can use to help meet the affordable housing needs of new workers. Commercial linkage fees and other impact fees have been a common practice and deemed legally defensible following landmark cases such as *Ehrlich v. Culver City* in 1996, in which the California Supreme Court established that exactions on developers were permissible provided that the exaction amount bear a reasonable relationship to, and reflect the magnitude of, the impact of the development on the community.

The funds raised by the linkage fees are deposited into a housing fund specifically reserved for use by a local jurisdiction to increase the supply of affordable housing for the workforce. Many municipalities offer alternative means of complying with their fee requirements, such as allowing developers to provide affordable units as a part of their development or dedicate land for affordable housing.

Santa Rosa does not currently have a commercial linkage fee in place. The purpose of this study is to provide the necessary nexus analysis for commercial linkage fees should Santa Rosa decide to adopt them.

The Nexus Concept

This commercial linkage fee nexus study establishes and quantifies the linkages or “nexus” between new commercial development and the need for additional housing affordable for new workers.

Growth in employment will provide jobs at various wage rates. While some jobs will pay salaries that will allow new workers to rent or purchase market rate housing, others will provide lower wages. Some of the new workers will have household incomes low enough to qualify them for income-restricted affordable housing. Given this, there may be an affordability gap between what worker households can afford to pay for housing, and what the actual costs of new housing may be. This study quantifies the demand for very low income, low income, and moderate income housing that is created by new development of commercial buildings. In order to adopt a commercial linkage fee, a nexus study is required to determine the reasonable relationship between the fee's use and the impact of the development project on which the fee is imposed.

The nexus analysis presented in this study is designed to define an upper limit for a commercial linkage fee to be charged on new commercial development to mitigate impacts on affordable housing needs. The maximum fee is not necessarily the recommended fee. Subsequent sections of this report address

additional policy considerations when adopting a commercial linkage fee quantify the increase in demand for affordable housing that accompanies new non-residential development.

III. CALCULATION OF THE NEXUS FEE

This commercial linkage nexus study uses a 5 – step methodology to calculate the maximum justified fee on new commercial development for affordable housing. This section describes the steps taken to calculate the nexus-based maximum fee amount per square foot.

Step 1: Establish the Commercial Prototypes

The first step in this study is to identify commercial prototypes. They are not intended to represent specific development projects; rather, the prototypes used in this study represent commercial development recently constructed or proposed in Santa Rosa. This study examined the jobs-housing linkage for three commercial development prototypes, which are described below and shown in Figure 11.

- **Hotel:** This building prototype includes full-service hotels, limited-service hotels, motels, and other lodging.

- **Retail/Restaurants/Services:** This building prototype includes a broad range of buildings, including retail stores, restaurants, and personal care spaces accommodating businesses like nail salons and dry cleaners.

- **Business Park/Light Industrial:** This building prototype could include a wide range of light industrial, office, and R&D users, including open floor-plan offices, medical offices, and cannabis-related uses found in Sonoma County.

The prototypes defined above represent the types of new commercial buildings recently constructed or proposed in Santa Rosa. Each prototype was assumed to be 100,000 square feet in size. This building size is not intended to represent the size of actual projects being built in Santa Rosa. Many linkage fee nexus studies use 100,000 square feet because it can easily be converted into per-square-foot calculations. The per-square-foot linkage fee can be applied to a project of any size.

FIGURE 11: COMMERCIAL PROTOTYPES

	Hotel	Retail/ Restaurants/ Services	Business Park/ Light Industrial
Gross Building Area (SF)	100,000	100,000	100,000
Efficiency Ratio (a)	N/A	0.95	0.95
Net Leasable Sq. Ft. (NSF)	N/A	95,000	95,000
Hotel Rooms	175		
Net Leasable Office Area (SF)			4,750
Parking Ratio (per Room/1000 SF)	1	4	3
Parking Spaces	175	400	300
Floor Area Ratio	1.0	0.2	0.4
Land Area (Acres)	2.3	11.5	5.7
Land Area (SF)	100,000	500,000	250,000

Notes:
(a) Refers to ratio of gross building area to net leasable area. An efficiency ratio of 0.95 means that 95% of the gross building area is leasable.
(b) The floor-area-ratio (FAR) is often used as a measure of density. In this analysis, it is calculated as the gross building area divided by the total land area.
Source: Strategic Economics, 2019.

Step 2. Estimate the Number of Workers

The next step is to calculate the number of workers associated with each building prototype. These estimates are based on a review of national survey data for existing commercial buildings, as well as from recently completed linkage fee nexus studies in the Bay Area.

The employment densities assumed for each prototype are described below. These density factors represent the average density for the prototypes; specific employment densities for development projects may vary. The density factors were multiplied by the building size (100,000 square feet) to calculate the total number of workers occupying each commercial prototype, as shown in Figure 12.

- **Hotel:** The hotel employment density assumption is 1,000 square feet per worker (or 1 worker per room, assuming an average of 1,000 gross square feet per room[1]). For a 100,000-square-foot hotel, this density assumption results in a total number of 100 workers.

- **Retail/Restaurants/Services:** The average density for retail/restaurants/services is estimated at 300 square feet of space per worker. Using this density, the number of workers in a 100,000 square foot prototype is estimated at 333.

- **Business Park/Light Industrial:** The average density assumption for business park/light industrial is estimated at 350 square feet per worker. The resulting number of total workers in this prototype is estimated at 286.

FIGURE 12: EMPLOYMENT DENSITY AND NUMBER OF WORKERS BY PROTOTYPE

Commercial Prototype	Prototype Size (SF)	Average Density (SF per Worker)	Number of Workers in Prototype
Hotel	100,000	1,000	100
Retail/Restaurant/Personal Services	100,000	300	333
Business Park/Light Industrial	100,000	350	286

Sources: Vallen and Vallen, "Chapter 1: The Traditional Hotel Industry," Check-In, Check-Out, 2012; Sonoma County Housing Needs Study, Economic & Planning Systems, 2006; A.C. Nelson, "Reshaping Metropolitan America," 2013; Jobs Housing Impact Fee Draft Nexus Study: City of Napa, CA, Vernazza Wolfe Associates Inc., 2011; City of Santa Rosa; Strategic Economics, 2019.

1 Gross square footage includes restaurants, conference facilities, gyms, business centers, and other hotel facilities.

Step 3. Estimate Worker Household Incomes

Next, the wages of workers who would be employed in the commercial prototypes were estimated. This allowed Strategic Economics to determine the income levels of worker households, and therefore the proportion of households eligible for affordable housing.

Estimating worker household incomes involves the following four steps:

E. Establish a list of industries and occupations associated with each prototype.

F. Estimate worker wages.

G. Convert worker wages to household incomes.

H. Determine the number of worker households eligible for affordable housing.

Step 3A. Establish Industries and Occupations Associated with each Prototype

The first step in calculating employee wages is to establish a list of the industries associated with each prototype. Using industry data from Quarterly Census of Employment and Wages (QCEW), industries (defined by NAICS codes) were identified that would be most likely to occupy each prototype. The appendix to this report includes figures showing the industries that are associated with the hotel, retail/restaurants/services and business park/light industrial prototypes, respectively.

The next step is to identify all the occupations that are associated with each industry based on data provided by the U.S. Bureau of Labor Statistics (BLS). The national BLS occupational matrix is then calibrated to match the county's employment mix by weighting the national employment distribution to reflect the distribution of employment by industry within Sonoma County. The complete list of occupations for each prototype is presented in the appendix.

Step 3B. Estimate Worker Wages

Next, the average wage by worker is calculated using data on average annual wages by occupation in the San Francisco-Redwood City-Sonoma Metro Division from the California Employment Development Department.

Figure 13 below summarizes the results of these calculations, computing the average annual weighted wage [2] for each prototype. As shown, the average wage is lowest for workers in retail/restaurants/services. Hotel workers have a slightly higher average wage than retail/restaurant/service workers, while business park/light industrial employees have the highest average wage of the three prototypes.

[2] The weighted average wage takes into account the proportion of jobs in each occupational category.

FIGURE 13: AVERAGE ANNUAL WAGE BY PROTOTYPE

Commercial Prototype	Weighted Average Annual Wage (a)
Hotel	$36,014
Retail/Restaurants/Personal Services	$29,743
Business Park/Light Industrial	$61,060

Notes:

(a) Average wages are weighted to take into account the proportion of jobs in each occupational wage category.
Sources: Quarterly Census of Employment and Wages; U.S. Bureau of Labor Statistics; Strategic Economics, 2019.

Step 3C. Convert Worker Wages to Household Incomes

Many households include multiple wage earners. In order to determine the number of worker households required to fill the jobs associated with each prototype, the number of new workers (calculated in Step 2) was divided by 1.60, or the average number of wage-earners per working household in Santa Rosa, according to the U.S. Census Bureau's American Community Survey, 5-Year Estimates, 2011-2015. The calculation of total new worker households is shown in Figure 14.

The analysis also assumed that the income of the second wage-earner in a household would be similar to the wage of the first wage-earner. Accordingly, individual worker wages (estimated in Step 3B) were multiplied by 1.60 to represent total household incomes.

FIGURE 14: NUMBER OF WORKER HOUSEHOLDS BY PROTOTYPE

Commercial Prototype	Number of New Workers	Workers Per Household	Number of New Worker Households
Hotel	100	1.60	62
Retail/Restaurant/Personal Services	333	1.60	208
Business Park/Light Industrial	286	1.60	178

Sources: US Census, American Community Survey 5-Year Estimates, 2012-2016; Strategic Economics, 2019.

Step 3D. Determine the Number of Worker Households Eligible for Affordable Housing

Next, worker households are categorized as very-low, low, moderate, and above-moderate income based on the income definitions and cut-offs established by the California Housing and Community Development Department (HCD) for a three-person household, or the average household size in the City of Santa Rosa according to the U.S. Census Bureau American Community Survey 5-Year Estimates, 2012-2016. These income cut-offs are shown in Figure 15. Figure 16 shows the number of households in each income category by prototype. Above-moderate income households were removed from the subsequent steps of the nexus analysis, as it is assumed that these income groups would be able to afford market-rate housing.

FIGURE 15: HOUSEHOLD INCOME CATEGORIES

Income Category	3-Person Household
Very Low Income (<=50% AMI)	$37,200
Low Income (51-80% AMI)	$59,350
Moderate Income (81-120% AMI)	$89,200
Above Moderate Income (>120%)	>$89,200

Source: California Department of Housing and Community Development, "State Income Limits for 2016," May 24, 2016.

FIGURE 16: NUMBER OF WORKER HOUSEHOLDS BY INCOME CATEGORY

Prototype	Number of Employee Households
Hotel	
Very Low Income (<=50% AMI)	2.4
Low Income (51-80% AMI)	45.6
Moderate Income (81-120% AMI)	8.0
Above Moderate (>120%)	6.5
Total	**62.4**
Retail/Restaurant/Personal Services	
Very Low Income (<=50% AMI)	65.8
Low Income (51-80% AMI)	125.4
Moderate Income (81-120% AMI)	9.9
Above Moderate (>120%)	7.0
Total	**208.1**
Business Park/Light Industrial	
Very Low Income (<=50% AMI)	0.6
Low Income (51-80% AMI)	48.8
Moderate Income (81-120% AMI)	51.6
Above Moderate (>120%)	77.4
Total	**178.4**

Sources: Strategic Economics, 2019.

Step 4. Calculate the Housing Affordability Gap

Next, the housing affordability gap is estimated. The housing affordability gap is defined as the difference between what very low, low, and moderate-income households can afford to pay for housing, and the cost to develop new, modest housing units. The calculation does not assume the availability of any other source of housing subsidy because not all "modest" housing is built with public subsidies, and tax credits and tax-exempt bond financing are highly competitive programs that will not always be available to developers of modest housing units.

Calculating the housing affordability gap involves the following three steps:

D. Estimate affordable rents and housing prices for very low, low, and moderate-income households.

E. Estimate development costs of building new, modest housing units, based on current construction and land cost data.

F. Calculate the difference between what renters and owners can afford to pay for housing and the cost of development of rental and ownership units.

Each step is described below.

Step 4A. Estimate Affordable Rents and Sales Prices

The first step in calculating the housing affordability gap is to determine the maximum amount that households at the targeted income levels can afford to pay for housing. The maximum affordable monthly rent is calculated as 30 percent of gross monthly household income, minus a deduction for utilities. Homeowners are assumed to pay a maximum of 35 percent of gross monthly income on total housing costs. Figure 17 show the calculations for rental housing. Figure 18 show the calculations for ownership housing. Key assumptions used to calculate the maximum affordable rents and housing prices are discussed below.

- **Unit types.** For rental housing, the analysis included studios, and one-, two-, and three-bedroom apartment units. For for-sale housing, two- and three-bedroom townhouse units were included. These unit types represent the affordable and modestly priced rental and for-sale units available in Santa Rosa.
- **Occupancy and household size assumptions**. Calculating affordable unit prices requires defining household sizes for each unit type. Consistent with California Health and Safety Code Section 50052.5(h), unit occupancy was generally estimated as the number of bedrooms plus one. For example, a studio unit is assumed to be occupied by one person, a one-bedroom unit is assumed to be occupied by two people, and so on. Several adjustments to this general assumption were made in order to capture the full range of household sizes. In particular, it is assumed that two-bedroom townhouses could be occupied by two- or three-person households, and three-bedroom apartments and townhouses could be occupied by four- or five-person households.
- **Targeted income levels for rental housing.** For rental housing, affordable rents were calculated for very low, low, and moderate-income households. For eligibility purposes, most affordable housing programs define very low-income households as those earning 50 percent or less of area median income, or AMI, low-income households as those earning between 51 and 80 percent of AMI, and moderate-income households as those earning between 81 and 120 percent of AMI.
- **Targeted income levels for ownership housing.** For ownership housing, affordable home prices were calculated only for moderate income households. Higher income limits are used for ownership than for rental housing because ownership housing is more expensive to purchase and maintain. It is assumed that moderate-income homebuyers may earn slightly less than the maximum for that income category (120 percent of AMI).
- **Maximum monthly housing costs.** For renters, maximum monthly housing costs are assumed to be 30 percent of gross household income. For homebuyers, 35 percent of gross income is assumed to be available for monthly housing costs, reflecting the higher incomes of this group. These standards are based on California's Health & Safety Code Sections 50052.5 and 50053.

- **Utilities.** The monthly utility cost assumptions are based on utility allowances calculated by City of Santa Rosa Housing and Community Services.[3] Both renters and owners are assumed to pay for heating, cooking, other electric, and water heating. In addition, owners are assumed to pay for water and trash collection.[4]
- **Mortgage terms & costs included for ownership housing.** For ownership housing, the mortgage calculations are based on the terms typically offered to first-time homebuyers (such as the terms offered by the California Housing Finance Authority), which is a 30-year mortgage with a five percent down payment. A five percent down payment standard is also used by many private lenders for first-time homebuyers. Based on recent interest rates to first-time buyers, the analysis assumes a 4.0 percent annual interest rate.[5] In addition to mortgage payments and utilities, monthly ownership housing costs include homeowner association (HOA) dues,[6] property taxes,[7] private mortgage insurance,[8] and hazard and casualty insurance.[9]

[3] City of Santa Rosa Housing and Community Services, Utility Allowances, Effective December 2017, https://srcity.org/DocumentCenter/View/4114/Utility-Allowances-for-Tenant-Furnished-Utilities---Duplex-and--Detached-House; https://srcity.org/DocumentCenter/View/4115/Utility-Allowances-for-Tenant-Furnished-Utilities---Apartment-and-Townhouse.

[4] Units are assumed to have natural gas heating, cooking, and water heating systems, as natural gas is the most common fuel for units located in Sonoma County. Source: U.S. Census Bureau, 2015 American Community Survey.

[5] Sources: CalHFA Mortgage Calculator, accessed November 2018; Zillow.com, "Current Mortgage Rates and Home Loans," accessed November 2018.

[6] HOA fees are estimated at $330 per unit per month, based on common HOA fees in Santa Rosa as reported on Zillow.com in 2018.

[7] The annual property tax rate is estimated at 1.60 percent of the sales price, based on the average total tax rate for Santa Rosa (calculated from Santa Rosa Consolidated Annual Financial Report, FY 2014-2015).

[8] The annual private mortgage insurance premium rate is estimated at 1.08 percent of the total mortgage amount, consistent with standard requirements for conventional loans with a five percent down payment. Sources: GIC, Apr 2016; Radian, June 2016; Genworth, July 2016.

[9] The annual hazard and casualty insurance rate is assumed to be 0.35 percent of the sales price, consistent with standard industry practice.

FIGURE 17: CALCULATION OF AFFORDABLE RENTS IN SANTA ROSA BY APARTMENT UNIT TYPE

	Apartment Unit Type			
	Studio (1 person)	**1 bedroom (2 persons)**	**2 bedroom (3 persons)**	**3 bedroom (4 persons)**
Very Low Income (<=50% AMI)				
Maximum Household Income at 50% AMI	$34,400	$39,300	$44,200	$49,100
Maximum Monthly Housing Cost [a]	$860	$983	$1,105	$1,326
Utility Deduction	$41	$46	$64	$80
Maximum Available for Rent	**$819**	**$937**	**$1,148**	**$1,246**
Low Income (50%-80% AMI)				
Maximum Household Income at 80% AMI	$55,000	$62,850	$70,700	$78,550
Maximum Monthly Housing Cost [a]	$1,375	$1,571	$1,768	$1,964
Utility Deduction	$41	$46	$64	$80
Maximum Available for Rent	**$1,334**	**$1,525**	**$1,884**	**$1,884**
Moderate Income (80%-120% AMI)				
Maximum Household Income at 120% AMI	$70,650	$80,750	$90,850	$100,900
Maximum Monthly Housing Cost [a]	$1,766	$2,019	$2,271	$2,523
Utility Deduction	$41	$46	$64	$80
Maximum Available for Rent	**$1,725**	**$1,973**	**$2,443**	**$2,645**

Notes:
[a] 30 percent of maximum monthly household income.
Acronyms:
AMI: Area median income
Sources: Santa Rosa Housing and Community Services Income Guidelines, Effective June 1, 2018; Santa Rosa Housing and Community Services Utility Allowances, Effective December 1, 2017; Strategic Economics, 2019.

FIGURE 18: CALCULATION OF AFFORDABLE SINGLE FAMILY SALES PRICE IN SANTA ROSA BY UNIT TYPE

Unit Type	2 bedroom		3 bedroom	
Household Size	**2 persons**	**3 persons**	**4 persons**	**5 persons**
Moderate Income (120% AMI)				
Maximum Household Income at 120% AMI [a]	$80,750	$90,850	$100,900	$109,000
Maximum Monthly Housing Cost [b]	$2,355	$2,649	$2,942	$3,179
Monthly Deductions	$0	$0	$0	$0
Utilities	$123	$123	$148	$148
HOA Dues	$345	$345	$345	$345
Property Taxes and Insurance [c]	$666	$770	$865	$947
Monthly Income Available for Mortgage Payment [d]	$1,222	$1,413	$1,587	$1,740
Maximum Mortgage Amount (e)	$237,708	$274,812	$308,585	$338,343
Maximum Affordable Sales Price [f]				
By HH Size	**$250,219**	**$289,276**	**$324,826**	**$356,150**
By Unit Type	**$269,747**		**$340,488**	

Notes:
[a]) Calculated as 120 percent of the median household income reported by Santa Rosa Housing and Community Services for each household size.
[b] Maximum housing cost is estimated at 35 percent of household income for homebuyers.
[c] Assumes annual property tax rate of 1.62 percent of sales price; annual private mortgage insurance premium rate of 1.28 percent of mortgage amount; annual hazard and casualty insurance rate of 0.35 percent of sales price.
[d] Maximum monthly housing cost minus deductions
[e] Assumes 4.6 percent interest rate and 30-year loan term.
[f] Assumes 5 percent down payment
Acronyms:
AMI: Area median income
HOA: Home owners association
Sources: Santa Rosa Housing and Community Services Income Guidelines, Effective June 1, 2018; Sonoma County Community Development Commission, Utility Allowances, Effective December 2017; Strategic Economics, 2019.

Step 4B. Estimate Housing Development Costs

The second step in calculating the housing affordability gap is to estimate the cost of developing new, modest housing units. First, an average, per-square foot development cost was estimated, using a pro forma model (Figure 19). Next, the per-square foot cost was translated to per-unit costs, using assumptions about average unit sizes (Figures 20 and 21). Key assumptions are discussed below.

- **Building characteristics:** The rental housing building characteristics shown in Figure 19 are based on a review of recent affordable apartment projects developed in Santa Rosa. The modest for-sale housing characteristics are based on non-luxury, market-rate townhouse development projects in Santa Rosa. Each prototype was assumed to include 100 units for ease of calculation.
- **Development cost assumptions:** Figure 19 also shows development cost assumptions. Land acquisition costs are based on asking sales prices for commercial land listed on Loopnet.com in September 2018. Hard cost, soft cost, and developer fee assumptions are based on a review of recent affordable housing pro formas and developer interviews. Soft costs are assumed to include design, engineering, city permits and fees, construction interest, contingencies, and legal expenses.
- **Unit sizes:** Unit sizes were estimated based on recent affordable and modest development projects.

FIGURE 19: PRO FORMA ANALYSIS

	Modest Rental Housing	Modest For-Sale Housing
Building Characteristics [a]		
Building Type	3 story wood frame apartment building	Attached townhouses
Number of Units	100	100
Average Unit Size (SF)	1,000	1,400
Net Building Area (SF)	100,000	140,000
Gross Building Area (SF)	117,647	164,706
Land Area (SF)	174,240	290,400
Parking Type	Surface	Surface
Parking Spaces/ Unit	2	2
Density (units per acre)	25	15
Development Cost Assumptions [b]		
Land Acquisition Costs (per SF Land)	$17	$17
Hard Costs (per Net SF)	$190	$160
Soft Costs (as % of Hard Costs)	35%	35%
Developer Fees (as % of Hard and Soft Costs)	12%	12%
Total Development Costs		
Land Cost	$2,905,983	$4,843,305
Hard Costs	$19,000,000	$22,400,000
Soft Costs	$6,650,000	$7,840,000
Developer Fees	$3,078,000	$3,628,800
Total Development Costs	$31,633,983	$38,712,105
Total Development Cost per Net SF	**$316**	**$277**

Notes:
[a] Prototypical building characteristics based on review of recent affordable and modest market-rate development in Santa Rosa.
[b] Cost estimates based on asking sales prices for residential land listed on Loopnet.com, December 2018; review of affordable housing developer pro formas; and interviews with developers.
Sources: Loopnet.com, December 2018; Selected Santa Rosa Rental Housing Pro Formas, 2017; Developer Interviews; Strategic Economics, 2019.

FIGURE 20: RENTAL HOUSING UNIT SIZES AND DEVELOPMENT COSTS

Unit Type	Estimated Cost per Net SF	Unit Size (net SF)	Development Costs
Studio	$316	500	$158,170
One bedroom	$316	680	$215,111
Two bedroom	$316	900	$284,706
Three bedroom	$316	1,100	$347,974

Source: Strategic Economics, 2019.

FIGURE 21: FOR - SALE UNIT SIZE AND DEVELOPMENT COSTS

Unit Type	Estimated Cost per Net SF	Unit Size (net SF)	Development Costs
Two bedroom	$277	1,200	$331,818
Three bedroom	$277	1,600	$442,424

Source: Strategic Economics, 2019.

Step 4C. Calculating the Housing Affordability Gap

The final step in calculating the housing affordability gap is to calculate the difference between what renters and owners can afford to pay and the total cost of developing new units.

Figure 22 shows the housing affordability gap calculation for rental units. For each rental housing unit type and income level, the gap is defined as the difference between the per-unit cost of development and the supportable debt per unit. The supportable debt is calculated based on the net operating income generated by an affordable monthly rent, incorporating assumptions about operating expenses (including property taxes, insurance, etc.), reserves, vacancy and collection loss, and mortgage terms based on discussions with local affordable housing developers. Because household sizes are not uniform and the types of units each household may occupy is variable, the average housing affordability gap is calculated by averaging the housing affordability gaps for the various unit sizes.

Figure 23 shows the housing affordability gap calculation for ownership units. For each unit type, the gap is calculated as the difference between the per-unit cost of development and the affordable sales price for each income level. As with rental housing, the average housing affordability gap for each income level is calculated by averaging the housing affordability gaps across unit sizes in order to reflect that households in each income group vary in size and may occupy any of these unit types.

Finally, tenure-neutral estimates of the housing affordability gap were estimated for very low, low, and moderate-income households (Figure 24). Because very low and low-income households that are looking for housing in today's market are much more likely to be renters, an ownership gap was not calculated for these income groups. The rental gap represents the overall affordability gap for these two income groups. On the other hand, moderate income households could be either renters or owners. Therefore, the rental and ownership gaps are averaged for this income group to calculate the overall affordability gap for moderate income households. The calculated average affordability gap per unit is $210,392 for very low income households; $133,981 for low income households, and $75,924 for moderate income households.

FIGURE 22: AFFORDABILITY GAP CALCULATIONS FOR RENTAL UNITS

Income Level and Unit Type	Unit Size (SF)	Maximum Monthly Rent [a]	Annual Income	Net Operating Income [b]	Available for Debt Service [c]	Supportable Debt [d]	Development Costs [e]	Affordability Gap
Very-Low Income (50% AMI)								
Studio	500	$819	$9,828	$1,837	$1,469	$19,448	$158,170	$138,722
1 Bedroom	700	$937	$11,238	$3,176	$2,541	$33,633	$215,111	$181,478
2 Bedroom	970	$1,041	$12,492	$4,367	$3,494	$46,248	$284,706	$238,458
3 Bedroom	1,170	$1,197	$14,363	$6,144	$4,916	$65,065	$347,974	$282,909
Average Affordability Gap						$41,098	$251,490	**$210,392**
Low Income (80% AMI)								
Studio	500	$1,334	$16,008	$7,708	$6,166	$81,618	$158,170	$76,552
1 Bedroom	700	$1,525	$18,303	$9,888	$7,910	$104,705	$215,111	$110,406
2 Bedroom	970	$1,704	$20,442	$11,920	$9,536	$126,223	$284,706	$158,483
3 Bedroom	1,170	$1,963	$23,550	$14,873	$11,898	$157,489	$347,974	$190,485
Average Affordability Gap						$117,509	$251,490	**$133,981**
Moderate Income (120% AMI)								
Studio	500	$1,725	$20,703	$12,168	$9,734	$128,849	$158,170	$329,321
1 Bedroom	700	$1,973	$23,673	$14,989	$11,991	$158,726	$215,111	$56,385
2 Bedroom	970	$2,207	$26,487	$17,663	$14,130	$187,035	$284,706	$97,671
3 Bedroom	1,170	$2,544	$30,525	$21,499	$17,199	$227,656	$347,974	$120,318
Average Affordability Gap						$175,567	$251,490	**$75,924**

Notes:
[a] Affordable Rents are based on Santa Rosa Housing and Community Services Income Guidelines, Effective June 1, 2018.
[b] Amount available for debt. Assumes 5% vacancy and collection loss and $7,500 per unit for operating expenses and reserves.
[c] Assumes 1.25 Debt Coverage Ratio.
[d] Assumes 6.37%, 30 year loan. Calculations based on annual payments.
[e] Assumes development cost of $316 per net square foot on rental units.
Sources: Selected Santa Rosa Rental Housing Pro Formas, 2017; RS Means, 2018; LoopNet, 2018; Citi Community Capital's Multifamily Housing Indicative Rates and Terms, January 11, 2018; Strategic Economics, 2019.

FIGURE 23: AFFORDABILITY GAP CALCULATION FOR FOR - SALE UNITS

Income Level and Unit Type	Unit Size (SF)	Affordable Sales Price [a]	Development Costs [b]	Affordability Gap [c]
Moderate Income (120% of AMI)				
2 Bedroom	1,200	$269,747	$331,818	$62,071
3 Bedroom	1,600	$340,488	$442,424	$101,936
Average Affordability Gap		$305,118	$387,121	$82,003

Notes:
[a] See Figure 23 above.
[b] Assumes $277/SF for development costs, based on recent condominium sales.
[c] Calculated as the difference between affordable sales price and development cost
Sources: RS Means, 2017; LoopNet, 2016; Strategic Economics, 2019.

FIGURE 24: AVERAGE AFFORDABILITY GAP BY INCOME GROUP

Income Level	Rental Gap	Ownership Gap	Average Affordability Gap
Very Low-Income (<=50% AMI)	$210,392	N/A	$210,392
Low-Income (50% - 80% AMI)	$133,981	N/A	$133,981
Moderate-Income (80% - 120% AMI)	$75,924	$82,003	$78,963

Source: Strategic Economics, 2019.

Step 5. Calculate Maximum Linkage Fees

Finally, the maximum commercial linkage fee for each prototype was derived by multiplying the total number of very low, low, and moderate-income new worker households for each prototype (calculated in Step 3), by the corresponding affordable housing gap figure (calculated in Step 4). The total affordability gap was then divided by 100,000 SF, the size of each commercial prototype, to generate a maximum fee per square foot.

Figure 25 presents the results of the linkage fee calculations for each prototype. The calculations shown below assume that 100 percent of the very low, low, and moderate income households linked to the new commercial space would be accommodated in Santa Rosa. The maximum fee results are $75 per square foot for hotel, $320 per square foot for retail/restaurants/personal services, and $114 per square foot for business park/light industrial.

The fees presented in Figure 25 represent the maximum that Santa Rosa could charge to mitigate affordable housing demand related to commercial development. The City may adopt a fee at a lower level than the maximum justified fees, depending on a variety of policy considerations such as other fees charged on new development, the financial feasibility of development projects, and other factors.

FIGURE 25: MAXIMUM COMMERCIAL LINKAGE FEES

	Worker Households Requiring Affordable Housing	Affordability Gap for All New Worker Households	Size of Prototype (SF)	Maximum Fee per SF
Hotel	56	$7,513,688	100,000	$75
Retail/Restaurants/Personal Services	204	$32,015,109	100,000	$320
Business Park/Light Industrial	102	$11,357,815	100,000	$114

Source: Strategic Economics, 2019.

IV. DEVELOPMENT FEASIBILITY

There are a number of policy considerations jurisdictions take into account when they consider updating their affordable housing impact fee on new market-rate development. These may include factors such as:

- Development feasibility.
- Comparison to neighboring jurisdictions.
- The fee's role in the City's overall strategy for affordable housing implementation.
- Total development cost.
- Comparison to existing City fees.

This chapter provides a discussion of development feasibility while the following chapter discusses other key policy questions for Santa Rosa.

Feasibility Testing

In order to provide Santa Rosa with guidance on how a commercial linkage fee could impact development decisions, Strategic Economics conducted a financial feasibility analysis that tested the impact of several fee scenarios on developer profit. This chapter provides a summary of the feasibility analysis for three commercial prototypes.

Methodology

This analysis tested the financial feasibility of a range of fee scenarios on prototypical commercial development projects. Financial feasibility was tested using a static pro forma model that measures **yield on cost** (YOC), a commonly used metric indicating the profitability of development projects. Yield on cost is calculated by dividing a project's expected net annual operating income at full lease-up[10] by total development costs (including construction costs, soft costs, fees, and land costs but excluding financing costs). Using YOC as a metric for feasibility allows for a comparison of rates of return among different rental projects, without skewing the results based on the specific financing arrangements (such as the particular combination of debt and equity) that can be highly variable from project to project.

Prototypes

Strategic Economics worked with City staff to construct three commercial prototypes that represent the range of commercial development projects that can reasonably be expected in Santa Rosa based on recent development trends and a review of development proposals that are currently in the pipeline. Figure 26 summarizes the characteristics of the three development prototypes that were tested for financial feasibility:

[10] Net operating income at full lease-up is calculated as total rental revenues minus operating costs, assuming a stable vacancy rate.

- **Hotel:** This building prototype includes full-service hotels, limited-service hotels, motels, and other lodging.
- **Retail/Restaurants/Services:** This building prototype includes a broad range of buildings, including retail stores, restaurants, and personal care spaces accommodating businesses like nail salons and dry cleaners.
- **Business Park/Light Industrial:** This building prototype could include a wide range of light industrial, office, and R&D users, including open floor-plan offices, medical offices, and cannabis-related uses found in Sonoma County.

The characteristics, including building type, size, density (floor-area-ratio), and parking assumptions are based on a review of recently built and proposed projects in Santa Rosa and Sonoma County. The financial feasibility of potential fee levels is tested for each of these prototypes.

FIGURE 26: COMMERCIAL PROTOTYPES

	Hotel	Retail/ Restaurants/ Services	Business Park/ Light Industrial
Gross Building Area (SF)	100,000	100,000	100,000
Efficiency Ratio (a)	N/A	0.95	0.95
Net Leasable Sq. Ft. (NSF)	N/A	95,000	95,000
Hotel Rooms	175		
Net Leasable Office Area (SF)			4,750
Parking Ratio (per Room/1000 SF)	1	4	3
Parking Spaces	175	400	300
Floor Area Ratio	1.0	0.2	0.4
Land Area (Acres)	2.3	11.5	5.7
Land Area (SF)	100,000	500,000	250,000

Notes:
(a) Refers to ratio of gross building area to net leasable area. An efficiency ratio of 0.95 means that 95% of the gross building area is leasable.
(b) The floor-area-ratio (FAR) is often used as a measure of density. In this analysis, it is calculated as the gross building area divided by the total land area.
Source: City of Santa Rosa, 2018; Strategic Economics, 2019.

Revenues

To estimate income from commercial development, the analysis used rental data from Costar, LoopNet and developer interviews for existing retail and light industrial buildings. Hotel room revenue is estimated based on current revenue per available room (RevPAR) from HVS Consulting and Smith Travel Research.

Figure 27 summarizes the calculations and data sources used for estimating the value of the prototypes.

FIGURE 27: PRO FORMA REVENUE INPUTS BY PROTOTYPE

Prototypes	Metric	Input
Hotel		
Revenues and Expenses		
Gross Annual Room Income (a)	RevPAR	$46,612
Gross Annual Other Revenue (b)	% of Room Revenue	44%
Operating Expenses (b)	% of Room Revenue	70%
Estimates		
Rooms		175
Annual Gross Revenues		$11,719,922.66
Operating Expenses		($5,709,946)
Annual Net Operating Income		$6,009,976
Cap Rate		10.00%
Total Capitalized Value		$60,099,763
Retail/Services		
Revenues and Expenses		
Annual Rent - NNN	per NSF	$24
Operating Expenses	% of Gross	10%
Vacancy Rate	% of Gross	5%
Estimates		
Net Square Footage		95,000
Annual Gross Revenues		$2,280,000
Operating Expenses		($228,000)
Vacancy Rate		($4,750)
Annual Net Operating Income		$2,142,250
Cap Rate		5.00%
Total Capitalized Value		$42,845,000
Business Park/Light Industrial		
Revenues and Expenses		
Annual Rent - NNN	per NSF	$10.20
Operating Expenses	% of Revenues	5%
Vacancy Rate	% of Revenues	5%
Estimates		
Net Square Footage		95,000
Annual Gross Revenues		$969,000
Operating Expenses		($48,450)
Vacancy Rate		($48,450)
Net Operating Income		$872,100
Cap Rate		5.00%
Total Capitalized Value		$17,442,000

Notes:

(a) RevPAR is a measure of revenue per room, calculated as occupancy percentage times average daily rate. Source: STR, 2018, Custom Trend Report including all mid-scale Santa Rosa hotels.

(b) Based on national data from STR Host Almanac, 2018.

Sources: CoStar, 2018; Loopnet, 2018; STR, 2018; Strategic Economics, 2019.

Development Costs

Cost estimates for the prototypes include land costs, direct construction costs (site work/infrastructure, building costs, and parking), indirect costs, financing costs, and developer overhead and profit. Land costs are based on average sales prices for commercial and industrial zoned property that was listed on LoopNet (a commercial real estate site) in Santa Rosa in September 2018 and interviews with developers. Direct building construction cost estimates include site work, building construction, and parking costs and are based on RS Means and information from developer interviews. Soft costs and developer overhead/profit were estimated based on review of similar project pro formas and interviews with developers. City fee calculations were provided by City staff. The cost factors used in the analysis are summarized in Figure 28.

FIGURE 28: DEVELOPMENT COST FACTORS

Development Assumptions	Metric	Hotel	Retail/ Restaurants/ Services	Industrial
Hard Costs (Building & On-Site Improvements) [a]	per sq. ft. of GBA	$255	$145	$75
Land Acquisition	per sq. ft. land	$35	$15	$9
Soft Costs				
Architecture, Engineering & Consulting	% of Hard Costs	5%	5%	5%
Tenant Improvements	per NSF	N/A	$45	$90
FF&E [a]	per room	$28,300	N/A	N/A
Permits & Fees [b]	total	varies	varies	varies
Taxes, Insurance, Legal & Accounting	% of Hard Costs	3%	3%	3%
Financing Costs	% of Hard Costs	5%	5%	5%
Developer Overhead & Fee	% of Hard Costs	4%	4%	4%
Contingency	% of Hard Costs	5%	5%	5%

Notes:

(a) Hotel costs include Furniture, Fixtures & Equipment (FF&E).

(b) Permits & Fees provided by City staff.

Sources: Developer interviews; similar project pro formas; RS Means, 2018; HVS and STR Consulting; City staff; Strategic Economics, 2019.

Measure of Feasibility

To establish a reasonable threshold for a developer's rate of return on new commercial development projects in Santa Rosa, Strategic Economics interviewed local developers, reviewed other similar financial analyses in the Bay Area, and reviewed publications on the local and regional real estate market.

- **Yield on Cost:** A common rule of thumb is that the expected Yield on Cost (YOC) for a commercial development project should be about 1.5 to 2.0 percentage points higher than the average capitalization rate in the local market.[11] Local developers reported that expectations for returns are higher in the North Bay compared to San Francisco

[11] A project's capitalization (or "cap") rate is the ratio of net operating income divided by property value. Real estate brokerage firms typically calculate the market capitalization rate as the average capitalization rate for projects sold in a given period.

because of the differences in market conditions. Based on these dynamics, hotel projects with a YOC of at least 11.5 to 13.5 percent, retail/restaurant/services projects with a YOC of at least 6.5 to 7.5 percent, and business park/light industrial projects with a YOC of at least 6.0 to 7.0 percent were considered financially feasible for the purposes of this analysis. Developments with a YOC below these thresholds are not financially feasible, while projects with a YOC at the lower end of the thresholds are considered marginally feasible.

FIGURE 29: FEASIBILITY THRESHOLDS

Prototype	Capitalization Rates	Selected Threshold for Yield on Cost
Hotel (a)	9.5-11.5%	11.5%-13.5%
Retail/ Restaurants/ Services (b)	4.5-5.5%	6.5%-7.5%
Business Park/Light Industrial (c)	4.5-5.0%	6.0%-7.0%

Notes:

(a) CBRE Cap Rate Survey, 1st Half 2018, Oakland Suburban Market.

(b) CBRE Cap Rate Survey, 1st Half 2018, Oakland Suburban Market.

(c) CBRE Cap Rate Survey, 1st Half 2018 Oakland Market, developer interviews, 2018.

Strategic Economics, 2019.

Fee Scenarios Tested

Strategic Economics tested the impact of a range of different fee levels on development feasibility, including the maximum justified fee and two different fee levels below the maximum justified fee level. Figure 30 shows the fee scenarios tested. These scenarios are referred to as the "nexus fee scenarios" throughout this document. Note that the fees shown in Figure 30 only include the fees that are the subject of this nexus study; other fees (including existing City fees) are discussed above under "Costs."

FIGURE 30: NEXUS FEE SCENARIOS

Prototype	Scenario 1 (Maximum Fee)	Scenario 2	Scenario 3
Hotel	$75.14	$6.00	$3.00
Retail/ Restaurants/ Services	$320.15	$6.00	$3.00
Business Park/Light Industrial	$113.58	$6.00	$3.00

Source: Strategic Economics, 2019.

Financial Feasibility Results

Figures 31, 32, and 33 provide the pro forma model results for the commercial prototypes. To understand the financial burden of the fee scenarios on overall development costs, the pro forma analysis also measures the fees as a percent of total development costs. Below is a discussion of the findings.

Hotel

The feasibility analysis indicates that under current economic conditions, the yield on cost for the hotel prototype meets the required threshold (11.5%-13.5%) for financial feasibility under all three

scenarios. The following summarizes the financial feasibility results for potential commercial linkage fees at different levels:

- The maximum justified fee of $75 per square foot results in a calculated yield on cost of 12.06 percent, which meets the minimum feasibility threshold.
- An impact fee set at $6 per square foot results in a calculated yield on cost of 14.00 percent, which meets the feasibility threshold.
- An impact fee set at $3 per square foot results in a calculated yield on cost of 14.10 percent, which meets the feasibility threshold.

Retail/Restaurants/Services

The feasibility analysis indicates that under current economic conditions, the yield on cost for the retail/restaurants/services prototype does not meet the required threshold (6.5%-7.5%) for financial feasibility under the maximum justified fee scenario but does marginally meet the minimum feasibility threshold for the two other fee scenarios. The following summarizes the financial feasibility results for potential commercial linkage fees at different levels:

- The maximum justified fee of $320 per square foot results in a calculated yield on cost of 3.33 percent, which does not meet the minimum feasibility threshold.
- An impact fee set at $6 per square foot results in a calculated yield on cost of 6.51 percent, which marginally meets the minimum feasibility threshold.
- An impact fee set at $3 per square foot results in a calculated yield on cost of 6.57 percent, which marginally meets the minimum feasibility threshold.

Business Park/Light Industrial

The feasibility analysis indicates that under current economic conditions, the yield on cost for the business park/light industrial prototype does not meet the required threshold (6.0%-7.0%) for financial feasibility under the maximum justified fee scenario but does meet the minimum feasibility threshold for the two other fee scenarios. The following summarizes the financial feasibility results for potential commercial linkage fees at different levels:

- The maximum justified fee of $114 per square foot results in a calculated yield on cost of 3.66 percent, which does not meet the minimum feasibility threshold.
- An impact fee set at $6 per square foot results in a calculated yield on cost of 6.66 percent, which meets the minimum feasibility threshold.
- An impact fee set at $3 per square foot results in a calculated yield on cost of 6.82 percent, which meets the minimum feasibility threshold.

FIGURE 31: PRO FORMA MODEL RESULTS, HOTEL PROTOTYPE

	Hotel	
Development Costs	**per Room**	**Total**
Land	$20,000	$3,500,000
Hard Costs		
Building & On-Site Improvements	$145,714	$25,500,000
Soft Costs		
A&E & Consulting	$7,286	$1,275,000
Tenant Improvements [a]	$0	$0
FF&E [b]	$28,300	$4,952,500
Permits & Fees [c]	$15,827	$2,769,715
Taxes, Insurance, Legal & Accounting	$4,371	$765,000
Financing Costs	$7,286	$1,275,000
Developer Overhead & fee	$5,828.57	$1,020,000
Contingency	$7,286	$1,275,000
Total Soft Costs	$76,184	$13,332,215
Nexus Fee Scenarios	**Fee per SF**	**Total Fees**
Fee Scenario 1: Maximum Justified Fee	$75.14	$7,513,688
Fee Scenario 2	$6.00	$600,000
Fee Scenario 3	$3.00	$300,000
Total Development Costs (TDC)		**TDC**
Fee Scenario 1: Maximum Justified Fee		$49,845,903
Fee Scenario 2		$42,932,215
Fee Scenario 3		$42,632,215
Revenues	**per Room**	**Total**
Annual Net Operating Income [d]	$34,343	$6,009,976
Yield on Cost		**YOC**
Fee Scenario 1: Maximum Justified Fee		12.06%
Fee Scenario 2		14.00%
Fee Scenario 3		14.10%
Threshold for Feasibility		11.5%-13.5%
Linkage Fees as % of TDC	**Fee per SF**	**% of TDC**
Fee Scenario 1: Maximum Justified Fee	$75.14	15%
Fee Scenario 2	$6.00	1%
Fee Scenario 3	$3.00	1%

Notes:
a Tenant improvements for Office & Retail/Restaurant Space.
b Hotel costs include Furniture, Fixtures & Equipment (FF&E).
c Estimates by City staff.
d See Figure 27.
Source: Strategic Economics, 2019.

FIGURE 32: PRO FORMA MODEL RESULTS, RETAIL/RESTAURANTS/SERVICES PROTOTYPE

	Retail/Restaurants/ Services	
Development Costs	**per SF of GBA**	**Total**
Land	$73	$7,252,271
Hard Costs		
Building & On-Site Improvements	$145	$14,500,000
Soft Costs		
A&E & Consulting	$7	$725,000
Tenant Improvements [a]	$43	$4,275,000
FF&E [b]	$0	$0
Permits & Fees [c]	$31	$3,082,409
Taxes, Insurance, Legal & Accounting	$4	$435,000
Financing Costs	$7	$725,000
Developer Overhead & fee	$6	$580,000
Contingency	$7	$725,000
Total Soft Costs	$105	$10,547,409
Nexus Fee Scenarios	**Fee per SF**	**Total Fees**
Fee Scenario 1: Maximum Justified Fee	$320.15	$32,015,109
Fee Scenario 2	$6.00	$600,000
Fee Scenario 3	$3.00	$300,000
Total Development Costs (TDC)		**TDC**
Fee Scenario 1: Maximum Justified Fee		$64,314,789
Fee Scenario 2		$32,899,679
Fee Scenario 3		$32,599,679
Revenues	**per SF of GBA**	**Total**
Annual Net Operating Income [d]	$21	$2,142,250
Yield on Cost		**YOC**
Fee Scenario 1: Maximum Justified Fee		3.33%
Fee Scenario 2		6.51%
Fee Scenario 3		6.57%
Threshold for Feasibility		6.5%-7.5%
Linkage Fees as % of TDC	**Fee per SF**	**% of TDC**
Fee Scenario 1: Maximum Justified Fee	$320.15	50%
Fee Scenario 2	$6.00	2%
Fee Scenario 3	$3.00	1%

Notes:
a Tenant improvements for Office & Retail/Restaurant Space.
b Hotel costs include Furniture, Fixtures & Equipment (FF&E).
c Estimates by City staff.
d See Figure 27.
Source: Strategic Economics, 2019.

FIGURE 33: PRO FORMA MODEL RESULTS, BUSINESS PARK/LIGHT INDUSTRIAL PROTOTYPE

	Business Park/Light Industrial	
Development Costs	**per SF of GBA**	**Total**
Land	$23	$2,274,007
Hard Costs		
Building & On-Site Improvements	$75	$7,500,000
Soft Costs		
A&E & Consulting	$4	$375,000
Tenant Improvements [a]	$4	$427,500
FF&E [b]	$0	$0
Permits & Fees [c]	$6	$641,462
Taxes, Insurance, Legal & Accounting	$2	$225,000
Financing Costs	$4	$375,000
Developer Overhead & fee	$3	$300,000
Contingency	$4	$375,000
Total Soft Costs	$27	$2,718,962
Nexus Fee Scenarios	**Fee per SF**	**Total Fees**
Fee Scenario 1: Maximum Justified Fee	$113.58	$11,357,815
Fee Scenario 2	$6.00	$600,000
Fee Scenario 3	$3.00	$300,000
Total Development Costs (TDC)		**TDC**
Fee Scenario 1: Maximum Justified Fee		$23,850,784
Fee Scenario 2		$13,092,969
Fee Scenario 3		$12,792,969
Revenues	**per SF of GBA**	**Total**
Annual Net Operating Income [d]	$9	$872,100
Yield on Cost		**YOC**
Fee Scenario 1: Maximum Justified Fee		3.66%
Fee Scenario 2		6.66%
Fee Scenario 3		6.82%
Threshold for Feasibility		6.0%-7.0%
Linkage Fees as % of TDC	**Fee per SF**	**% of TDC**
Fee Scenario 1: Maximum Justified Fee	$113.58	48%
Fee Scenario 2	$6.00	5%
Fee Scenario 3	$3.00	2%

Notes:
a Tenant improvements for Office & Retail/Restaurant Space.
b Hotel costs include Furniture, Fixtures & Equipment (FF&E).
c Estimates by City staff.
d See Figure 27.
Source: Strategic Economics, 2019.

V. POLICY CONSIDERATIONS AND IMPLEMENTATION OPTIONS

While the nexus study provides the necessary economic analysis for implementing a commercial linkage fee, it is up to policymakers to decide what fee level will be charged on new development. As discussed in the preceding chapter, development feasibility is one important factor to examine. In addition, there are a number of additional policy considerations that cities take into account when considering an update to impact fees, such as:

- How a commercial linkage fee fits into Santa Rosa's overall housing strategy.
- How much total development costs would increase with a new commercial linkage fee;
- How a commercial linkage fee in Santa Rosa would compare with those in neighboring or other comparable jurisdictions; and
- What options exist for establishing alternatives to the payment of fees.

Role of the Commercial Linkage Fee in Santa Rosa's Overall Housing Strategy

Santa Rosa does not currently have a commercial linkage fee in place. The revenues to be collected from a commercial linkage fee provide an important source of local funding; however, fee revenues do not generally cover the entire funding gap encountered by sponsors of new affordable housing. Additional funding is almost always required. Affordable housing in Santa Rosa is currently funded through the use of a variety of financing sources, including funding provided by the City's existing residential impact fee. The City's existing inclusionary housing program covers for-sale housing only and developers may elect to build units on-site or pay the existing affordable housing impact fee. The existing inclusionary housing policy has not resulted in a significant number of affordable housing units built as most developers elect to pay the impact fee rather than build units on-site.

Commercial linkage fee revenues would augment existing affordable housing funds. The existence of a local revenue source such as nexus fees can help make certain projects more competitive for outside funding. It should be noted that revenues from a commercial linkage fee need to be spent on housing that benefits the workforce since the funds stem from affordable housing impacts related to new employment.

Total Development Cost

Currently, the total development costs (including building and onsite improvements, land, parking, indirect costs, financing costs, developer overhead, and existing fees) are $423 per square foot for the hotel prototype, $323 per net square foot for the retail/restaurant/services prototype, and $125 per net square foot for the business park/light industrial prototype. The addition of the maximum housing impact fees would represent 15 percent, 50 percent, and 48 percent of total development cost of the hotel, retail/restaurant/services, and business park/light industrial prototypes, respectively. A fee of $6 per square foot represents 1.4 percent, 1.8 percent, and 4.6 percent of total

development cost of the hotel, retail/restaurant/services, and business park/light industrial prototypes, respectively, and a fee of $3 per square foot represents 0.7 percent, 0.9 percent, and 2.3 percent of total development cost of the hotel, retail/restaurant/services, and business park/light industrial prototypes, respectively.

Comparison to Neighboring Jurisdictions.

A comparison to current commercial linkage fees charged in nearby or comparison cities can be a helpful consideration. Figure 34 provides available information on commercial linkage fees to compare Santa Rosa's potential fee scenarios to existing fees in selected jurisdictions.

If the maximum commercial linkage fees calculated for Santa Rosa were adopted, they would significantly exceed the fees charged in neighboring and comparison jurisdictions, as listed in Figure 34. Current fees in neighboring and comparison jurisdictions range from $0.69 per square foot for hotel in Rohnert Park to $6.00 per square foot for hotel in Fremont and Napa and for retail uses in Fremont.

FIGURE 34: EXISTING COMMERCIAL LINKAGE FEES PER SQUARE FOOT IN SELECTED CITIES

City/County	Hotel	Retail/Restaurant/ Personal Services	Business Park/Light Industrial
Berkeley	$4.50	$4.50	$2.25
Cotati	$2.08	$3.59	$2.15
Fremont	$6.00	$6.00	$3.00
Napa	$6.00	$3.55	$3.50
Petaluma	$2.42	$4.17	$2.49
Pleasanton	$3.15	$3.15	$3.15
Rohnert Park	$0.69	$1.19	$0.71
San Rafael	$1.91	$5.73	$4.14
Sonoma County	$2.92	$5.05	$3.01

Source: Strategic Economics, 2019.

Potential for Overlap Between Residential and Commercial Fees

The City of Santa Rosa also has a residential impact fee in place and is undertaking an update to that fee simultaneously. One issue that may arise if a city considers the adoption of both fees is whether there is any overlap between the two impact fees, resulting in potential "double-counting" of impacts.

The commercial linkage fee study examined jobs located in new commercial buildings. The nexus analysis then calculated the average wages of the workers associated with each commercial building to derive the annual income of the new worker households. The analysis determines the area median income (AMI) level of the new worker households to identify the number of worker households that would require affordable housing.

The housing impact fee nexus analysis examines households buying or renting new market rate units in the jurisdiction. The household expenditures by these new residents have an economic impact in the county, which can be linked to new jobs. The nexus analysis quantified the jobs linked to new household spending, and then calculated the wages of new workers and the household income of new

worker households. Each worker household was then categorized by AMI to determine the number of households that require affordable housing.

There may be a share of jobs counted in the commercial linkage fee analysis that are also included in the residential nexus analysis, particularly those in the service sector. Other types of jobs counted in the residential nexus analysis are unique to that analysis and are not included in the commercial linkage fee analysis (for example, public sector employees).

There is potential that some jobs could be counted in both analyses, and that the two programs may overlap in mitigating the affordable housing demand from the same worker households. Each of the proposed fees is required to mitigate no more than 100 percent of the demand for affordable units by new worker households. However, the recommendations presented in this study (and in the housing impact fee study) do not exceed the nexus, even if every job counted in the residential nexus study was duplicated in the commercial linkage fee study.

The calculations below show that the nexus fee levels recommended in both studies represent less than the justified nexus amount.

- First, the recommended linkage fees are less than the maximum justified nexus amount for all prototypes. Therefore, the commercial linkage fee would mitigate less than 100 percent of the demand for affordable units generated by the new non-residential space.
- Secondly, the recommended housing impact fee levels are also less than 100 percent of the maximum fee level supported by the residential nexus analysis. Therefore, the combined programs (commercial and housing fees) would mitigate less than 100 percent of the impact even if there were overlap in the jobs counted in the two nexus analyses.

Options for Establishing Alternatives to Payment of Fees

When Santa Rosa designs its ordinance governing commercial linkage fees, it can provide options that developers may choose instead of the payment of fees. For example, one option would be for the developer to provide affordable housing units on- or off-site or to provide a building site for affordable housing. This flexibility is provided to allow development of creative solutions that may provide more affordable housing than would be created by payment of fees. Regardless of whether a commercial developer elects to provide affordable housing or provide a building site, it is necessary to calculate how these alternatives would compare with any fees established by the City.

The first step in establishing options for a specific development project would be for the City to calculate the total fees that are owed by the new development. Then, establishing an alternative compliance method will depend on what is offered by the developer. For example, if the developer offers to provide land for an affordable housing site, a recent site appraisal generally suffices to place a value on a contribution of land. This land value can then be compared with the fees that the developer would normally pay. If, instead of paying a fee, the developer elects to provide affordable housing units, it is also possible to estimate the value of these units by multiplying the number of affordable units to be provided by a current affordability gap estimate per unit. The value of alternative compliance measures needs to be calculated at the time a developer requests one.

Administrative Issues

When adopting or updating a commercial linkage fee, there are several administrative issues to consider. Similar to any impact fee, it will be necessary to adjust the commercial linkage fees on an annual basis. Adjustments will also be needed if conditions change and/or due to possible changes in the affordability gap.

It is advisable that the City adjusts its commercial linkage fee annually by using an annual adjustment mechanism. An adjustment mechanism updates the fees to compensate for inflation in development costs. To simplify annual adjustments, it is recommended that the City select a cost index that is routinely published. While there is no index that tracks changes in Santa Rosa's development costs, including land, specifically, there are a few options to consider.

- The first option is the Consumer Price Index (CPI) Shelter component. The shelter component of the CPI covers costs for rent of primary residence, lodging away from home, owner's equivalent rent of primary residence, and household insurance. Of the total shelter index, costs associated with the owner's equivalent rent of primary residence constitute 70 percent of total costs entered into the index.
- A second option to adjust the fee for annual inflation is the construction cost index published in the Engineering News Record (ENR). This index is routinely used to update other types of impact fees. Cost index information for the San Francisco region, the smallest geographical area available for this purpose, is available on an annual basis. The ENR cost index measures inflation in construction costs, but it does not incorporate changes in land costs or public fees charged on new development.

Because these indices are readily available, reliable, and relatively simple to use, it is recommended that Santa Rosa use one of them for annual adjustments. However, because both understate the magnitude of inflation, it is recommended that the City base its annual adjustment mechanism on the higher of the two indices (CPI or ENR), using a five-year moving average as the inflation factor.

In addition to revising the fee annually for inflation, the City is encouraged to update the commercial linkage study every five years, or at the very least, update the housing affordability gap used in the basic model. The purpose of these updates is to ensure that the fee is still based on a cost-revenue structure that remains applicable in the Santa Rosa housing market. In this way, the fee will more accurately reflect any potential structural changes in the relationships between affordable prices and rents, market-rate prices and rents, and development costs.

APPENDIX: INDUSTRY AND OCCUPATION DATA

FIGURE 35: DEFINITION OF INDUSTRIES FOR HOTEL PROTOTYPE

NAICS Code	Description	Percent of Total Employees in Prototype
721	Accommodation	100%
Total		100%

Sources: United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), 2015; Strategic Economics, 2019.

FIGURE 36: DEFINITION OF INDUSTRIES FOR RETAIL/RESTAURANTS/PERSONAL SERVICES PROTOTYPE

NAICS Code	Description	Percent of Total Employees in Prototype
7225	Restaurants	33.7%
4451	Grocery stores	13.8%
4521	Department stores	5.0%
4441	Building material and supplies dealers	4.5%
8111	Automotive repair and maintenance	3.7%
4411	Automobile dealers	3.6%
4481	Clothing stores	3.1%
4529	Other general merchandise stores	2.6%
4461	Health and personal care stores	2.3%
8121	Personal care services	2.2%
4511	Sporting goods and musical instrument stores	2.0%
4471	Gasoline stations	1.8%
4539	Other miscellaneous store retailers	1.5%
4413	Auto parts, accessories, and tire stores	1.5%
4431	Electronics and appliance stores	1.5%
4452	Specialty food stores	1.2%
8129	Other personal services	1.2%
4453	Beer, wine, and liquor stores	1.2%
4532	Office supplies, stationery, and gift stores	1.2%
4541	Electronic shopping and mail-order houses	1.0%
4422	Home furnishings stores	0.9%
8123	Drycleaning and laundry services	0.9%
7224	Drinking places, alcoholic beverages	0.9%
4442	Lawn and garden equipment and supplies stores	0.8%
4233	Lumber and const. supply merchant wholesalers	0.8%
4482	Shoe stores	0.8%
4533	Used merchandise stores	0.7%
4237	Hardware and plumbing merchant wholesalers	0.7%
5322	Consumer goods rental	0.6%
4421	Furniture stores	0.5%
5323	General rental centers	0.4%
5615	Travel arrangement and reservation services	0.4%
4231	Motor vehicle and parts merchant wholesalers	0.4%
4483	Jewelry, luggage, and leather goods stores	0.4%
4412	Other motor vehicle dealers	0.3%
4512	Book, periodical, and music stores	0.3%
5321	Automotive equipment rental and leasing	0.3%
8113	Commercial machinery repair and maintenance	0.3%
4543	Direct selling establishments	0.3%
5324	Machinery and equipment rental and leasing	0.2%
8112	Electronic equipment repair and maintenance	0.2%
8122	Death care services	0.2%
8114	Household goods repair and maintenance	0.2%
4531	Florists	0.1%
4542	Vending machine operators	0.1%
Total		100.0%

Sources: United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), 2015; Strategic Economics, 2017.

FIGURE 37: DEFINITION OF INDUSTRIES FOR BUSINESS PARK/LIGHT INDUSTRIAL PROTOTYPE

NAICS Code	Description	Percent of Total Employees in Prototype
3121	Beverage manufacturing	10.8%
5617	Services to buildings and dwellings	5.1%
6214	Outpatient care centers	5.1%
5613	Employment services	4.6%
6211	Offices of physicians	4.4%
2382	Building equipment contractors	3.8%
2361	Residential building construction	3.1%
2383	Building finishing contractors	3.0%
5511	Management of companies and enterprises	2.9%
5413	Architectural and engineering services	2.8%
6212	Offices of dentists	2.6%
3345	Electronic instrument manufacturing	2.5%
5221	Depository credit intermediation	2.4%
5416	Management and technical consulting services	2.1%
2381	Building foundation and exterior contractors	2.1%
3114	Fruit and vegetable preserving and specialty	1.8%
5242	Insurance agencies and brokerages	1.8%
2389	Other specialty trade contractors	1.7%
5415	Computer systems design and related services	1.6%
5419	Other professional and technical services	1.6%
3391	Medical equipment and supplies manufacturing	1.5%
5313	Activities related to real estate	1.5%
5412	Accounting and bookkeeping services	1.4%
3118	Bakeries and tortilla manufacturing	1.4%
517	Telecommunications	1.3%
5411	Legal services	1.3%
3344	Semiconductor and electronic component mfg.	1.2%
5311	Lessors of real estate	1.2%
5616	Investigation and security services	1.1%
6213	Offices of other health practitioners	1.1%
5111	Newspaper, book, and directory publishers	1.0%
7223	Special food services	1.0%
5417	Scientific research and development services	0.9%
3333	Commercial and service industry machinery	0.9%
2373	Highway, street, and bridge construction	0.9%
2362	Nonresidential building construction	0.9%
2213	Water, sewage and other systems	0.8%
3231	Printing and related support activities	0.7%
3116	Animal slaughtering and processing	0.7%
5222	Nondepository credit intermediation	0.7%
5312	Offices of real estate agents and brokers	0.7%
3115	Dairy product manufacturing	0.6%
5241	Insurance carriers	0.6%
3219	Other wood product manufacturing	0.5%
515	Broadcasting, except internet	0.5%
5611	Office administrative services	0.5%
2371	Utility system construction	0.5%
6215	Medical and diagnostic laboratories	0.5%
5191	Other information services	0.5%

NAICS Code	Description	Percent of Total Employees in Prototype
5223	Activities related to credit intermediation	0.5%
5614	Business support services	0.5%
3399	Other miscellaneous manufacturing	0.4%
3339	Other general purpose machinery manufacturing	0.4%
3119	Other food manufacturing	0.4%
3371	Household and institutional furniture mfg.	0.4%
5621	Waste collection	0.4%
3332	Industrial machinery manufacturing	0.4%
3335	Metalworking machinery manufacturing	0.3%
3327	Machine shops and threaded product mfg.	0.3%
5619	Other support services	0.3%
5418	Advertising, pr, and related services	0.3%
3211	Sawmills and wood preservation	0.2%
3343	Audio and video equipment manufacturing	0.2%
3254	Pharmaceutical and medicine manufacturing	0.2%
3271	Clay product and refractory manufacturing	0.2%
3323	Architectural and structural metals mfg.	0.2%
3273	Cement and concrete product manufacturing	0.2%
5414	Specialized design services	0.2%
2379	Other heavy construction	0.2%
3324	Boiler, tank, and shipping container mfg.	0.2%
5112	Software publishers	0.1%
3363	Motor vehicle parts manufacturing	0.1%
5182	Data processing, hosting and related services	0.1%
3329	Other fabricated metal product manufacturing	0.1%
3256	Soap, cleaning compound, and toiletry mfg.	0.1%
2372	Land subdivision	0.1%
3359	Other electrical equipment and component mfg.	0.1%
3149	Other textile product mills	0.1%
3322	Cutlery and handtool manufacturing	0.1%
3212	Plywood and engineered wood product mfg.	0.1%
3272	Glass and glass product manufacturing	0.1%
5612	Facilities support services	0.1%
3369	Other transportation equipment manufacturing	0.0%
3141	Textile furnishings mills	0.0%
Total		100.0%

Sources: United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), 2015; Strategic Economics, 2017.

FIGURE 38: OCCUPATIONAL MIX AND AVERAGE WAGES FOR HOTEL PROTOTYPE

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
11-0000	Management Occupations		
11-9081	Lodging Managers	$59,324	1.759%
11-1021	General and Operations Managers	$119,865	1.022%
11-9051	Food Service Managers	$56,049	0.486%
11-2022	Sales Managers	$119,026	0.351%
11-3031	Financial Managers	$128,870	0.211%
11-3011	Administrative Services Managers	$89,359	0.171%
11-9199	Managers, All Other	$135,154	0.164%
11-3121	Human Resources Managers	$124,337	0.096%
11-2021	Marketing Managers	$151,640	0.072%
11-1011	Chief Executives	$205,826	0.063%
11-9141	Property, Real Estate, and Community Association Managers	$65,556	0.039%
11-2011	Advertising and Promotions Managers	$115,618	0.037%
11-3021	Computer and Information Systems Managers	$139,094	0.024%
11-3061	Purchasing Managers	$110,941	0.019%
11-2031	Public Relations and Fundraising Managers	$78,532	0.010%
11-9151	Social and Community Service Managers	$81,131	0.005%
11-3131	Training and Development Managers	$121,042	0.004%
11-3071	Transportation, Storage, and Distribution Managers	$117,614	0.004%
11-9021	Construction Managers	$102,427	0.004%
11-9041	Architectural and Engineering Managers	$146,646	0.003%
	Weighted Mean Annual Wage	**$90,595**	**4.543%**
13-0000	Business and Financial Operations Occupations		
13-1121	Meeting, Convention, and Event Planners	$54,626	0.501%
13-2011	Accountants and Auditors	$78,082	0.452%
13-1071	Human Resources Specialists	$72,740	0.218%
13-1161	Market Research Analysts and Marketing Specialists	$87,681	0.098%
13-1199	Business Operations Specialists, All Other	$71,860	0.095%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	$68,513	0.078%
13-1151	Training and Development Specialists	$77,938	0.032%

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
13-1141	Compensation, Benefits, and Job Analysis Specialists	$73,476	0.019%
13-1131	Fundraisers	$53,716	0.012%
13-1041	Compliance Officers	$73,763	0.012%
13-2051	Financial Analysts	$76,229	0.011%
13-2099	Financial Specialists, All Other	$61,073	0.009%
13-1075	Labor Relations Specialists	$77,723	0.008%
13-1022	Wholesale and Retail Buyers, Except Farm Products	$49,315	0.004%
13-2041	Credit Analysts	$73,139	0.003%
13-2031	Budget Analysts	$78,777	0.002%
	Weighted Mean Annual Wage	**$69,023**	**1.554%**
15-0000	Computer and Mathematical Occupations		
15-1151	Computer User Support Specialists	$60,728	0.040%
15-1199	Computer Occupations, All Other	$93,242	0.039%
15-1152	Computer Network Support Specialists	$57,593	0.012%
15-1134	Web Developers	$75,296	0.006%
15-1141	Database Administrators	$81,778	0.006%
15-1131	Computer Programmers	$80,480	0.003%
15-1143	Computer Network Architects	$113,633	0.003%
15-1133	Software Developers, Systems Software	$131,032	0.002%
	Weighted Mean Annual Wage	**$76,766**	**0.111%**
17-0000	Architecture and Engineering Occupations		
17-2141	Mechanical Engineers	$97,686	0.005%
17-2051	Civil Engineers	$103,448	0.005%
17-3023	Electrical and Electronics Engineering Technicians	$66,743	0.004%
	Weighted Mean Annual Wage	**$90,438**	0.014%
19-0000	Life, Physical, and Social Science Occupations	$79,688	0.006%
	Weighted Mean Annual Wage	**$79,688**	**0.006%**
21-0000	Community and Social Service Occupations		
21-1019	Counselors, All Other	$45,287	0.003%
	Weighted Mean Annual Wage	**$45,287**	**0.003%**

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
23-0000	Legal Occupations		
23-1011	Lawyers	$148,420	0.003%
	Weighted Mean Annual Wage	**$148,420**	**0.003%**
25-0000	Education, Training, and Library Occupations		
25-3021	Self-Enrichment Education Teachers	$47,478	0.029%
25-3097	Teachers and Instructors, All Other, Except Substitute Teachers	$53,930	0.011%
25-9031	Instructional Coordinators	$67,890	0.002%
	Weighted Mean Annual Wage	**$49,968**	**0.042%**
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations		
27-4011	Audio and Video Equipment Technicians	$49,578	0.133%
27-2022	Coaches and Scouts	$48,249	0.054%
27-3031	Public Relations Specialists	$61,275	0.053%
27-3099	Media and Communication Workers, All Other	$70,284	0.021%
27-1024	Graphic Designers	$61,559	0.013%
27-1023	Floral Designers	$32,109	0.009%
27-2012	Producers and Directors	$72,303	0.005%
27-1025	Interior Designers	$65,810	0.003%
27-1014	Multimedia Artists and Animators	$72,668	0.002%
27-3043	Writers and Authors	$46,251	0.002%
	Weighted Mean Annual Wage	**$53,645**	**0.294%**
29-0000	Healthcare Practitioners and Technical Occupations		
29-2041	Emergency Medical Technicians and Paramedics	$37,567	0.011%
29-1141	Registered Nurses	$101,571	0.008%
29-2061	Licensed Practical and Licensed Vocational Nurses	$54,529	0.002%
29-9011	Occupational Health and Safety Specialists	$81,657	0.002%
	Weighted Mean Annual Wage	**$64,937**	**0.024%**
31-0000	Healthcare Support Occupations		
31-9011	Massage Therapists	$59,135	0.485%
31-9099	Healthcare Support Workers, All Other	$47,071	0.002%

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
	Weighted Mean Annual Wage	**$59,095**	**0.486%**
33-0000	Protective Service Occupations		
33-9032	Security Guards	$30,480	1.675%
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	$26,717	0.429%
33-1099	First-Line Supervisors of Protective Service Workers, All Other	$64,814	0.167%
33-9099	Protective Service Workers, All Other	$44,787	0.020%
	Weighted Mean Annual Wage	**$32,409**	**2.292%**
35-0000	Food Preparation and Serving Related Occupations		
35-3031	Waiters and Waitresses	$31,245	7.610%
35-2014	Cooks, Restaurant	$29,266	3.686%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	$27,635	2.783%
35-3011	Bartenders	$31,224	2.175%
35-9021	Dishwashers	$22,679	1.780%
35-3041	Food Servers, Nonrestaurant	$29,012	1.764%
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	$36,201	1.379%
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	$22,424	0.916%
35-2021	Food Preparation Workers	$24,831	0.880%
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$21,935	0.869%
35-1011	Chefs and Head Cooks	$47,958	0.784%
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	$25,748	0.583%
35-2012	Cooks, Institution and Cafeteria	$29,868	0.322%
35-9099	Food Preparation and Serving Related Workers, All Other	$33,519	0.269%
35-2015	Cooks, Short Order	$24,402	0.251%
35-2019	Cooks, All Other	$39,362	0.103%
35-2011	Cooks, Fast Food	$22,077	0.097%
	Weighted Mean Annual Wage	**$29,597**	**26.249%**
37-0000	Building and Grounds Cleaning and Maintenance Occupations		
37-2012	Maids and Housekeeping Cleaners	$27,737	24.064%
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$29,817	2.547%
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	$45,470	1.785%
37-3011	Landscaping and Groundskeeping Workers	$33,458	1.051%

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	$41,361	0.128%
	Weighted Mean Annual Wage	**$29,249**	**29.574%**
39-0000	Personal Care and Service Occupations		
39-6011	Baggage Porters and Bellhops	$24,698	1.349%
39-6012	Concierges	$29,654	0.652%
39-3091	Amusement and Recreation Attendants	$23,831	0.626%
39-9032	Recreation Workers	$27,839	0.584%
39-1021	First-Line Supervisors of Personal Service Workers	$44,532	0.257%
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	$28,124	0.164%
39-9031	Fitness Trainers and Aerobics Instructors	$57,166	0.130%
39-5094	Skincare Specialists	$36,721	0.111%
39-3031	Ushers, Lobby Attendants, and Ticket Takers	$20,854	0.110%
39-9041	Residential Advisors	$35,212	0.091%
39-7011	Tour Guides and Escorts	$31,897	0.065%
39-5092	Manicurists and Pedicurists	$23,627	0.064%
39-5012	Hairdressers, Hairstylists, and Cosmetologists	$27,084	0.057%
39-9011	Childcare Workers	$29,807	0.042%
39-2021	Nonfarm Animal Caretakers	$30,449	0.021%
39-9021	Personal Care Aides	$24,984	0.016%
39-2011	Animal Trainers	$59,746	0.004%
	Weighted Mean Annual Wage	**$28,673**	**4.343%**
41-0000	Sales and Related Occupations		
41-3099	Sales Representatives, Services, All Other	$64,271	1.091%
41-2011	Cashiers	$25,383	0.809%
41-2031	Retail Salespersons	$28,688	0.341%
41-1011	First-Line Supervisors of Retail Sales Workers	$44,660	0.146%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	$68,557	0.086%
41-9099	Sales and Related Workers, All Other	$46,803	0.036%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$68,506	0.026%
41-9041	Telemarketers	$27,202	0.025%
41-9022	Real Estate Sales Agents	$65,019	0.010%
41-3011	Advertising Sales Agents	$60,419	0.005%

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
41-9011	Demonstrators and Product Promoters	$30,397	0.003%
	Weighted Mean Annual Wage	**$45,789**	**2.579%**
43-0000	Office and Administrative Support Occupations		
43-4081	Hotel, Motel, and Resort Desk Clerks	$30,813	12.538%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	$60,746	1.526%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	$47,698	1.091%
43-9061	Office Clerks, General	$38,191	0.627%
43-4051	Customer Service Representatives	$42,264	0.526%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$42,060	0.504%
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	$40,985	0.462%
43-2011	Switchboard Operators, Including Answering Service	$42,817	0.347%
43-4171	Receptionists and Information Clerks	$34,559	0.250%
43-5081	Stock Clerks and Order Fillers	$28,715	0.215%
43-6011	Executive Secretaries and Executive Administrative Assistants	$58,955	0.173%
43-5071	Shipping, Receiving, and Traffic Clerks	$34,538	0.138%
43-9199	Office and Administrative Support Workers, All Other	$27,610	0.093%
43-3051	Payroll and Timekeeping Clerks	$48,384	0.085%
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	$41,906	0.077%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	$52,784	0.076%
43-3021	Billing and Posting Clerks	$43,359	0.057%
43-3061	Procurement Clerks	$43,216	0.038%
43-5061	Production, Planning, and Expediting Clerks	$57,256	0.033%
43-5021	Couriers and Messengers	$32,890	0.016%
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	$32,430	0.010%
43-4041	Credit Authorizers, Checkers, and Clerks	$47,299	0.009%
43-4151	Order Clerks	$43,779	0.009%
43-3011	Bill and Account Collectors	$50,983	0.008%
43-4199	Information and Record Clerks, All Other	$35,674	0.008%
43-9021	Data Entry Keyers	$32,665	0.005%
43-9011	Computer Operators	$53,583	0.005%
43-9071	Office Machine Operators, Except Computer	$35,398	0.004%
43-3099	Financial Clerks, All Other	$41,077	0.004%
43-4071	File Clerks	$29,943	0.004%

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	$31,591	0.004%
	Weighted Mean Annual Wage	**$36,177**	**18.941%**
45-0000	Farming, Fishing, and Forestry Occupations		
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	$31,955	0.028%
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$25,989	0.004%
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	$43,888	0.003%
	Weighted Mean Annual Wage	**$32,230**	**0.035%**
47-0000	Construction and Extraction Occupations		
47-2141	Painters, Construction and Maintenance	$58,036	0.076%
47-2031	Carpenters	$64,876	0.058%
47-2111	Electricians	$74,156	0.026%
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$89,412	0.011%
47-2152	Plumbers, Pipefitters, and Steamfitters	$57,335	0.011%
47-2073	Operating Engineers and Other Construction Equipment Operators	$64,836	0.009%
47-2061	Construction Laborers	$45,778	0.008%
47-4051	Highway Maintenance Workers	$56,166	0.002%
	Weighted Mean Annual Wage	**$63,618**	**0.201%**
49-0000	Installation, Maintenance, and Repair Occupations		
49-9071	Maintenance and Repair Workers, General	$47,655	4.614%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	$83,042	0.412%
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	$39,402	0.144%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	$36,044	0.042%
49-9099	Installation, Maintenance, and Repair Workers, All Other	$44,995	0.035%
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$62,997	0.029%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	$47,149	0.011%
49-9041	Industrial Machinery Mechanics	$51,771	0.010%
49-3023	Automotive Service Technicians and Mechanics	$49,586	0.009%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	$64,959	0.006%
49-9094	Locksmiths and Safe Repairers	$41,738	0.006%
49-9043	Maintenance Workers, Machinery	$50,658	0.003%
	Weighted Mean Annual Wage	**$50,174**	**5.321%**

Occupation Code	Occupation Name	Average Annual Wage	% of Total Hotel Workers
51-0000	Production Occupations		
51-6011	Laundry and Dry-Cleaning Workers	$24,498	1.679%
51-3011	Bakers	$30,490	0.199%
51-1011	First-Line Supervisors of Production and Operating Workers	$61,929	0.060%
51-8021	Stationary Engineers and Boiler Operators	$69,094	0.060%
51-6052	Tailors, Dressmakers, and Custom Sewers	$33,317	0.018%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$47,046	0.017%
51-6031	Sewing Machine Operators	$30,255	0.010%
51-3021	Butchers and Meat Cutters	$28,938	0.009%
51-9198	Helpers--Production Workers	$27,285	0.005%
51-6021	Pressers, Textile, Garment, and Related Materials	$24,712	0.003%
51-8031	Water and Wastewater Treatment Plant and System Operators	$77,771	0.003%
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	$40,963	0.003%
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	$29,030	0.002%
51-9199	Production Workers, All Other	$30,571	0.002%
	Weighted Mean Annual Wage	**$27,884**	**2.070%**
53-0000	Transportation and Material Moving Occupations		
53-6021	Parking Lot Attendants	$24,674	0.470%
53-3041	Taxi Drivers and Chauffeurs	$35,442	0.446%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$30,236	0.294%
53-3033	Light Truck or Delivery Services Drivers	$37,785	0.028%
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	$56,346	0.027%
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	$49,093	0.019%
53-6031	Automotive and Watercraft Service Attendants	$24,786	0.007%
53-7081	Refuse and Recyclable Material Collectors	$46,515	0.006%
53-3021	Bus Drivers, Transit and Intercity	$40,596	0.005%
53-3032	Heavy and Tractor-Trailer Truck Drivers	$47,829	0.005%
53-7061	Cleaners of Vehicles and Equipment	$25,112	0.005%
53-3099	Motor Vehicle Operators, All Other	$30,674	0.003%
	Weighted Mean Annual Wage	**$31,116**	**1.315%**

Sources: Bureau of Labor Statistics, Occupational Employment Statistics, 2015 and Quarterly Census of Employment and Wages (QCEW), 2015; California Economic Development Department, OES Employment and Wages by Occupation, Santa Rosa-Petaluma Metropolitan Statistical Area, 2015.

FIGURE 39: OCCUPATIONAL MIX AND AVERAGE WAGES FOR RETAIL/RESTAURANTS/SERVICES PROTOTYPE

Occupation Code	Occupation Name	Average Annual Wage	% of Total
11-0000	Management Occupations		
11-9051	Food Service Managers	$56,049	1.176%
11-1021	General and Operations Managers	$119,865	0.850%
11-2022	Sales Managers	$119,026	0.070%
11-1011	Chief Executives	$205,826	0.024%
11-3011	Administrative Services Managers	$89,359	0.020%
11-3031	Financial Managers	$128,870	0.014%
11-9199	Managers, All Other	$135,154	0.008%
11-2011	Advertising and Promotions Managers	$115,618	0.008%
11-3061	Purchasing Managers	$110,941	0.004%
11-3121	Human Resources Managers	$124,337	0.003%
11-3071	Transportation, Storage, and Distribution Managers	$117,614	0.002%
11-2021	Marketing Managers	$151,640	0.002%
11-3131	Training and Development Managers	$121,042	0.002%
11-3021	Computer and Information Systems Managers	$139,094	0.002%
11-9111	Medical and Health Services Managers	$117,399	0.001%
11-3051	Industrial Production Managers	$105,538	0.000%
11-9021	Construction Managers	$102,427	0.000%
11-9041	Architectural and Engineering Managers	$146,646	0.000%
11-2031	Public Relations and Fundraising Managers	$78,532	0.000%
11-9151	Social and Community Service Managers	$81,131	0.000%
11-9141	Property, Real Estate, and Community Association Managers	$65,556	0.000%
11-9013	Farmers, Ranchers, and Other Agricultural Managers	$116,733	0.000%
11-9081	Lodging Managers	$59,324	0.000%
	Weighted Mean Annual Wage	**$86,307**	**2.186%**
13-0000	Business and Financial Operations Occupations		
13-1022	Wholesale and Retail Buyers, Except Farm Products	$49,315	0.040%
13-1151	Training and Development Specialists	$77,938	0.030%
13-1071	Human Resources Specialists	$72,740	0.027%
13-1199	Business Operations Specialists, All Other	$71,860	0.022%
13-1121	Meeting, Convention, and Event Planners	$54,626	0.021%
13-2011	Accountants and Auditors	$78,082	0.019%
13-1051	Cost Estimators	$70,795	0.019%
13-1161	Market Research Analysts and Marketing Specialists	$87,681	0.017%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	$68,513	0.012%
13-2072	Loan Officers	$74,981	0.011%
13-1021	Buyers and Purchasing Agents, Farm Products	$70,846	0.003%
13-1141	Compensation, Benefits, and Job Analysis Specialists	$73,476	0.002%
13-2099	Financial Specialists, All Other	$61,073	0.002%
13-1111	Management Analysts	$90,045	0.001%
13-1075	Labor Relations Specialists	$77,723	0.001%
13-2041	Credit Analysts	$73,139	0.001%
13-1081	Logisticians	$78,880	0.000%
13-1041	Compliance Officers	$73,763	0.000%
13-2051	Financial Analysts	$76,229	0.000%
13-1031	Claims Adjusters, Examiners, and Investigators	$65,433	0.000%
13-2071	Credit Counselors	$40,893	0.000%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
13-1131	Fundraisers	$53,716	0.000%
13-2031	Budget Analysts	$78,777	0.000%
	Weighted Mean Annual Wage	**$68,906**	**0.229%**
15-0000	Computer and Mathematical Occupations		
15-1151	Computer User Support Specialists	$60,728	0.008%
15-1134	Web Developers	$75,296	0.002%
15-1152	Computer Network Support Specialists	$57,593	0.002%
15-1131	Computer Programmers	$80,480	0.001%
15-1132	Software Developers, Applications	$114,364	0.001%
15-1121	Computer Systems Analysts	$83,878	0.001%
15-1133	Software Developers, Systems Software	$131,032	0.001%
15-1199	Computer Occupations, All Other	$93,242	0.001%
15-1141	Database Administrators	$81,778	0.000%
15-1143	Computer Network Architects	$113,633	0.000%
15-2031	Operations Research Analysts	$71,938	0.000%
15-2041	Statisticians	$96,681	0.000%
	Weighted Mean Annual Wage	**$74,161**	**0.019%**
17-0000	Architecture and Engineering Occupations		
17-3011	Architectural and Civil Drafters	$61,113	0.001%
17-2141	Mechanical Engineers	$97,686	0.000%
17-2071	Electrical Engineers	$111,026	0.000%
17-3023	Electrical and Electronics Engineering Technicians	$66,743	0.000%
17-2112	Industrial Engineers	$94,520	0.000%
17-2072	Electronics Engineers, Except Computer	$113,014	0.000%
17-3019	Drafters, All Other	$57,157	0.000%
17-2199	Engineers, All Other	$98,538	0.000%
17-1012	Landscape Architects	$87,825	0.000%
17-3013	Mechanical Drafters	$68,935	0.000%
17-3027	Mechanical Engineering Technicians	$59,723	0.000%
17-2061	Computer Hardware Engineers	$122,236	0.000%
17-2031	Biomedical Engineers	$115,246	0.000%
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	$95,048	0.000%
17-2131	Materials Engineers	$94,551	0.000%
17-3029	Engineering Technicians, Except Drafters, All Other	$53,961	0.000%
17-3024	Electro-Mechanical Technicians	$56,761	0.000%
17-3026	Industrial Engineering Technicians	$67,687	0.000%
17-3012	Electrical and Electronics Drafters	$75,357	0.000%
	Weighted Mean Annual Wage	**$81,868**	**0.002%**
19-0000	Life, Physical, and Social Science Occupations		
19-4099	Life, Physical, and Social Science Technicians, All Other	$58,455	0.000%
	Weighted Mean Annual Wage	**$58,455**	**0.000%**
21-0000	Community and Social Service Occupations		
21-1019	Counselors, All Other	$45,287	0.000%
21-1091	Health Educators	$56,903	0.000%
21-1093	Social and Human Service Assistants	$36,238	0.000%
21-1099	Community and Social Service Specialists, All Other	$50,258	0.000%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
21-1012	Educational, Guidance, School, and Vocational Counselors	$62,401	0.000%
21-1022	Healthcare Social Workers	$73,358	0.000%
21-1015	Rehabilitation Counselors	$48,259	0.000%
21-2011	Clergy	$53,890	0.000%
	Weighted Mean Annual Wage	**$47,101**	**0.001%**
23-0000	Legal Occupations		
23-2093	Title Examiners, Abstractors, and Searchers	$72,272	0.001%
23-1011	Lawyers	$148,420	0.000%
23-2011	Paralegals and Legal Assistants	$52,977	0.000%
	Weighted Mean Annual Wage	**$81,793**	**0.001%**
25-0000	Education, Training, and Library Occupations		
25-3021	Self-Enrichment Education Teachers	$47,478	0.004%
25-4012	Curators	$56,781	0.000%
25-1194	Vocational Education Teachers, Postsecondary	$62,584	0.000%
	Weighted Mean Annual Wage	**$47,515**	**0.004%**
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations		
27-1026	Merchandise Displayers and Window Trimmers	$40,133	0.046%
27-1023	Floral Designers	$32,109	0.027%
27-3031	Public Relations Specialists	$61,275	0.012%
27-1024	Graphic Designers	$61,559	0.007%
27-1025	Interior Designers	$65,810	0.003%
27-4011	Audio and Video Equipment Technicians	$49,578	0.001%
27-4021	Photographers	$35,203	0.001%
27-3043	Writers and Authors	$46,251	0.000%
27-1011	Art Directors	$98,801	0.000%
27-3041	Editors	$66,601	0.000%
27-2022	Coaches and Scouts	$48,249	0.000%
27-1021	Commercial and Industrial Designers	$75,478	0.000%
27-2012	Producers and Directors	$72,303	0.000%
27-3099	Media and Communication Workers, All Other	$70,284	0.000%
27-3042	Technical Writers	$78,167	0.000%
27-1014	Multimedia Artists and Animators	$72,668	0.000%
27-3011	Radio and Television Announcers	$58,059	0.000%
	Weighted Mean Annual Wage	**$43,094**	**0.098%**
29-0000	Healthcare Practitioners and Technical Occupations		
29-2052	Pharmacy Technicians	$45,997	0.244%
29-1051	Pharmacists	$143,814	0.175%
29-2081	Opticians, Dispensing	$43,968	0.022%
29-1041	Optometrists	$116,788	0.003%
29-1031	Dietitians and Nutritionists	$78,339	0.002%
29-1141	Registered Nurses	$101,571	0.002%
29-1126	Respiratory Therapists	$82,570	0.001%
29-9099	Healthcare Practitioners and Technical Workers, All Other	$55,736	0.000%
29-2071	Medical Records and Health Information Technicians	$43,877	0.000%
29-1171	Nurse Practitioners	$108,987	0.000%
29-1199	Health Diagnosing and Treating Practitioners, All Other	$93,374	0.000%
29-2099	Health Technologists and Technicians, All Other	$57,593	0.000%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
29-2061	Licensed Practical and Licensed Vocational Nurses	$54,529	0.000%
29-2056	Veterinary Technologists and Technicians	$45,601	0.000%
29-1131	Veterinarians	$125,168	0.000%
29-9011	Occupational Health and Safety Specialists	$81,657	0.000%
29-2034	Radiologic Technologists	$73,510	0.000%
29-1069	Physicians and Surgeons, All Other	$155,187	0.000%
	Weighted Mean Annual Wage	**$84,825**	**0.452%**
31-0000	Healthcare Support Occupations		
31-9095	Pharmacy Aides	$34,753	0.032%
31-9011	Massage Therapists	$59,135	0.023%
31-9099	Healthcare Support Workers, All Other	$47,071	0.002%
31-9092	Medical Assistants	$41,279	0.001%
31-9093	Medical Equipment Preparers	$42,870	0.000%
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	$27,951	0.000%
31-1011	Home Health Aides	$25,340	0.000%
	Weighted Mean Annual Wage	**$45,043**	**0.058%**
33-0000	Protective Service Occupations		
33-9032	Security Guards	$30,480	0.143%
33-1099	First-Line Supervisors of Protective Service Workers, All Other	$64,814	0.007%
33-9099	Protective Service Workers, All Other	$44,787	0.001%
33-9091	Crossing Guards	$28,298	0.000%
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	$26,717	0.000%
	Weighted Mean Annual Wage	**$32,091**	**0.150%**
35-0000	Food Preparation and Serving Related Occupations		
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$21,935	21.537%
35-3031	Waiters and Waitresses	$31,245	16.938%
35-2014	Cooks, Restaurant	$29,266	8.137%
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	$36,201	5.372%
35-2021	Food Preparation Workers	$24,831	4.116%
35-2011	Cooks, Fast Food	$22,077	4.104%
35-9021	Dishwashers	$22,679	3.093%
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	$22,424	2.875%
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	$25,748	2.344%
35-3011	Bartenders	$31,224	2.209%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	$27,635	2.176%
35-2015	Cooks, Short Order	$24,402	1.103%
35-1011	Chefs and Head Cooks	$47,958	0.613%
35-3041	Food Servers, Nonrestaurant	$29,012	0.251%
35-9099	Food Preparation and Serving Related Workers, All Other	$33,519	0.229%
35-2012	Cooks, Institution and Cafeteria	$29,868	0.081%
35-2019	Cooks, All Other	$39,362	0.007%
	Weighted Mean Annual Wage	**$26,935**	**75.185%**
37-0000	Building and Grounds Cleaning and Maintenance Occupations		

Occupation Code	Occupation Name	Average Annual Wage	% of Total
	Janitors and Cleaners, Except Maids and Housekeeping		
37-2011	Cleaners	$29,817	0.429%
37-2012	Maids and Housekeeping Cleaners	$27,737	0.014%
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	$45,470	0.005%
37-3011	Landscaping and Groundskeeping Workers	$33,458	0.004%
	First-Line Supervisors of Landscaping, Lawn Service, and		
37-1012	Groundskeeping Workers	$41,361	0.000%
	Weighted Mean Annual Wage	**$29,950**	**0.453%**
39-0000	Personal Care and Service Occupations		
39-5012	Hairdressers, Hairstylists, and Cosmetologists	$27,084	0.195%
39-5092	Manicurists and Pedicurists	$23,627	0.044%
39-2021	Nonfarm Animal Caretakers	$30,449	0.032%
39-3091	Amusement and Recreation Attendants	$23,831	0.031%
39-1021	First-Line Supervisors of Personal Service Workers	$44,532	0.019%
39-5094	Skincare Specialists	$36,721	0.017%
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	$28,124	0.004%
39-2011	Animal Trainers	$59,746	0.002%
39-9031	Fitness Trainers and Aerobics Instructors	$57,166	0.002%
39-9011	Childcare Workers	$29,807	0.001%
39-6012	Concierges	$29,654	0.001%
39-6011	Baggage Porters and Bellhops	$24,698	0.001%
39-7011	Tour Guides and Escorts	$31,897	0.001%
39-9021	Personal Care Aides	$24,984	0.001%
39-9032	Recreation Workers	$27,839	0.000%
39-3031	Ushers, Lobby Attendants, and Ticket Takers	$20,854	0.000%
	Weighted Mean Annual Wage	**$28,474**	**0.351%**
41-0000	Sales and Related Occupations		
41-2011	Cashiers	$25,383	6.644%
41-2031	Retail Salespersons	$28,688	3.062%
41-1011	First-Line Supervisors of Retail Sales Workers	$44,660	1.113%
41-2021	Counter and Rental Clerks	$31,023	0.134%
41-2022	Parts Salespersons	$30,376	0.098%
41-3099	Sales Representatives, Services, All Other	$64,271	0.066%
	Sales Representatives, Wholesale and Manufacturing, Except		
41-4012	Technical and Scientific Products	$68,506	0.058%
41-9099	Sales and Related Workers, All Other	$46,803	0.038%
41-9011	Demonstrators and Product Promoters	$30,397	0.015%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	$68,557	0.012%
41-3041	Travel Agents	$41,193	0.006%
41-9041	Telemarketers	$27,202	0.006%
	Sales Representatives, Wholesale and Manufacturing, Technical		
41-4011	and Scientific Products	$103,927	0.004%
41-3031	Securities, Commodities, and Financial Services Sales Agents	$94,091	0.002%
41-3011	Advertising Sales Agents	$60,419	0.001%
41-9031	Sales Engineers	$96,062	0.001%
41-3021	Insurance Sales Agents	$72,893	0.000%
	Weighted Mean Annual Wage	**$28,932**	**11.260%**
43-0000	Office and Administrative Support Occupations		

Occupation Code	Occupation Name	Average Annual Wage	% of Total
43-5081	Stock Clerks and Order Fillers	$28,715	2.375%
43-4051	Customer Service Representatives	$42,264	0.499%
43-9061	Office Clerks, General	$38,191	0.330%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	$47,698	0.325%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	$60,746	0.278%
43-5071	Shipping, Receiving, and Traffic Clerks	$34,538	0.143%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$42,060	0.116%
43-4171	Receptionists and Information Clerks	$34,559	0.071%
43-4151	Order Clerks	$43,779	0.037%
43-3051	Payroll and Timekeeping Clerks	$48,384	0.031%
43-3021	Billing and Posting Clerks	$43,359	0.024%
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	$41,906	0.022%
43-6011	Executive Secretaries and Executive Administrative Assistants	$58,955	0.017%
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	$31,591	0.015%
43-5061	Production, Planning, and Expediting Clerks	$57,256	0.012%
43-4071	File Clerks	$29,943	0.011%
43-3061	Procurement Clerks	$43,216	0.011%
43-2011	Switchboard Operators, Including Answering Service	$42,817	0.009%
43-9021	Data Entry Keyers	$32,665	0.008%
43-3011	Bill and Account Collectors	$50,983	0.008%
43-4199	Information and Record Clerks, All Other	$35,674	0.007%
43-9199	Office and Administrative Support Workers, All Other	$27,610	0.007%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	$52,784	0.006%
43-9011	Computer Operators	$53,583	0.006%
43-9071	Office Machine Operators, Except Computer	$35,398	0.006%
43-4131	Loan Interviewers and Clerks	$39,286	0.003%
43-4041	Credit Authorizers, Checkers, and Clerks	$47,299	0.003%
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	$40,985	0.002%
43-5021	Couriers and Messengers	$32,890	0.001%
43-3099	Financial Clerks, All Other	$41,077	0.001%
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	$32,430	0.000%
43-9041	Insurance Claims and Policy Processing Clerks	$39,481	0.000%
43-6013	Medical Secretaries	$44,158	0.000%
43-4111	Interviewers, Except Eligibility and Loan	$43,871	0.000%
43-4031	Court, Municipal, and License Clerks	$45,324	0.000%
43-4081	Hotel, Motel, and Resort Desk Clerks	$30,813	0.000%
43-5011	Cargo and Freight Agents	$53,050	0.000%
	Weighted Mean Annual Wage	**$35,894**	**4.385%**
45-0000	Farming, Fishing, and Forestry Occupations		
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$25,989	0.003%
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	$43,888	0.000%
45-2091	Agricultural Equipment Operators	$31,610	0.000%
	Weighted Mean Annual Wage	**$27,700**	**0.004%**
47-0000	Construction and Extraction Occupations		
47-2121	Glaziers	$49,397	0.008%
47-2031	Carpenters	$64,876	0.007%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$89,412	0.002%
47-2061	Construction Laborers	$45,778	0.001%
47-2111	Electricians	$74,156	0.000%
47-2152	Plumbers, Pipefitters, and Steamfitters	$57,335	0.000%
47-3012	Helpers--Carpenters	$45,362	0.000%
47-2073	Operating Engineers and Other Construction Equipment Operators	$64,836	0.000%
47-2044	Tile and Marble Setters	$49,244	0.000%
47-2051	Cement Masons and Concrete Finishers	$47,923	0.000%
47-2211	Sheet Metal Workers	$73,190	0.000%
47-2231	Solar Photovoltaic Installers	$44,508	0.000%
47-2221	Structural Iron and Steel Workers	$63,494	0.000%
47-2141	Painters, Construction and Maintenance	$58,036	0.000%
47-3013	Helpers--Electricians	$40,493	0.000%
47-2071	Paving, Surfacing, and Tamping Equipment Operators	$58,463	0.000%
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	$34,781	0.000%
	Weighted Mean Annual Wage	**$59,640**	**0.020%**
49-0000	Installation, Maintenance, and Repair Occupations		
49-3023	Automotive Service Technicians and Mechanics	$49,586	0.439%
49-9071	Maintenance and Repair Workers, General	$47,655	0.119%
49-3021	Automotive Body and Related Repairers	$57,161	0.117%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	$83,042	0.078%
49-3093	Tire Repairers and Changers	$28,399	0.044%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	$54,795	0.029%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	$36,044	0.027%
49-9099	Installation, Maintenance, and Repair Workers, All Other	$44,995	0.012%
49-2011	Computer, Automated Teller, and Office Machine Repairers	$39,756	0.011%
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	$39,402	0.007%
49-9031	Home Appliance Repairers	$48,565	0.006%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	$47,149	0.005%
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$62,997	0.004%
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	$37,733	0.003%
49-9041	Industrial Machinery Mechanics	$51,771	0.003%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	$64,959	0.002%
49-9043	Maintenance Workers, Machinery	$50,658	0.001%
49-3041	Farm Equipment Mechanics and Service Technicians	$54,420	0.001%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	$63,462	0.000%
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	$54,178	0.000%
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	$62,400	0.000%
49-9094	Locksmiths and Safe Repairers	$41,738	0.000%
49-2098	Security and Fire Alarm Systems Installers	$46,856	0.000%
	Weighted Mean Annual Wage	**$51,734**	**0.908%**
51-0000	Production Occupations		

Occupation Code	Occupation Name	Average Annual Wage	% of Total
51-3011	Bakers	$30,490	0.445%
51-3021	Butchers and Meat Cutters	$28,938	0.354%
51-1011	First-Line Supervisors of Production and Operating Workers	$61,929	0.080%
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	$29,030	0.068%
51-3092	Food Batchmakers	$27,958	0.057%
51-3093	Food Cooking Machine Operators and Tenders	$32,664	0.034%
51-9122	Painters, Transportation Equipment	$49,670	0.026%
51-6011	Laundry and Dry-Cleaning Workers	$24,498	0.026%
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	$40,963	0.012%
51-6021	Pressers, Textile, Garment, and Related Materials	$24,712	0.010%
51-2099	Assemblers and Fabricators, All Other	$30,816	0.009%
51-9151	Photographic Process Workers and Processing Machine Operators	$48,812	0.008%
51-2092	Team Assemblers	$36,767	0.007%
51-6052	Tailors, Dressmakers, and Custom Sewers	$33,317	0.007%
51-9198	Helpers--Production Workers	$27,285	0.006%
51-9111	Packaging and Filling Machine Operators and Tenders	$33,103	0.006%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$47,046	0.005%
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	$27,060	0.005%
51-4121	Welders, Cutters, Solderers, and Brazers	$45,321	0.004%
51-6031	Sewing Machine Operators	$30,255	0.003%
51-4041	Machinists	$51,680	0.002%
51-7011	Cabinetmakers and Bench Carpenters	$48,710	0.002%
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	$32,950	0.002%
51-9199	Production Workers, All Other	$30,571	0.001%
51-9071	Jewelers and Precious Stone and Metal Workers	$67,951	0.001%
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	$34,369	0.001%
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	$35,287	0.001%
51-5112	Printing Press Operators	$39,176	0.001%
51-9082	Medical Appliance Technicians	$54,110	0.001%
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	$37,563	0.000%
51-6041	Shoe and Leather Workers and Repairers	$30,112	0.000%
51-9022	Grinding and Polishing Workers, Hand	$43,984	0.000%
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	$38,635	0.000%
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	$33,889	0.000%
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	$42,586	0.000%
51-5111	Prepress Technicians and Workers	$49,578	0.000%
51-2041	Structural Metal Fabricators and Fitters	$52,058	0.000%
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	$37,768	0.000%
51-2022	Electrical and Electronic Equipment Assemblers	$43,892	0.000%
51-8031	Water and Wastewater Treatment Plant and System Operators	$77,771	0.000%
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	$33,225	0.000%
51-8021	Stationary Engineers and Boiler Operators	$69,094	0.000%
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	$34,654	0.000%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	$30,857	0.000%
51-4111	Tool and Die Makers	$69,799	0.000%
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	$50,517	0.000%
	Weighted Mean Annual Wage	**$32,785**	**1.188%**
53-0000	Transportation and Material Moving Occupations		
53-3031	Driver/Sales Workers	$35,075	1.408%
53-7064	Packers and Packagers, Hand	$24,714	0.500%
53-3033	Light Truck or Delivery Services Drivers	$37,785	0.356%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$30,236	0.319%
53-7061	Cleaners of Vehicles and Equipment	$25,112	0.202%
53-6031	Automotive and Watercraft Service Attendants	$24,786	0.082%
53-6021	Parking Lot Attendants	$24,674	0.044%
53-3032	Heavy and Tractor-Trailer Truck Drivers	$47,829	0.036%
53-7051	Industrial Truck and Tractor Operators	$36,155	0.028%
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	$49,093	0.027%
53-3041	Taxi Drivers and Chauffeurs	$35,442	0.016%
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	$56,346	0.014%
53-3099	Motor Vehicle Operators, All Other	$30,674	0.010%
53-7199	Material Moving Workers, All Other	$40,342	0.002%
53-3021	Bus Drivers, Transit and Intercity	$40,596	0.001%
53-7032	Excavating and Loading Machine and Dragline Operators	$70,730	0.000%
53-7063	Machine Feeders and Offbearers	$29,706	0.000%
53-2012	Commercial Pilots	$138,364	0.000%
	Weighted Mean Annual Wage	**$32,481**	**3.047%**

Sources: Bureau of Labor Statistics, Occupational Employment Statistics, 2015 and Quarterly Census of Employment and Wages (QCEW), 2015; California Economic Development Department, OES Employment and Wages by Occupation, Santa Rosa-Petaluma Metropolitan Statistical Area, 2015.

FIGURE 40: OCCUPATIONAL MIX AND AVERAGE WAGES FOR BUSINESS PARK/LIGHT INDUSTRIAL PROTOTYPE

Occupation Code	Occupation Name	Average Annual Wage	% of Total
11-0000	Management Occupations		
11-1021	General and Operations Managers	$119,865	1.827%
11-3031	Financial Managers	$128,870	0.670%
11-9021	Construction Managers	$102,427	0.466%
11-3021	Computer and Information Systems Managers	$139,094	0.393%
11-9111	Medical and Health Services Managers	$117,399	0.341%
11-9199	Managers, All Other	$135,154	0.295%
11-2022	Sales Managers	$119,026	0.248%
11-9041	Architectural and Engineering Managers	$146,646	0.247%
11-2021	Marketing Managers	$151,640	0.239%
11-1011	Chief Executives	$205,826	0.221%
11-3011	Administrative Services Managers	$89,359	0.220%
11-9141	Property, Real Estate, and Community Association Managers	$65,556	0.217%
11-3121	Human Resources Managers	$124,337	0.144%
11-3051	Industrial Production Managers	$105,538	0.095%
11-3061	Purchasing Managers	$110,941	0.069%
11-3071	Transportation, Storage, and Distribution Managers	$117,614	0.049%
11-9121	Natural Sciences Managers	$170,633	0.045%
11-9051	Food Service Managers	$56,049	0.042%
11-9151	Social and Community Service Managers	$81,131	0.036%
11-3131	Training and Development Managers	$121,042	0.036%
11-2031	Public Relations and Fundraising Managers	$78,532	0.034%
11-2011	Advertising and Promotions Managers	$115,618	0.014%
11-9081	Lodging Managers	$59,324	0.004%
11-9031	Education Administrators, Preschool and Childcare Center/Program	$56,427	0.003%
11-9039	Education Administrators, All Other	$90,403	0.002%
11-9032	Education Administrators, Elementary and Secondary School	$93,657	0.002%
11-9013	Farmers, Ranchers, and Other Agricultural Managers	$116,733	0.002%
11-9033	Education Administrators, Postsecondary	$104,525	0.001%
	Weighted Mean Annual Wage	**$122,964**	**5.963%**
13-0000	Business and Financial Operations Occupations		
13-2011	Accountants and Auditors	$78,082	1.406%
13-1071	Human Resources Specialists	$72,740	0.775%
13-1111	Management Analysts	$90,045	0.774%
13-1199	Business Operations Specialists, All Other	$71,860	0.740%
13-1161	Market Research Analysts and Marketing Specialists	$87,681	0.580%
13-2072	Loan Officers	$74,981	0.480%
13-1051	Cost Estimators	$70,795	0.398%
13-2051	Financial Analysts	$76,229	0.302%
13-1151	Training and Development Specialists	$77,938	0.223%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	$68,513	0.222%
13-1031	Claims Adjusters, Examiners, and Investigators	$65,433	0.182%
13-1041	Compliance Officers	$73,763	0.169%
13-2052	Personal Financial Advisors	$96,758	0.130%
13-1081	Logisticians	$78,880	0.120%
13-2099	Financial Specialists, All Other	$61,073	0.112%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
13-2041	Credit Analysts	$73,139	0.111%
13-2082	Tax Preparers	$46,235	0.111%
13-1141	Compensation, Benefits, and Job Analysis Specialists	$73,476	0.095%
13-1022	Wholesale and Retail Buyers, Except Farm Products	$49,315	0.078%
13-2053	Insurance Underwriters	$62,649	0.063%
13-2021	Appraisers and Assessors of Real Estate	$78,614	0.054%
13-2061	Financial Examiners	$68,503	0.048%
13-2031	Budget Analysts	$78,777	0.035%
13-1121	Meeting, Convention, and Event Planners	$54,626	0.034%
13-2071	Credit Counselors	$40,893	0.026%
13-1075	Labor Relations Specialists	$77,723	0.012%
13-1131	Fundraisers	$53,716	0.011%
13-1021	Buyers and Purchasing Agents, Farm Products	$70,846	0.007%
	Weighted Mean Annual Wage	**$76,205**	**7.297%**
15-0000	Computer and Mathematical Occupations		
15-1132	Software Developers, Applications	$114,364	0.913%
15-1121	Computer Systems Analysts	$83,878	0.734%
15-1151	Computer User Support Specialists	$60,728	0.668%
15-1133	Software Developers, Systems Software	$131,032	0.506%
15-1131	Computer Programmers	$80,480	0.377%
15-1152	Computer Network Support Specialists	$57,593	0.206%
15-1143	Computer Network Architects	$113,633	0.199%
15-1199	Computer Occupations, All Other	$93,242	0.146%
15-1134	Web Developers	$75,296	0.127%
15-1141	Database Administrators	$81,778	0.126%
15-2031	Operations Research Analysts	$71,938	0.099%
15-2041	Statisticians	$96,681	0.023%
	Weighted Mean Annual Wage	**$92,265**	**4.125%**
17-0000	Architecture and Engineering Occupations		
17-2051	Civil Engineers	$103,448	0.507%
17-2141	Mechanical Engineers	$97,686	0.331%
17-1011	Architects, Except Landscape and Naval	$89,154	0.256%
17-3011	Architectural and Civil Drafters	$61,113	0.247%
17-2071	Electrical Engineers	$111,026	0.247%
17-2112	Industrial Engineers	$94,520	0.215%
17-2072	Electronics Engineers, Except Computer	$113,014	0.177%
17-3023	Electrical and Electronics Engineering Technicians	$66,743	0.156%
17-2199	Engineers, All Other	$98,538	0.139%
17-3022	Civil Engineering Technicians	$65,110	0.107%
17-3031	Surveying and Mapping Technicians	$67,971	0.102%
17-1022	Surveyors	$74,616	0.101%
17-2061	Computer Hardware Engineers	$122,236	0.086%
17-3013	Mechanical Drafters	$68,935	0.085%
17-2081	Environmental Engineers	$108,774	0.078%
17-3029	Engineering Technicians, Except Drafters, All Other	$53,961	0.077%
17-3012	Electrical and Electronics Drafters	$75,357	0.064%
17-3027	Mechanical Engineering Technicians	$59,723	0.063%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
17-1012	Landscape Architects	$87,825	0.059%
17-3026	Industrial Engineering Technicians	$67,687	0.046%
17-3025	Environmental Engineering Technicians	$46,829	0.026%
17-2031	Biomedical Engineers	$115,246	0.024%
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	$95,048	0.023%
17-2131	Materials Engineers	$94,551	0.023%
17-3019	Drafters, All Other	$57,157	0.022%
17-3024	Electro-Mechanical Technicians	$56,761	0.016%
17-1021	Cartographers and Photogrammetrists	$80,693	0.016%
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	$85,420	0.008%
	Weighted Mean Annual Wage	**$89,177**	**3.301%**
19-0000	Life, Physical, and Social Science Occupations		
19-2041	Environmental Scientists and Specialists, Including Health	$88,372	0.093%
19-2031	Chemists	$89,732	0.083%
19-4099	Life, Physical, and Social Science Technicians, All Other	$58,455	0.081%
19-1042	Medical Scientists, Except Epidemiologists	$97,584	0.079%
19-3031	Clinical, Counseling, and School Psychologists	$74,859	0.073%
19-4031	Chemical Technicians	$46,697	0.072%
19-4091	Environmental Science and Protection Technicians, Including Health	$58,820	0.050%
19-4021	Biological Technicians	$42,243	0.044%
19-4061	Social Science Research Assistants	$44,059	0.020%
19-4011	Agricultural and Food Science Technicians	$46,981	0.018%
19-1012	Food Scientists and Technologists	$65,425	0.016%
19-3051	Urban and Regional Planners	$88,799	0.016%
19-1023	Zoologists and Wildlife Biologists	$81,575	0.007%
19-1031	Conservation Scientists	$73,388	0.003%
19-1032	Foresters	$80,480	0.002%
19-4093	Forest and Conservation Technicians	$31,784	0.002%
19-4092	Forensic Science Technicians	$75,600	0.002%
	Weighted Mean Annual Wage	**$71,245**	**0.659%**
21-0000	Community and Social Service Occupations		
21-1014	Mental Health Counselors	$45,886	0.184%
21-1023	Mental Health and Substance Abuse Social Workers	$44,536	0.166%
21-1093	Social and Human Service Assistants	$36,238	0.149%
21-1011	Substance Abuse and Behavioral Disorder Counselors	$51,922	0.128%
21-1022	Healthcare Social Workers	$73,358	0.093%
21-1021	Child, Family, and School Social Workers	$45,723	0.070%
21-1094	Community Health Workers	$39,849	0.047%
21-1091	Health Educators	$56,903	0.044%
21-1015	Rehabilitation Counselors	$48,259	0.039%
21-1013	Marriage and Family Therapists	$75,164	0.039%
21-1099	Community and Social Service Specialists, All Other	$50,258	0.026%
21-1012	Educational, Guidance, School, and Vocational Counselors	$62,401	0.011%
21-1029	Social Workers, All Other	$76,949	0.011%
21-1019	Counselors, All Other	$45,287	0.010%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
21-2011	Clergy	$53,890	0.004%
	Weighted Mean Annual Wage	**$49,561**	**1.019%**
23-0000	Legal Occupations		
23-1011	Lawyers	$148,420	0.687%
23-2011	Paralegals and Legal Assistants	$52,977	0.340%
23-2093	Title Examiners, Abstractors, and Searchers	$72,272	0.050%
	Weighted Mean Annual Wage	**$114,781**	**1.077%**
25-0000	Education, Training, and Library Occupations		
25-3098	Substitute Teachers	$36,430	0.237%
25-3097	Teachers and Instructors, All Other, Except Substitute Teachers	$53,930	0.051%
25-9041	Teacher Assistants	$30,729	0.037%
25-9099	Education, Training, and Library Workers, All Other	$36,836	0.016%
25-2021	Elementary School Teachers, Except Special Education	$59,226	0.015%
25-2022	Middle School Teachers, Except Special and Career/Technical Education	$65,506	0.013%
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	$68,894	0.012%
25-9031	Instructional Coordinators	$67,890	0.011%
25-2011	Preschool Teachers, Except Special Education	$36,339	0.009%
25-3021	Self-Enrichment Education Teachers	$47,478	0.007%
25-4021	Librarians	$68,630	0.006%
25-2052	Special Education Teachers, Kindergarten and Elementary School	$61,904	0.003%
25-2059	Special Education Teachers, All Other	$28,517	0.002%
25-1194	Vocational Education Teachers, Postsecondary	$62,584	0.001%
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	$73,916	0.001%
25-4031	Library Technicians	$43,461	0.001%
25-4012	Curators	$56,781	0.000%
	Weighted Mean Annual Wage	**$42,490**	**0.422%**
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations		
27-1024	Graphic Designers	$61,559	0.137%
27-3031	Public Relations Specialists	$61,275	0.098%
27-3041	Editors	$66,601	0.080%
27-3042	Technical Writers	$78,167	0.072%
27-4021	Photographers	$35,203	0.061%
27-1026	Merchandise Displayers and Window Trimmers	$40,133	0.057%
27-1025	Interior Designers	$65,810	0.044%
27-3091	Interpreters and Translators	$43,846	0.041%
27-3043	Writers and Authors	$46,251	0.024%
27-1021	Commercial and Industrial Designers	$75,478	0.021%
27-4011	Audio and Video Equipment Technicians	$49,578	0.018%
27-1011	Art Directors	$98,801	0.017%
27-1014	Multimedia Artists and Animators	$72,668	0.012%
27-2012	Producers and Directors	$72,303	0.011%
27-3099	Media and Communication Workers, All Other	$70,284	0.004%
27-4031	Camera Operators, Television, Video, and Motion Picture	$30,780	0.004%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
27-1023	Floral Designers	$32,109	0.002%
27-3011	Radio and Television Announcers	$58,059	0.001%
	Weighted Mean Annual Wage	**$59,694**	**0.704%**
29-0000	Healthcare Practitioners and Technical Occupations		
29-1141	Registered Nurses	$101,571	1.847%
29-1069	Physicians and Surgeons, All Other	$155,187	0.775%
29-2061	Licensed Practical and Licensed Vocational Nurses	$54,529	0.711%
29-2021	Dental Hygienists	$90,422	0.555%
29-1062	Family and General Practitioners	$222,945	0.434%
29-1171	Nurse Practitioners	$108,987	0.374%
29-1071	Physician Assistants	$142,851	0.326%
29-2071	Medical Records and Health Information Technicians	$43,877	0.284%
29-1021	Dentists, General	$161,193	0.277%
29-2034	Radiologic Technologists	$73,510	0.261%
29-2099	Health Technologists and Technicians, All Other	$57,593	0.205%
29-1123	Physical Therapists	$97,797	0.187%
29-1063	Internists, General	$270,099	0.170%
29-2012	Medical and Clinical Laboratory Technicians	$45,774	0.163%
29-1067	Surgeons	$269,662	0.163%
29-2056	Veterinary Technologists and Technicians	$45,601	0.152%
29-2055	Surgical Technologists	$56,396	0.130%
29-1065	Pediatricians, General	$242,200	0.109%
29-1131	Veterinarians	$125,168	0.103%
29-2011	Medical and Clinical Laboratory Technologists	$77,304	0.083%
29-2052	Pharmacy Technicians	$45,997	0.082%
29-2032	Diagnostic Medical Sonographers	$98,183	0.079%
29-2081	Opticians, Dispensing	$43,968	0.072%
29-1051	Pharmacists	$143,814	0.069%
29-1122	Occupational Therapists	$89,610	0.068%
29-1041	Optometrists	$116,788	0.059%
29-1031	Dietitians and Nutritionists	$78,339	0.057%
29-1127	Speech-Language Pathologists	$79,435	0.053%
29-9011	Occupational Health and Safety Specialists	$81,657	0.045%
29-1011	Chiropractors	$74,474	0.042%
29-2031	Cardiovascular Technologists and Technicians	$72,171	0.041%
29-1126	Respiratory Therapists	$82,570	0.033%
29-1199	Health Diagnosing and Treating Practitioners, All Other	$93,374	0.029%
29-9099	Healthcare Practitioners and Technical Workers, All Other	$55,736	0.028%
29-2035	Magnetic Resonance Imaging Technologists	$86,090	0.028%
29-2041	Emergency Medical Technicians and Paramedics	$37,567	0.025%
29-1124	Radiation Therapists	$112,771	0.025%
29-2053	Psychiatric Technicians	$51,668	0.023%
29-2033	Nuclear Medicine Technologists	$91,984	0.020%
29-9091	Athletic Trainers	$46,504	0.016%
29-2051	Dietetic Technicians	$42,649	0.004%
	Weighted Mean Annual Wage	**$111,840**	**8.205%**
31-0000	Healthcare Support Occupations		

Occupation Code	Occupation Name	Average Annual Wage	% of Total
31-9092	Medical Assistants	$41,279	2.044%
31-9091	Dental Assistants	$44,879	0.884%
31-1014	Nursing Assistants	$31,438	0.372%
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	$27,951	0.116%
31-1011	Home Health Aides	$25,340	0.111%
31-9094	Medical Transcriptionists	$52,455	0.091%
31-9097	Phlebotomists	$36,333	0.078%
31-2021	Physical Therapist Assistants	$55,820	0.072%
31-2022	Physical Therapist Aides	$32,876	0.058%
31-9099	Healthcare Support Workers, All Other	$47,071	0.049%
31-9093	Medical Equipment Preparers	$42,870	0.044%
31-9011	Massage Therapists	$59,135	0.036%
31-1015	Orderlies	$42,299	0.012%
31-9095	Pharmacy Aides	$34,753	0.010%
31-2012	Occupational Therapy Aides	$58,298	0.005%
	Weighted Mean Annual Wage	**$40,888**	**3.983%**
33-0000	Protective Service Occupations		
33-9032	Security Guards	$30,480	0.941%
33-1099	First-Line Supervisors of Protective Service Workers, All Other	$64,814	0.042%
33-9099	Protective Service Workers, All Other	$44,787	0.017%
33-9091	Crossing Guards	$28,298	0.008%
33-2011	Firefighters	$60,022	0.002%
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	$26,717	0.002%
33-2021	Fire Inspectors and Investigators	$88,656	0.001%
33-1021	First-Line Supervisors of Fire Fighting and Prevention Workers	$114,404	0.000%
	Weighted Mean Annual Wage	**$32,264**	**1.014%**
35-0000	Food Preparation and Serving Related Occupations		
35-1011	Chefs and Head Cooks	$47,958	0.024%
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	$36,201	0.077%
35-2011	Cooks, Fast Food	$22,077	0.006%
35-2012	Cooks, Institution and Cafeteria	$29,868	0.078%
35-2014	Cooks, Restaurant	$29,266	0.055%
35-2015	Cooks, Short Order	$24,402	0.012%
35-2019	Cooks, All Other	$39,362	0.008%
35-2021	Food Preparation Workers	$24,831	0.103%
35-3011	Bartenders	$31,224	0.069%
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$21,935	0.207%
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	$25,748	0.070%
35-3031	Waiters and Waitresses	$31,245	0.239%
35-3041	Food Servers, Nonrestaurant	$29,012	0.064%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	$27,635	0.061%
35-9021	Dishwashers	$22,679	0.061%
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	$22,424	0.020%
35-9099	Food Preparation and Serving Related Workers, All Other	$33,519	0.014%
	Weighted Mean Annual Wage	**$28,229**	**1.167%**

Occupation Code	Occupation Name	Average Annual Wage	% of Total
37-0000	Building and Grounds Cleaning and Maintenance Occupations		
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$29,817	5.097%
37-3011	Landscaping and Groundskeeping Workers	$33,458	3.046%
37-2012	Maids and Housekeeping Cleaners	$27,737	0.865%
37-2021	Pest Control Workers	$42,207	0.369%
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	$41,361	0.354%
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	$45,470	0.323%
37-3013	Tree Trimmers and Pruners	$45,195	0.192%
	Weighted Mean Annual Wage	**$32,351**	**10.246%**
39-0000	Personal Care and Service Occupations		
39-9021	Personal Care Aides	$24,984	0.232%
39-2021	Nonfarm Animal Caretakers	$30,449	0.050%
39-9011	Childcare Workers	$29,807	0.036%
39-3031	Ushers, Lobby Attendants, and Ticket Takers	$20,854	0.033%
39-5094	Skincare Specialists	$36,721	0.024%
39-9032	Recreation Workers	$27,839	0.022%
39-6012	Concierges	$29,654	0.017%
39-9031	Fitness Trainers and Aerobics Instructors	$57,166	0.014%
39-1021	First-Line Supervisors of Personal Service Workers	$44,532	0.014%
39-3091	Amusement and Recreation Attendants	$23,831	0.014%
39-9041	Residential Advisors	$35,212	0.012%
39-7011	Tour Guides and Escorts	$31,897	0.009%
39-5012	Hairdressers, Hairstylists, and Cosmetologists	$27,084	0.005%
39-6011	Baggage Porters and Bellhops	$24,698	0.004%
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	$28,124	0.001%
39-2011	Animal Trainers	$59,746	0.001%
39-5092	Manicurists and Pedicurists	$23,627	0.000%
	Weighted Mean Annual Wage	**$28,382**	**0.490%**
41-0000	Sales and Related Occupations		
41-3099	Sales Representatives, Services, All Other	$64,271	1.088%
41-3021	Insurance Sales Agents	$72,893	0.555%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$68,506	0.447%
41-3031	Securities, Commodities, and Financial Services Sales Agents	$94,091	0.359%
41-2031	Retail Salespersons	$28,688	0.359%
41-2011	Cashiers	$25,383	0.170%
41-2021	Counter and Rental Clerks	$31,023	0.158%
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	$103,927	0.154%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	$68,557	0.152%
41-9022	Real Estate Sales Agents	$65,019	0.124%
41-9041	Telemarketers	$27,202	0.123%
41-9011	Demonstrators and Product Promoters	$30,397	0.119%
41-9031	Sales Engineers	$96,062	0.060%
41-3011	Advertising Sales Agents	$60,419	0.060%
41-1011	First-Line Supervisors of Retail Sales Workers	$44,660	0.059%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
41-9099	Sales and Related Workers, All Other	$46,803	0.042%
41-9021	Real Estate Brokers	$73,247	0.021%
41-2022	Parts Salespersons	$30,376	0.007%
41-3041	Travel Agents	$41,193	0.004%
	Weighted Mean Annual Wage	**$61,956**	**4.063%**
43-0000	Office and Administrative Support Occupations		
43-9061	Office Clerks, General	$38,191	3.170%
43-4051	Customer Service Representatives	$42,264	2.349%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$42,060	2.271%
43-4171	Receptionists and Information Clerks	$34,559	1.819%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	$47,698	1.619%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	$60,746	1.454%
43-6013	Medical Secretaries	$44,158	1.299%
43-3071	Tellers	$33,719	1.201%
43-3021	Billing and Posting Clerks	$43,359	0.851%
43-6011	Executive Secretaries and Executive Administrative Assistants	$58,955	0.635%
43-5081	Stock Clerks and Order Fillers	$28,715	0.468%
43-4131	Loan Interviewers and Clerks	$39,286	0.340%
43-3011	Bill and Account Collectors	$50,983	0.335%
43-5071	Shipping, Receiving, and Traffic Clerks	$34,538	0.284%
43-9021	Data Entry Keyers	$32,665	0.279%
43-9041	Insurance Claims and Policy Processing Clerks	$39,481	0.274%
43-6012	Legal Secretaries	$50,983	0.264%
43-5061	Production, Planning, and Expediting Clerks	$57,256	0.252%
43-4071	File Clerks	$29,943	0.242%
43-3051	Payroll and Timekeeping Clerks	$48,384	0.194%
43-4111	Interviewers, Except Eligibility and Loan	$43,871	0.165%
43-9199	Office and Administrative Support Workers, All Other	$27,610	0.147%
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	$41,906	0.135%
43-4141	New Accounts Clerks	$38,867	0.123%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	$52,784	0.110%
43-2011	Switchboard Operators, Including Answering Service	$42,817	0.092%
43-4199	Information and Record Clerks, All Other	$35,674	0.079%
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	$32,430	0.076%
43-5021	Couriers and Messengers	$32,890	0.061%
43-4151	Order Clerks	$43,779	0.053%
43-9011	Computer Operators	$53,583	0.051%
43-9071	Office Machine Operators, Except Computer	$35,398	0.051%
43-3099	Financial Clerks, All Other	$41,077	0.043%
43-3061	Procurement Clerks	$43,216	0.042%
43-4041	Credit Authorizers, Checkers, and Clerks	$47,299	0.039%
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	$31,591	0.029%
43-4011	Brokerage Clerks	$59,743	0.026%
43-5011	Cargo and Freight Agents	$53,050	0.018%
43-4081	Hotel, Motel, and Resort Desk Clerks	$30,813	0.011%
43-4061	Eligibility Interviewers, Government Programs	$53,838	0.007%
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	$40,985	0.006%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
43-5031	Police, Fire, and Ambulance Dispatchers	$56,816	0.002%
43-4121	Library Assistants, Clerical	$35,674	0.001%
43-4031	Court, Municipal, and License Clerks	$45,324	0.000%
	Weighted Mean Annual Wage	**$42,456**	**20.968%**
45-0000	Farming, Fishing, and Forestry Occupations		
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$25,989	0.103%
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	$43,888	0.009%
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	$31,955	0.004%
45-4022	Logging Equipment Operators	$45,453	0.001%
45-2091	Agricultural Equipment Operators	$31,610	0.000%
	Weighted Mean Annual Wage	**$27,853**	**0.118%**
47-0000	Construction and Extraction Occupations		
47-2111	Electricians	$74,156	1.862%
47-2061	Construction Laborers	$45,778	1.633%
47-2031	Carpenters	$64,876	1.390%
47-2152	Plumbers, Pipefitters, and Steamfitters	$57,335	1.215%
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$89,412	0.882%
47-2141	Painters, Construction and Maintenance	$58,036	0.552%
47-2211	Sheet Metal Workers	$73,190	0.335%
47-2051	Cement Masons and Concrete Finishers	$47,923	0.312%
47-2073	Operating Engineers and Other Construction Equipment Operators	$64,836	0.294%
47-3013	Helpers--Electricians	$40,493	0.273%
47-2081	Drywall and Ceiling Tile Installers	$63,870	0.268%
47-2181	Roofers	$50,921	0.250%
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	$34,781	0.187%
47-2021	Brickmasons and Blockmasons	$64,490	0.130%
47-4011	Construction and Building Inspectors	$72,205	0.112%
47-2221	Structural Iron and Steel Workers	$63,494	0.112%
47-2044	Tile and Marble Setters	$49,244	0.095%
47-3012	Helpers--Carpenters	$45,362	0.089%
47-2121	Glaziers	$49,397	0.080%
47-2161	Plasterers and Stucco Masons	$54,651	0.059%
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	$38,237	0.054%
47-2082	Tapers	$70,355	0.053%
47-2071	Paving, Surfacing, and Tamping Equipment Operators	$58,463	0.050%
47-2231	Solar Photovoltaic Installers	$44,508	0.021%
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	$48,157	0.012%
47-4041	Hazardous Materials Removal Workers	$32,504	0.011%
47-5021	Earth Drillers, Except Oil and Gas	$69,521	0.011%
47-4051	Highway Maintenance Workers	$56,166	0.007%
	Weighted Mean Annual Wage	**$61,908**	**10.352%**
49-0000	Installation, Maintenance, and Repair Occupations		
49-9071	Maintenance and Repair Workers, General	$47,655	0.886%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$62,997	0.840%
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	$54,178	0.339%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	$83,042	0.248%
49-9099	Installation, Maintenance, and Repair Workers, All Other	$44,995	0.178%
49-9041	Industrial Machinery Mechanics	$51,771	0.137%
49-2098	Security and Fire Alarm Systems Installers	$46,856	0.125%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	$36,044	0.111%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	$54,795	0.044%
49-9043	Maintenance Workers, Machinery	$50,658	0.044%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	$63,462	0.044%
49-2011	Computer, Automated Teller, and Office Machine Repairers	$39,756	0.042%
49-3023	Automotive Service Technicians and Mechanics	$49,586	0.038%
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	$37,733	0.038%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	$64,959	0.037%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	$47,149	0.021%
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	$39,402	0.018%
49-9094	Locksmiths and Safe Repairers	$41,738	0.016%
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	$62,400	0.014%
49-9031	Home Appliance Repairers	$48,565	0.005%
49-3021	Automotive Body and Related Repairers	$57,161	0.005%
49-3041	Farm Equipment Mechanics and Service Technicians	$54,420	0.002%
49-3093	Tire Repairers and Changers	$28,399	0.002%
	Weighted Mean Annual Wage	**$54,990**	**3.235%**
51-0000	Production Occupations		
51-2092	Team Assemblers	$36,767	1.045%
51-9198	Helpers--Production Workers	$27,285	0.770%
51-9111	Packaging and Filling Machine Operators and Tenders	$33,103	0.711%
51-9199	Production Workers, All Other	$30,571	0.514%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$47,046	0.464%
51-2099	Assemblers and Fabricators, All Other	$30,816	0.403%
51-2022	Electrical and Electronic Equipment Assemblers	$43,892	0.274%
51-1011	First-Line Supervisors of Production and Operating Workers	$61,929	0.245%
51-4121	Welders, Cutters, Solderers, and Brazers	$45,321	0.186%
51-4041	Machinists	$51,680	0.172%
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	$40,963	0.164%
51-3092	Food Batchmakers	$27,958	0.126%
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	$42,586	0.120%
51-5112	Printing Press Operators	$39,176	0.117%
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	$29,030	0.092%
51-3011	Bakers	$30,490	0.091%
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	$34,369	0.074%
51-9081	Dental Laboratory Technicians	$44,188	0.066%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
51-6011	Laundry and Dry-Cleaning Workers	$24,498	0.049%
51-5113	Print Binding and Finishing Workers	$31,827	0.046%
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	$33,225	0.046%
51-2023	Electromechanical Equipment Assemblers	$30,633	0.044%
51-2041	Structural Metal Fabricators and Fitters	$52,058	0.033%
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	$33,327	0.030%
51-7011	Cabinetmakers and Bench Carpenters	$48,710	0.029%
51-5111	Prepress Technicians and Workers	$49,578	0.027%
51-3093	Food Cooking Machine Operators and Tenders	$32,664	0.025%
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	$33,889	0.022%
51-9082	Medical Appliance Technicians	$54,110	0.020%
51-8031	Water and Wastewater Treatment Plant and System Operators	$77,771	0.017%
51-6031	Sewing Machine Operators	$30,255	0.017%
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	$30,857	0.016%
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	$27,060	0.016%
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	$34,654	0.012%
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	$37,563	0.012%
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	$37,768	0.012%
51-8021	Stationary Engineers and Boiler Operators	$69,094	0.011%
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	$38,635	0.010%
51-3021	Butchers and Meat Cutters	$28,938	0.010%
51-4111	Tool and Die Makers	$69,799	0.009%
51-9151	Photographic Process Workers and Processing Machine Operators	$48,812	0.008%
51-6021	Pressers, Textile, Garment, and Related Materials	$24,712	0.005%
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	$50,517	0.005%
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	$32,950	0.004%
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	$35,287	0.004%
51-9122	Painters, Transportation Equipment	$49,670	0.004%
51-9022	Grinding and Polishing Workers, Hand	$43,984	0.003%
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	$39,758	0.002%
51-6052	Tailors, Dressmakers, and Custom Sewers	$33,317	0.002%
51-9071	Jewelers and Precious Stone and Metal Workers	$67,951	0.002%
	Weighted Mean Annual Wage	**$37,135**	**6.183%**
53-0000	Transportation and Material Moving Occupations		
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$30,236	2.938%
53-7064	Packers and Packagers, Hand	$24,714	0.831%
53-7051	Industrial Truck and Tractor Operators	$36,155	0.472%
53-3032	Heavy and Tractor-Trailer Truck Drivers	$47,829	0.409%
53-3033	Light Truck or Delivery Services Drivers	$37,785	0.243%
53-3031	Driver/Sales Workers	$35,075	0.099%

Occupation Code	Occupation Name	Average Annual Wage	% of Total
53-7061	Cleaners of Vehicles and Equipment	$25,112	0.079%
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	$49,093	0.048%
53-7063	Machine Feeders and Offbearers	$29,706	0.047%
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	$56,346	0.043%
53-3099	Motor Vehicle Operators, All Other	$30,674	0.042%
53-3041	Taxi Drivers and Chauffeurs	$35,442	0.037%
53-7032	Excavating and Loading Machine and Dragline Operators	$70,730	0.031%
53-6021	Parking Lot Attendants	$24,674	0.026%
53-7199	Material Moving Workers, All Other	$40,342	0.025%
53-7081	Refuse and Recyclable Material Collectors	$46,515	0.014%
53-2012	Commercial Pilots	$138,364	0.008%
53-3022	Bus Drivers, School or Special Client	$34,056	0.006%
53-6031	Automotive and Watercraft Service Attendants	$24,786	0.005%
53-3021	Bus Drivers, Transit and Intercity	$40,596	0.004%
	Weighted Mean Annual Wage	**$32,469**	**5.409%**

Sources: Bureau of Labor Statistics, Occupational Employment Statistics, 2015 and Quarterly Census of Employment and Wages (QCEW), 2015; California Economic Development Department, OES Employment and Wages by Occupation, Santa Rosa-Petaluma Metropolitan Statistical Area, 2015.

GLOSSARY OF TERMS AND ACRONYMS

Glossary of Terms

Affordable Housing: Under state and federal statutes, housing is defined as affordable if housing costs do not exceed 30 to 35 percent of gross household income.

Annual Adjustment Mechanism: Due to inflation in housing construction costs, it is frequently necessary to adjust impact fees. An index, such as the Consumer Price Index (CPI) or a published construction cost index (for example, from the Engineering News Record) is used to revise housing fees to reflect inflation in housing construction costs.

Assisted Housing: Housing that has received public subsidies (such as low interest loans, density bonuses, direct financial assistance, etc.) from federal, state, or local housing programs in exchange for restrictions requiring a certain number of housing units to be affordable to very low-, low-, and moderate-income households.

Consumer price index (CPI): Index that measures changes in the price level of a market basket of consumer goods and services purchased by households.

Employment Densities: The amount of square feet per employee is calculated for each property use that is subject to a commercial development housing linkage fee. Employment densities are used to estimate the number of employees that will work in a new commercial development.

Household: The US Census Bureau defines a household as all persons living in a housing unit whether or not they are related. A single person living in an apartment as well as a family living in a house is considered a household. Households do not include individuals living in dormitories, prisons, convalescent homes, or other group quarters.

Household Income: The total income of all the persons living in a household. Household income is commonly grouped into income categories based upon household size and income, relative to the regional median family income.

Housing Affordability Gap: The affordability gap is defined as the difference between what a household can afford to spend on housing and the market rate cost of housing. Affordable rents and sales prices are defined as a percentage of gross household income, generally between 30 percent and 35 percent of income.

> For renters, rental costs are assumed to include the contract rent as well as the cost of utilities, excluding cable and telephone service. The difference between these gross rents and affordable rents is the housing affordability gap for renters. This calculation assumes that 30% of income is paid for gross rent.

For owners, costs include mortgage payments, mortgage insurance, property taxes, property insurance, and homeowner association dues. [12] The difference between these housing expenses and affordable ownership costs is the housing affordability gap for owners. This calculation assumes that 35% of income is paid for housing costs.

Housing Subsidy: Housing subsidies refer to government assistance aimed at reducing housing sales prices or rents to more affordable levels.

Housing Unit: A housing unit can be a room or group of rooms used by one or more individuals living separately from others in the structure, with direct access to the outside or to a public hall and containing separate toilet and kitchen facilities.

IMPLAN3: A software model that is used to provide a quantitative assessment of the interdependencies between different branches of a regional (or national) economy. The latest model, IMPLAN3, was used in the nexus studies. The major input is household income, and the major output is direct and induced employment reported by industries

Inclusionary Zoning: Inclusionary zoning, also known as inclusionary housing, refers to a planning ordinance that requires that a given percentage of new construction be affordable to households with very low, low, moderate, or workforce incomes.

In-Lieu Fee: A literal definition for an in-lieu fee for inclusionary units would be a fee adopted "in place of" providing affordable units. For the purposes of operating an inclusionary housing program, a public jurisdiction may adopt a fee option for developers that prefer paying fees over providing housing units on- or off-site. A fee study is frequently undertaken to establish the maximum fee that can be charged as an in-lieu fee. This fee study must show that there is a reasonable relationship between the fee and the cost of providing affordable housing.

Market-Rate Housing: Housing which is available on the open market without any public subsidy. The price for housing is determined by the market forces of supply and demand and varies by location.

Nexus Study: In order to adopt a residential housing impact fee or a commercial linkage fee, a nexus study is required. A nexus requires local agencies proposing a fee on a development project to identify the purpose of the fee, the use of the fee, and to determine that there is "a reasonable relationship between the fee's use and the type of development project on which the fee is imposed." A nexus study establishes and quantifies a causal link or "nexus" between new residential and commercial development and the need for additional housing affordable to new employees.

Prototypes: Prototypes are used for residential and commercial developments in order to define housing impact fees. The prototypes generally represent new development projects built in a community and are used to estimate affordable housing impacts associated with new market rate commercial and residential developments. While the prototypes should be "typical" of what is built,

[12] Mortgage terms for first-time homebuyers typically allow down payment of five percent; these terms require private mortgage insurance.

for ease of mathematical computation, they are often expressed as larger developments in order to avoid awkward fractions.

Residential or Housing Impact Fee: A fee imposed on residential development to pay for a development's impact on the need for affordable housing. The fee is based on projected incomes of new employees associated with the expansion of market rate developments. Two steps are needed to define the fees. The first step is the completion of a nexus study, and the second step entails selection of the actual fee amount, which can be below the amount justified by the fee study, but not above that amount.

RS Means: Data source of information for construction cost data.

Definition of Acronyms

AMI: Area Median Income

GBA: Gross Building Area

HCD: Department of Housing and Community Development (State of California)

NSF: Net Square Feet

SF: Square Feet

TDC: Total Development Costs

Att. I

Draft Report

Commercial Linkage Fee Nexus Study

The Economics of Land Use

Prepared for:

City of Culver City

Prepared by:

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July 14, 2020

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1. INTRODUCTION AND EXECUTIVE SUMMARY

Background

The City of Culver City (City) has not previously adopted a commercial linkage fee for affordable housing. Given adoption of the 2013-2021 Housing Element, as well as a number of changes in local housing supply, regional housing needs, and broader economic and housing trends, the City retained Economic & Planning Systems, Inc. (EPS) to affirm the need for and calculate an affordable housing impact fee for new commercial (i.e., nonresidential) development.

Purpose

EPS was retained by the City of Culver City to conduct a nexus study that quantifies the relationship between the growth in nonresidential land uses and the demand for and cost of affordable housing for the local workforce. As a development impact fee, this linkage fee (fee) can only be charged to new development and must be based on the impact of new development on the need for resources to subsidize the development of new affordable housing. The purpose of this report is to provide the nexus (or reasonable relationship) between new nonresidential development that occurs in the City and the need for additional affordable housing as a result of this new development.

Fee revenue may be collected by the City and used to subsidize the production of new affordable units for lower-income households.

Authority

This study serves as the basis for requiring development impact fees under AB 1600 legislation, as codified by the Mitigation Fee Act (California Government Code sections 66000 *et seq*.). This section of the Mitigation Fee Act sets forth the procedural requirements for establishing and collecting development impact fees. These procedures require that a reasonable relationship, or nexus, must exist between a governmental exaction and the purpose of the condition.

In 1991, the Ninth Circuit U.S. Court of Appeals upheld the City of Sacramento's nonresidential linkage fee.[1] In that case, the court found that the City of Sacramento's fee program "substantially advanced a legitimate interest." EPS is using a similar methodology to the nexus study reviewed in that case to develop the City of Culver City's fee program.

[1] *Commercial Builders of Northern California v. City of Sacramento,* 941 F2d 872 (1991).

Required Nexus Findings

- Identify the purpose of the fee.
- Identify how the fee is to be used.
- Determine how a reasonable relationship exists between the fee's use and the type of development project on which the fee is imposed.
- Determine how a reasonable relationship exists between the demand for the affordable housing and the type of development project on which the fee is imposed.
- Demonstrate a reasonable relationship between the amount of the fee and the cost of the public benefit attributable to the development on which the fee is imposed.

Summary

As new employment-generating development continues to occur in the City, additional affordable housing will be required to house a portion of the new lower wage workforce. The cost to construct new housing units is higher than can be supported by the rents or home prices that many workers will be able to pay. The difference between costs and affordable rent levels is considered an "affordability gap." The costs allocated to new nonresidential development through this fee reflect this affordability gap that would need to be filled in order to provide housing for additional workforce demanded by nonresidential development. **Table 1** summarizes the maximum justifiable fee by land use category. The methodology used to establish maximum justifiable fees is described in the subsequent chapters.

Table 1 Summary of Maximum Allowable Fees

Employment Category	Maximum Fee *per sq. ft.*
Retail/Restaurant	$249
Office	$171
Warehouse/Industrial/Manufacturing	$66
Media Studio and R&D/Flex	$30
Lodging	$148
Assisted Living	$141

Source: Economic & Planning Systems, Inc.

Table 2 presents the income categories that are relevant for this fee program. This study uses incomes defined by the State of California's Department of Housing and Community Development (HCD)The number of worker households that are generated as a result of commercial development are categorized on the basis of these income levels.

Table 2 Los Angeles County Income Category Definitions (2019)

Income Group and Standard Definition		HCD 2020 Maximum Income
		3-Person Household
Extremely Low	≤30% AMI	$30,450
Very Low	>30% to ≤50% AMI	$50,700
Low	>50% to ≤80% AMI	$81,100
Median	>80% to ≤100% AMI	$69,550
Moderate	>100% AMI to ≤120% AMI	$83,500
Above Moderate	>120% to ≤150% AMI	$104,325

Source: Los Angeles County 2020 Income Limits, California Department of Housing and Community Development (HCD); City of Culver City Housing Element; Economic & Planning Systems, Inc.

Sources

To estimate the fee, EPS relied on numerous sources of data, including the following:

- U.S. Bureau of Labor Statistics (BLS) "May 2019 National Industry-Specific Occupational Employment and Wage Estimates"
- State Department of Housing and Community Development (HCD) annual income limits for 2020
- U.S. Census Bureau American Community Survey (ACS) 5-Year Estimates (2014-2018)
- Input from City of Culver City's staff regarding affordability levels, recently developed affordable housing projects, market assumptions, and nexus study methodology

These and other data sources are identified on the tables provided throughout this report. In addition, data from recent Culver City developments and land transactions found in Keyser Marston Associates' Inclusionary Housing Feasibility Study prepared for the City in April 2019 have been combined with information collected from various market-rate and affordable housing developers to estimate appropriate development cost assumptions for use in Culver City.

Organization of Report

Following this **Introduction and Executive Summary**, this study includes the following chapters:

- **Chapter 2** presents the nexus findings based on the methodology.
- **Chapter 3** describes the methodology used to calculate the fee.

2. REQUIRED NEXUS FINDINGS FOR FEE PROGRAM

Purpose of Fee

The fee program established through this Nexus Study will fund the development and preservation of affordable housing projects in the City required by the increase in local, lower-wage workers employed by new nonresidential development. The businesses that occupy new nonresidential buildings will hire employees, many of whom will have difficulty finding suitable local housing they can afford.

Use of Fee

The fee will be collected by the City. The funds are used to provide assistance for production or rehabilitation of affordable housing units and/or the acquisition of existing at-risk units, in the City. The fee also may fund the studies and administration to support the fee program.

Relationship between Use of Fee and Type of Development

The development of new nonresidential land uses in the City will generate need for additional workers. The wages of a significant portion of the new employees will be inadequate to support sufficient rent prices to attract residential developers to provide housing opportunities without further subsidy. The fee will be used to help to fill the "affordability gap" for housing development and increase the number of homes available for the local workforce.

Relationship between Demand for Affordable Housing and Type of Project

The City and EPS have identified six employment categories for which a separate fee has been calculated. The proportion of lower wage workers and the number of square feet per employee for each employment category has been assessed to ensure a proper nexus is established.

Relationship between Amount of Fee and Cost of Public Benefit Attributed to New Development

EPS estimated the gap between the cost of developing new rental housing and the achievable value of the new rental units based on prices affordable to households at different income levels. The affordable rents yielded unit values below the cost of construction, indicating an "affordability gap." To estimate the fee for each nonresidential development category, this gap was multiplied by the anticipated number of lower wage workers generated by the new development projects and the number of households of various income categories those workers are likely to form.

3. METHODOLOGY AND FEE CALCULATION

Employment Categories

Employment categories utilized in this analysis are presented in **Table 3** along with a description of the types of businesses that are included in each category. In general, each employment category is intended to be associated with a particular type of building or land use, to which the fees can be applied. The City has asked EPS to evaluate six distinct categories to better match potential land uses and nexus linkages to employment categories, but the City may choose not to adopt fees for all land use categories. While most employment categories are discretely associated with a particular type of building, others may be interchangeable as tenants may shift between building types (e.g., office space locating in retail space). This analysis bases its employment projections on NAICS codes associated with the most typical tenants for each land use category, as defined in **Appendix B**.

Table 3 Employment Category Descriptions

Employment Category	Description and Examples
Retail/Restaurants	Businesses selling merchandise, entertainment, and personal services to the general public. Examples include grocery stores, drug stores, clothing stores, general merchandise stores, beauty salons, and gas stations. Restaurants are also included in this category.
Office	Employers engaged in business activity with limited direct access from the general public; businesses focused on professional and financial services. Examples include finance, insurance, real estate, law, engineering, and science and technology.
Warehouse/Industrial/Manufacturing	Employers engaged in business activity with limited direct access from the general public; businesses focused on assembling, distributing, or repairing products; businesses focused on the testing and invention of new materials, products, or processes; and businesses engaged in the transformation of raw materials into consumable products. Examples include warehouses, auto repair, self-storage facilities, and food/beverage/smoking products manufacturing.
Media Studio and R&D/Flex	Combines the businesses that engaged in media production with research and design facilities, including physical sciences, life sciences, and social sciences. These businesses use similar building types, and over time the tenants may shift between studios and R&D.
Lodging	Lodging or short-term accommodations for travelers, vacationers, and others and comprises establishments primarily engaged in providing short-term lodging in facilities known as hotels, motor hotels, resort hotels, and motels.
Assisted Living	Facilities focused on providing assisted living services. Examples include continuing care facilities, nursing homes, rehabilitation centers, hospice care facilities.

Source: Economic & Planning Systems, Inc.

Occupational Category and Wage Distribution

EPS used U.S. Bureau of Labor Statistics (BLS) *National Industry-Specific Occupational Employment and Wage Estimates* for 2019 – the most recent year available - to estimate the wages earned by employees in industry sectors related to the employment categories. This BLS data set includes wage data at both the national and Metropolitan Statistical Area (MSA) levels, with Culver City falling within the Los Angeles-Long Beach-Anaheim MSA. Wage data for the MSA are provided for occupations for all industries in aggregate, while national-level wage data are provided by industry sector (e.g., "management" workers in retail industries versus in industrial/R&D industries). To account for regional wage disparities, EPS calculated wage adjustment factors as displayed in **Table 4** to show that Los Angeles-Long Beach-Anaheim MSA wages exceed national averages across all occupation categories. EPS applied these adjustment factors to the nationwide income level data by industry sector to estimate the wages for the Los Angeles-Long Beach-Anaheim MSA.

EPS used BLS nationwide data regarding industries and occupation categories to estimate the proportion of occupations likely to be represented under each employment category. For example, EPS evaluated the occupation categories for the lodging industry to determine the proportional distribution of occupations for the employment category "Lodging." North American Industry Classification System (NAICS) sector 721000 ("Accommodation") shows that 4.3 percent of the jobs in the lodging industry nationwide are taken by managers, while 27.3 percent are in the category of buildings and grounds cleaning and maintenance (see **Table B-2**). The occupational distribution for all designated employment categories is provided in **Appendix B**.

The wages within each occupation were multiplied by 1.61, the average number of workers per working household in the City, according to the Census Bureau's American Community Survey data. The resulting figure is assumed to represent the annual household income assuming workers form households with those of similar earning potential. While certainly there will be some variation in wages per employee within a household, in the absence of more specific data, this analysis assumes comparable levels of education and training among all workers in a household. **Table 5** presents an example of this calculation.

Table 4 Adjustment Factors - Converting National Wages to Los Angeles MSA Wages

Occupation Category	US Average Wage	Los Angeles-Long Beach-Anaheim MSA Average Wage	Los Angeles-Long Beach-Anaheim MSA % of US Average
Management	$121,560	$134,680	110.8%
Business and Financial Operations	$76,910	$81,970	106.6%
Computer and Mathematical Science	$91,530	$98,240	107.3%
Architecture and Engineering	$87,370	$100,070	114.5%
Life, Physical, and Social Science	$76,160	$88,890	116.7%
Community and Social Services	$49,280	$59,520	120.8%
Legal Occupations	$108,690	$132,820	122.2%
Education, Training and Library	$56,620	$70,000	123.6%
Arts, Design, Entertainment, Sports, and Media	$59,780	$83,220	139.2%
Healthcare Practitioner and Technical	$82,000	$98,660	120.3%
Healthcare Support	$32,380	$32,470	100.3%
Protective Services	$48,580	$60,370	124.3%
Food Preparation and Serving	$25,580	$29,860	116.7%
Buildings and Grounds Cleaning and Maintenance	$30,020	$35,690	118.9%
Personal Care and Service	$28,090	$34,280	122.0%
Sales and Related Occupations	$41,790	$46,400	111.0%
Office and Administrative Support	$38,990	$45,370	116.4%
Farming, Fishing and Forestry	$30,140	$33,990	112.8%
Construction and Extraction	$51,220	$60,190	117.5%
Installation, Maintenance, and Repair	$48,960	$55,630	113.6%
Production	$39,190	$39,520	100.8%
Transportation and Material Moving	$38,290	$39,470	103.1%

Sources: Bureau of Labor Statistics *National Industry-Specific Occupational Employment and Wage Estimates* , May 2019; Economic & Planning Systems, Inc.

Table 5 Illustration of Employees' Household Income Calculation

Item	Source	Example
Employment Category	City of Culver City and EPS	Lodging
Industry	Bureau of Labor Statistics (BLS)	Accommodation (NAICS Code 721000)
Occupation Category	BLS	Buildings and Grounds Cleaning and Maintenance
Nationwide Median Income for Occupation	BLS	$28,000
Regional Wage Adjustment Factor for Occupation	BLS and EPS	118.9%
Median Wage Estimate for the Los Angeles-Long E	BLS and EPS	$33,288
Workers per Household	American Community Survey 5-Year Estimates 2018	1.61
Median Income per Household	Workers per HH Multiplied by Med. Annual Wage	$53,726
Income Category for 4-person Family	California Housing and Community Development (HCD)	Low

Sources: City of Culver City; Bureau of Labor Statistics; California Housing and Community Development; Economic & Planning Systems, Inc.

Distribution of Workers by Land Use Type

After identifying income ranges for each occupation and employment category, EPS summed the percentages of occupations by income bracket. These proportions of anticipated household income brackets by employment category are presented in **Table 6**.

As shown, Retail/Restaurant and Assisted Living are expected to generate significant numbers of households at the very low income level, while jobs in the Industrial and Office uses are expected to yield more households with incomes at or above moderate income levels.

Employment Densities

Different land use categories operate with varying levels of employment densities. Industrial uses, for example, often do not require a significant number of employees but do require a significant amount of building square footage. Office uses, on the other hand, may not require a significant amount of square footage, but often require a significant number of employees. The number of building square feet anticipated for an employee is termed the "employment density" of each employment category.

Based on prior nexus studies, input from City staff, independent research, and experience with other comparable cities, EPS estimated the employment density for each of the employment categories as shown in **Table 7,** with more detail in **Appendix Table A-1**. Using those employment density assumptions, EPS estimated the number of employees that would occupy a 100,000-square foot building for each employment category.

Household Formation

EPS then estimated the number of households represented by those employees calculated on **Table 7**. First, EPS adjusted for the fact that younger workers may not be at the age to form their own households. Data from the Bureau of Labor Statistics indicate that young workers aged 16 to 19 represent only about 1.9 percent of the overall workforce. However, the majority of these young workers are in the retail/restaurant industries, where they represent 12.5 percent of the overall industry employment. EPS has assumed that these young workers would not form their own households. Second, EPS has assumed that, on average, new households formed in response to growing employment opportunities would have 1.61 wage-earning workers. This assumption is based on the Census Bureau's American Community Survey 2014-2018 data regarding the number of Culver City's residents who are "workers" in households that have workers. The combination of these adjustments results in the assumption that approximately six households are formed for every ten new employees. Lastly, the analysis assumes that the fees on nonresidential development will fund required affordable housing for all new workers generated.

Table 6 Income Distribution of Worker Households by Employment Category [1]

Employment Category	Income Level			
	Very Low 50% AMI	**Low** 80% AMI	**Moderate** 120% AMI	**Above Moderate** 150% AMI
Retail/Restaurant	47.7%	46.0%	0.0%	6.3%
Office	0.8%	40.6%	0.0%	58.6%
Warehouse/Industrial/Manufacturing	0.0%	39.8%	0.0%	60.2%
Media Studio and R&D/Flex	4.3%	6.7%	1.8%	87.2%
Lodging	3.5%	89.6%	0.0%	6.9%
Assisted Living	46.5%	36.7%	0.0%	16.8%

[1] Designation of household income assumes a 3-person household and 1.61 workers per household, based on American Community Survey data.

Sources: Bureau of Labor Statistics; California Housing and Community Development (HCD); Economic & Planning Systems, Inc.

Table 7 Household Generation Rates by Employment Category

Employment Category	Sq.Ft. per Worker[1]	Total Workers per 100k Sq.Ft.	% of Workers Forming Households[2]	Total Households per 100k Sq.Ft.[3, 4]	Households by Income Level[5]			
					Very Low 50% AMI	Low 80% AMI	Moderate 120% AMI	Above Moderate 150% AMI
Retail/Restaurant	550	182	87.5%	99	47	45	0	6
Office	250	400	98.1%	243	2	99	0	142
Warehouse/Industrial/Manufacturing	600	167	98.1%	102	0	40	0	61
Media Studio and R&D/Flex	670	149	98.1%	91	4	6	2	79
Lodging	654	153	98.1%	93	3	83	0	6
Assisted Living	1,000	100	98.1%	61	28	22	0	10

[1] See **Appendix Table A-1** for sources on employment densities in different land uses.

[2] National Retail Federation data indicates that 12.5% of retail/restaurant workers are aged 16-19, but an average of only 1.9% of workers in other industries fall into that age cohort. EPS has assumed that workers aged 16-19 do not form their own households.

[3] Assumes 1.61 employees per household based on Census data; rounded.

[4] Assumes all workers would prefer to live in the City of Culver City. Based on existing commute patterns, there may need to be additional adjustments to account for employees that choose to live elsewhere.

[5] Figures are rounded to nearest whole number.

Sources: US Census; California Housing and Community Development (HCD); Economic & Planning Systems, Inc.

Housing Development Costs and Affordability Gap

EPS has assumed that the average type of housing for Culver City's lower-income workers would be a 2-bedroom apartment unit in a three to four-story building. The assumed prototype reflects multifamily construction at 65 dwelling units to the acre with surface parking. This building prototype is generally cost-effective to construct, as it makes efficient use of land and does not involve overly expensive construction materials or techniques.

California State law (California Health and Safety Code Section 50052.5) assumes that a 2-bedroom unit is occupied by a 3-person household, and this assumption is used in this analysis. Consistent with Keyser Marston Associates' survey of rental properties in Culver City, EPS assumes that the typical gross square footage of a 2-bedroom rental unit in Culver City will be approximately 1,155 square feet.

Development Cost Assumptions

Affordable housing development costs include land costs, direct costs (e.g., labor and materials), and indirect or "soft" costs (e.g., architecture, entitlement, marketing, etc.). For rental projects, operating costs also must be incorporated into the analysis. Data used by Keyser Marston Associates from recent Culver City developments and land transactions have been combined with information collected from various market-rate and affordable housing developers to estimate appropriate development cost assumptions. These assumptions are shown on **Table 8**.

Revenue Assumptions

To calculate the values of the affordable units, assumptions must be made regarding the applicable income level (very low, low, moderate, and middle) and the percentage of household income spent on housing costs. In addition, translating these assumptions into unit prices and values requires estimates of operating expenses and capitalization rates. The following assumptions were used in these calculations:

- *Income Levels*—This analysis estimates the subsidy required to produce units for households falling into the very low, low, and moderate income categories for a three-person household. While these categories are generally defined as a percentage of area median income (AMI) by HCD, in Los Angeles County the dollar amount thresholds for each category are not necessarily in line with the percentage thresholds. For example, in 2020, AMI in Los Angeles County for a three-person household is $69,550 according to the HCD, but the maximum income for the low income category (typically defined as 51 to 80 percent of AMI) is $81,100 (see **Table 2**). This income threshold, which is clearly above 80 percent of AMI, is established to reflect the relatively high cost of housing found in Los Angeles County.[2]

- *Percentage of Gross Household Income Available for Housing Costs*— HCD standards on overpaying for rent indicate that households should pay no more than 30 percent of their

[2] See HCD State Income Limits 2020, https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/Income-Limits-2020.pdf

gross income on housing costs. For this analysis, EPS has assumed that all households shall spend 30 percent of their gross income on housing costs.

- *Operating Costs for Rental Units*—This analysis assumes that apartment operators incur annual operating costs of $6,000 per unit, which include the cost of utilities, for units affordable for those falling into the very low and low income categories. EPS has assumed the units for moderate and above moderate income households would have similar operating costs but would be built by for-profit builders and thus also subject to property taxes, increasing their annual operating cost to $10,000 per unit.

Affordability Gap Results

Table 8 shows the costs and values for developing rental apartments in the City for households at various income levels. Across all categories, the cost of constructing the unit is higher than the supportable value of the unit. This is considered the "affordability gap," and serves as the basis for calculating the subsidies required to provide housing for the employees who will be working in new nonresidential development in Culver City. The results of the analysis illustrate that rents affordable to households earning above-moderate incomes and below cannot support the costs of new construction without subsidy.

It should be noted that the affordability gap is greater for moderate income units than it is for low income units. This is because the HCD-defined maximum limits for low income and moderate income are only $2,400 apart, but units designated for moderate income households are subject to property tax, which is estimated to be around $4,000 in typical cases. As units designated for low income households are assumed to be built by non-profit developers and thus exempt from such taxes, their value is higher, and their affordability gap lower, than that of units occupied by moderate income households.

Table 8 Affordability Gap Analysis – Rental Product Type

Item	Assumption	3-4 Story Multifamily Building with Subterranean Parking			
		Very Low 50% AMI	Low 80% AMI	Moderate 120% AMI	Above Moderate 150% AMI
Site Assumptions [1]					
Lot Size (Sq. Ft.)		26,000	26,000	26,000	26,000
Gross Buildable Area (Sq. Ft.)		63,225	63,225	63,225	63,225
2-Bedroom Units [2]		44	44	44	44
Acquisition Cost [3]					
Total Acquisition Cost	$225 per sq. ft.	*$5,850,000*	*$5,850,000*	*$5,850,000*	*$5,850,000*
Acquisition Cost per Unit		*$132,955*	*$132,955*	*$132,955*	*$132,955*
Direct Costs [4]					
On-site Improvement	$20 per sq. ft.	$520,000	$520,000	$520,000	$520,000
Parking Spaces (Above Ground Podium) [5]	$20,000 per space	9	9	9	9
Parking Spaces (Subterranean)	$35,000 per space	79	79	79	79
Parking Cost		$2,945,000	$2,945,000	$2,945,000	$2,945,000
Building Costs	$135 per sq. ft.	$8,535,375	$8,535,375	$8,535,375	$8,535,375
Contingency	20% of other direct costs	$2,400,075	$2,400,075	$2,400,075	$2,400,075
Total Direct Cost		*$14,400,450*	*$14,400,450*	*$14,400,450*	*$14,400,450*
Direct Cost per Unit		*$327,283*	*$327,283*	*$327,283*	*$327,283*
Indirect Costs [6]					
Architecture, Engineering and Consulting	8% of direct costs	$1,152,036	$1,152,036	$1,152,036	$1,152,036
Public Permits and Fees	$20,000 per unit	$880,000	$880,000	$880,000	$880,000
Taxes, Insurance, Legal and Accounting	3% of direct costs	$432,014	$432,014	$432,014	$432,014
Community Benefit		$635,000	$635,000	$635,000	$635,000
Marketing	$2,500 per unit	$110,000	$110,000	$110,000	$110,000
Developer Fee	5% of direct costs	$720,023	$720,023	$720,023	$720,023
Soft Cost Contingency	5% of other indirect costs	$196,454	$196,454	$196,454	$196,454
Total Indirect Cost		*$4,125,526*	*$4,125,526*	*$4,125,526*	*$4,125,526*
Indirect Cost per Unit		*$93,762*	*$93,762*	*$93,762*	*$93,762*
Financing Costs [7]					
Interest During Construction		$946,000	$946,000	$946,000	$946,000
Loan Origination Fee		$268,000	$268,000	$268,000	$268,000
Total Financing Cost		*$1,214,000*	*$1,214,000*	*$1,214,000*	*$1,214,000*
Financing Cost per Unit		*$27,591*	*$27,591*	*$27,591*	*$27,591*
Total Cost of Development		$25,589,976	$25,589,976	$25,589,976	$25,589,976
Total Cost/Unit (rounded)		$581,590	$581,590	$581,590	$581,590
Maximum Supported Home Price					
Household Income [8]		$50,700	$81,100	$83,500	$104,325
Revenue to Property Owner/Year [9]		$15,210	$24,330	$25,050	$31,298
(less) Operating Expenses per Unit/Year [10]		($6,000)	($6,000)	($10,000)	($10,000)
Net Operating Income		$9,210	$18,330	$15,050	$21,298
Capitalization Rate [11]		4.4%	4.4%	4.4%	4.4%
Total Supportable Unit Value [12]		$209,318	$416,591	$342,045	$484,034
Affordability Gap		**($372,272)**	**($164,999)**	**($239,545)**	**($97,556)**

[1] Based on Keyser Marston Associates' estimated development costs for rental units using mixed-use zoning @ 65 units/acre with community benefits + density bonus + inclusionary housing - 15% affordable units (see Keyser Marston Associates Inclusionary Housing Feasibility Study Appendix B Exhibit II)
[2] Keyser Marston Associates' pro forma assumes a mix of studio, one-, two-, and three-bedroom units. This analysis converts all leasable square footage to two-bedroom units in accordance with the assumptions for a three-person household given under the California Health and Safety Code 50052.5
[3] Based on Keyser Marston Associates' assumptions, derived from survey of land sales for similar developments between 2016 and 2019
[4] All direct costs assumptions are based on Keyser Marston Associates' pro forma, which are derived from estimated direct costs of similar developments
[5] Keyser Marston Associates assumes two parking spots per two-bedroom unit
[6] All indirect costs assumptions are based on those in Keyser Marston Associates' pro forma, which are derived from estimates for similar developments
[7] Financing cost assumptions are based on Keyser Marston Associates' pro forma. KMA assumes an average interest rate of 3.6%, and a loan origination fee of 2.0 points at 60% loan-to-value
[8] Based on 2020 income limits for a three-person household Los Angeles County
[9] Based on Keyser Marston Associates' assumption that Culver City households allocate 30% of income to housing costs
[10] Operating expenses are generally based on data reported by CoStar and reflective of properties in Los Angeles County. Estimates are inclusive of management, maintenance, common utility, and property tax costs, except Very Low and Low properties which are exempt from property taxes
[11] The capitalization rate is used to determine the current value of a property based on estimated future operating income, and is typically a measure of estimated operating risk. The capitalization rate used in this analysis is based on recent CoStar reported transaction data in the Culver City submarket.
[12] The total supportable unit value is determined by dividing the net operating income by the capitalization rate.

Sources: Keyser Marston Associates; Economic & Planning Systems, Inc.

Fee Calculation

Tables 9 through **14** provide the maximum nonresidential housing fee calculations for each of the six employment categories. Assuming a 100,000-square foot nonresidential building prototype for each employment category, the number of new households by income category is multiplied by the per-unit affordability gap to determine the level of subsidy required to provide housing for the new worker households. The adjusted affordability gap is then divided by the size of the assumed building to determine a maximum fee per building square foot.

Table 9 Fee Calculation – Retail/Restaurant

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
Table References:	*Table 7*	*Table 8*	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
Very Low Income	47	$372,272	$17,496,792
Low Income	45	$164,999	$7,424,975
Moderate	0	$239,545	$0
Total	**92**		**$24,921,767**
Fee Calculation		*formula*	
Total Financing Gap		*a*	$24,921,767
Total Building Sq. Ft.		*b*	100,000
Maximum Fee per Sq. Ft.		*c = a / b*	**$249.22**

Source: Economic & Planning Systems, Inc.

Table 10 Fee Calculation – Office

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
Table References:	*Table 7*	*Table 8*	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
Very Low Income	2	$372,272	$744,544
Low Income	99	$164,999	$16,334,945
Moderate	0	$239,545	$0
Total	**101**		**$17,079,489**
Fee Calculation		*formula*	
Total Financing Gap		*a*	$17,079,489
Total Building Sq. Ft.		*b*	100,000
Maximum Fee per Sq. Ft.		***c = a / b***	**$170.79**

Source: Economic & Planning Systems, Inc.

Table 11 Fee Calculation – Industrial/Warehouse/Manufacturing

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
Table References:	*Table 7*	*Table 8*	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
Very Low Income	0	$372,272	$0
Low Income	40	$164,999	$6,599,978
Moderate	0	$239,545	$0
Total	**40**		**$6,599,978**
Fee Calculation		*formula*	
Total Financing Gap		*a*	$6,599,978
Total Building Sq. Ft.		*b*	100,000
Maximum Fee per Sq. Ft.		***c = a / b***	**$66.00**

Source: Economic & Planning Systems, Inc.

Table 12 Fee Calculation – Media and R&D/Flex

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
Table References:	*Table 7*	*Table 8*	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
Very Low Income	4	$372,272	$1,489,089
Low Income	6	$164,999	$989,997
Moderate	2	$239,545	$479,090
Total	**12**		**$2,958,175**
Fee Calculation		*formula*	
Total Financing Gap		*a*	$2,958,175
Total Building Sq. Ft.		*b*	100,000
Maximum Fee per Sq. Ft.		*c = a / b*	**$29.58**

Source: Economic & Planning Systems, Inc.

Table 13 Fee Calculation – Lodging

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
Table References:	*Table 7*	*Table 8*	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
Very Low Income	3	$372,272	$1,116,817
Low Income	83	$164,999	$13,694,954
Moderate	0	$239,545	$0
Total	**86**		**$14,811,770**
Fee Calculation		*formula*	
Total Financing Gap		*a*	$14,811,770
Total Building Sq. Ft.[1]		*b*	100,000
Maximum Fee per Sq. Ft.		*c = a / b*	**$148.12**

Source: Economic & Planning Systems, Inc.

Table 14 Fee Calculation – Assisted Living

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
Table References:	*Table 7*	*Table 8*	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
Very Low Income	28	$372,272	$10,423,621
Low Income	22	$164,999	$3,629,988
Moderate	0	$239,545	$0
Total	**50**		**$14,053,609**
Fee Calculation		*formula*	
Total Financing Gap		*a*	$14,053,609
Total Building Sq. Ft.		*b*	100,000
Maximum Fee per Sq. Ft.		*c = a / b*	**$140.54**

Source: Economic & Planning Systems, Inc.

APPENDICES:

Appendix A: Assumptions and Sources

Appendix B: Occupation Distribution by Employment Category

APPENDIX A:

Assumptions and Sources

Table A-1
Assumptions and Sources
Culver City Commercial Linkage Fee Study; EPS #194059

Item	Total	Unit	Source
Demographic Assumptions			
Total Employed	21,906	persons	American Community Survey 5-Year Estimates 2018
Households	16,502	households	American Community Survey 5-Year Estimates 2018
Households with Earnings	13,573	households	American Community Survey 5-Year Estimates 2018
Workers per Household with Workers	1.61	persons	American Community Survey 5-Year Estimates 2018
Employment Density Assumptions			
Retail/Restaurant (per sq.ft.)	550	sq. ft. per employee	Based on survey of Culver City employment hubs
Office (per sq. ft.)	250	sq. ft. per employee	Based on survey of Culver City employment hubs
Warehouse/Industrial/Manufacturing (per s	600	sq. ft. per employee	EPS; based on typical industry employment densities
Media Studio and R&D/Flex (per sq. ft.)	670	sq. ft. per employee	EPS; based on typical industry employment densities
Lodging (per sq. ft.)	654	sq. ft. per employee	Based on survey of Culver City employment hubs
Assisted Living (per sq. ft.)	1,000	sq. ft. per employee	EPA Space Use Information for Senior Care Facilities

Sources: U.S. Census American Community Survey 5-Year Estimates 2018; Environmental Protection Agency Space Use Information; and Economic & Planning Systems, Inc.

APPENDIX B:

Occupation Distribution by Employment Category

Table B-1
Occupation and Wage Distribution - Retail/Restaurant
Culver City Commercial Linkage Fee Study; EPS #194059

Retail/Restaurant

Occupation Category	RETAIL/RESTAURANT [1] US Total Jobs by Occupation in Industry	US Average Wage by Occupation in Industry	Los Angeles MSA Los Angeles County Wage Est. [2]	% of Industry Jobs in Occupation Category	HH Income at 1.61 workers/HH	Income Category
Management	810,250	$86,507	$95,843	2.71%	$154,685	Above Moderate
Business and Financial Operations	238,590	$62,910	$67,049	0.80%	$108,212	Above Moderate
Computer and Mathematical Science	57,560	$80,127	$86,001	0.19%	$138,800	Above Moderate
Architecture and Engineering	5,230	$75,994	$87,041	0.02%	$140,478	Above Moderate
Life, Physical, and Social Science	1,250	$68,515	$79,967	0.00%	$129,062	Above Moderate
Community and Social Services	3,870	$39,958	$48,261	0.01%	$77,890	Low
Legal Occupations	3,310	$73,294	$89,565	0.01%	$144,553	Above Moderate
Education, Training and Library	11,980	$38,277	$47,323	0.04%	$76,376	Low
Arts, Design, Entertainment, Sports, and Media	159,020	$40,386	$56,222	0.53%	$90,738	Above Moderate
Healthcare Practitioner and Technical	546,430	$66,905	$80,498	1.83%	$129,919	Above Moderate
Healthcare Support	98,170	$38,509	$38,616	0.33%	$62,324	Low
Protective Services	98,610	$34,734	$43,163	0.33%	$69,663	Low
Food Preparation and Serving	11,220,760	$26,163	$30,540	37.58%	$49,290	Very Low
Buildings and Grounds Cleaning and Maintenance	183,410	$28,004	$33,293	0.61%	$53,732	Low
Personal Care and Service	858,550	$31,762	$38,761	2.88%	$62,559	Low
Sales and Related Occupations	9,284,790	$30,408	$33,762	31.09%	$54,490	Low
Office and Administrative Support	1,704,040	$35,095	$40,838	5.71%	$65,909	Low
Farming, Fishing and Forestry	21,100	$30,534	$34,435	0.07%	$55,576	Low
Construction and Extraction	50,210	$46,970	$55,196	0.17%	$89,083	Above Moderate
Installation, Maintenance, and Repair	873,110	$43,361	$49,268	2.92%	$79,516	Low
Production	611,560	$31,828	$32,096	2.05%	$51,801	Low
Transportation and Material Moving	3,019,450	$28,756	$29,643	10.11%	$47,841	Very Low
Total or Weighted Average	**29,861,250**		**$36,233**	**100.00%**	**$58,478**	

[1] Includes NAICS Sectors: 44 and 45 - Retail Trade; 532000 - Rental and Leasing Services; 812000 - Personal and Laundry Services; and 722000 - Food Services and Drinking Places.
[2] Adjusted using factors calculated in Table 4.

Sources: US Bureau of Labor Statistics, May 2019 National Industry-Specific Occupational Employment and Wage Estimates; Economic & Planning Systems, Inc.

Table B-2
Occupation and Wage Distribution - Office
Culver City Commercial Linkage Fee Study; EPS #194059

Office

Occupation Category	OFFICE [1] US Total Jobs by Occupation in Industry	US Average Wage by Occupation in Industry	les-Long Beach-Anah Los Angeles County Wage Est. [2]	% of Industry Jobs in Occupation Category	HH Income at 1.61 workers/HH	Income Category
Management	2,794,670	$145,856	$161,598	8.97%	$260,809	Above Moderate
Business and Financial Operations	4,442,460	$83,317	$88,799	14.27%	$143,316	Above Moderate
Computer and Mathematical Science	3,210,810	$97,215	$104,342	10.31%	$168,401	Above Moderate
Architecture and Engineering	1,143,080	$89,191	$102,156	3.67%	$164,874	Above Moderate
Life, Physical, and Social Science	414,250	$82,122	$95,848	1.33%	$154,693	Above Moderate
Community and Social Services	67,980	$51,978	$62,778	0.22%	$101,320	Above Moderate
Legal Occupations	834,720	$112,531	$137,514	2.68%	$221,939	Above Moderate
Education, Training and Library	48,950	$57,205	$70,723	0.16%	$114,143	Above Moderate
Arts, Design, Entertainment, Sports, and Media	975,770	$70,085	$97,565	3.13%	$157,464	Above Moderate
Healthcare Practitioner and Technical	483,180	$68,850	$82,838	1.55%	$133,695	Above Moderate
Healthcare Support	256,740	$30,829	$30,915	0.82%	$49,895	Very Low
Protective Services	920,560	$34,182	$42,477	2.96%	$68,556	Low
Food Preparation and Serving	179,630	$28,304	$33,039	0.58%	$53,324	Low
Buildings and Grounds Cleaning and Maintenance	2,140,660	$31,400	$37,330	6.87%	$60,249	Low
Personal Care and Service	206,330	$29,334	$35,798	0.66%	$57,776	Low
Sales and Related Occupations	2,536,340	$68,268	$75,799	8.14%	$122,335	Above Moderate
Office and Administrative Support	6,897,550	$41,770	$48,605	22.15%	$78,445	Low
Farming, Fishing and Forestry	23,290	$33,817	$38,137	0.07%	$61,551	Low
Construction and Extraction	316,040	$50,590	$59,449	1.01%	$95,948	Above Moderate
Installation, Maintenance, and Repair	968,290	$50,042	$56,859	3.11%	$91,768	Above Moderate
Production	954,460	$34,820	$35,114	3.07%	$56,671	Low
Transportation and Material Moving	1,324,470	$31,459	$32,429	4.25%	$52,338	Low
Total or Weighted Average	**31,140,230**		**$77,530**	**100.00%**	**$125,129**	

[1] Includes NAICS Sectors: 51 - Information; 52 - Finance and Insurance; 53 - Real Estate and Rental and Leasing (excluding 532000 -Rental and Leasing Services); 54 - Professional, Scientific, and Technical Services (excluding 541700 - Scientific Research and Development Services); 55 - Management of Companies and Enterprises; and 561000 - Admin. and Support Services.
[2] Adjusted using factors calculated in Table 4.

Sources: US Bureau of Labor Statistics, May 2019 National Industry-Specific Occupational Employment and Wage Estimates; Economic & Planning Systems, Inc.

Table B-3
Occupation and Wage Distribution - Warehouse/Industrial/Manufacturing
Culver City Commercial Linkage Fee Study; EPS #194059

Warehouse/Industrial/Manufacturing

Occupation Category	INDUSTRIAL/WAREHOUSE/MANUFACTURING [1] US Total Jobs by Occupation in Industry	US Average Wage by Occupation in Industry	Los Angeles MSA Los Angeles County Wage Est. [2]	% of Industry Jobs in Occupation Category	HH Income at 1.61 workers/HH	Income Category
Management	1,133,160	$121,552	$134,671	6.33%	$217,351	Above Moderate
Business and Financial Operations	725,200	$74,188	$79,069	4.05%	$127,613	Above Moderate
Computer and Mathematical Science	233,380	$85,398	$91,658	1.30%	$147,931	Above Moderate
Architecture and Engineering	223,750	$85,228	$97,617	1.25%	$157,548	Above Moderate
Life, Physical, and Social Science	45,430	$77,668	$90,650	0.25%	$146,304	Above Moderate
Community and Social Services	910	$61,390	$74,146	0.01%	$119,667	Above Moderate
Legal Occupations	8,060	$136,865	$167,251	0.05%	$269,932	Above Moderate
Education, Training and Library	1,330	$59,763	$73,886	0.01%	$119,248	Above Moderate
Arts, Design, Entertainment, Sports, and Media	98,130	$52,838	$73,557	0.55%	$118,716	Above Moderate
Healthcare Practitioner and Technical	30,410	$67,148	$80,791	0.17%	$130,392	Above Moderate
Healthcare Support	1,980	$39,040	$39,149	0.01%	$63,183	Low
Protective Services	27,660	$42,468	$52,775	0.15%	$85,176	Above Moderate
Food Preparation and Serving	11,660	$28,700	$33,502	0.07%	$54,069	Low
Buildings and Grounds Cleaning and Maintenance	84,140	$34,020	$40,445	0.47%	$65,276	Low
Personal Care and Service	2,560	$31,085	$37,934	0.01%	$61,224	Low
Sales and Related Occupations	1,623,530	$69,630	$77,311	9.07%	$124,776	Above Moderate
Office and Administrative Support	2,286,920	$42,222	$49,131	12.77%	$79,295	Low
Farming, Fishing and Forestry	48,470	$31,653	$35,696	0.27%	$57,611	Low
Construction and Extraction	4,698,860	$52,884	$62,146	26.25%	$100,299	Above Moderate
Installation, Maintenance, and Repair	1,934,590	$51,129	$58,094	10.81%	$93,761	Above Moderate
Production	674,010	$45,687	$46,072	3.76%	$74,357	Low
Transportation and Material Moving	4,009,280	$39,952	$41,183	22.39%	$66,467	Low
Total or Weighted Average	**17,903,420**		**$62,228**	**100.00%**	**$100,432**	

[1] Includes NAICS Sectors: 22 - Construction; 23 - Utilities; 42 - Wholesale Trade; 541700 - Scientific R&D Services; and 811000 - Repair and Maintenance; 493000 - Warehousing & Storage; and 484000 - Truck Transportation

[2] Adjusted using factors calculated in Table 4.

Sources: US Bureau of Labor Statistics, May 2019 National Industry-Specific Occupational Employment and Wage Estimates; Economic & Planning Systems, Inc.

Table B-4
Occupation and Wage Distribution - Media and R&D/Flex
Culver City Commercial Linkage Fee Study; EPS #194059

Media and R&D/Flex

Occupation Category	MEDIA AND R&D/FLEX [1] US Total Jobs by Occupation in Industry	US Average Wage by Occupation in Industry	Los Angeles MSA Los Angeles County Wage Est. [2]	% of Industry Jobs in Occupation Category	HH Income at 1.61 workers/HH	Income Category
Management	138,570	168,722	186,933	10.3%	$301,698	Above Moderate
Business and Financial Operations	96,810	88,048	93,840	7.2%	$151,453	Above Moderate
Computer and Mathematical Science	98,640	110,018	118,083	7.3%	$190,579	Above Moderate
Architecture and Engineering	105,730	108,610	124,397	7.8%	$200,769	Above Moderate
Life, Physical, and Social Science	190,370	90,160	105,230	14.1%	$169,835	Above Moderate
Community and Social Services	3,710	58,160	70,245	0.3%	$113,371	Above Moderate
Legal Occupations	4,590	169,813	207,513	0.3%	$334,913	Above Moderate
Education, Training and Library	6,330	75,216	92,990	0.5%	$150,081	Above Moderate
Arts, Design, Entertainment, Sports, and Media	308,770	76,458	106,437	22.9%	$171,784	Above Moderate
Healthcare Practitioner and Technical	17,290	72,400	87,110	1.3%	$140,590	Above Moderate
Healthcare Support	5,870	37,180	37,283	0.4%	$60,173	Low
Protective Services	4,550	51,375	63,843	0.3%	$103,038	Above Moderate
Food Preparation and Serving	57,980	25,508	29,776	4.3%	$48,057	Very Low
Buildings and Grounds Cleaning and Maintenance	5,930	31,379	37,306	0.4%	$60,209	Low
Personal Care and Service	77,710	28,889	35,255	5.8%	$56,899	Low
Sales and Related Occupations	55,140	62,101	68,952	4.1%	$111,284	Above Moderate
Office and Administrative Support	104,870	49,332	57,404	7.8%	$92,647	Above Moderate
Farming, Fishing and Forestry	1,150	37,120	41,862	0.1%	$67,562	Low
Construction and Extraction	12,140	73,357	86,204	0.9%	$139,128	Above Moderate
Installation, Maintenance, and Repair	13,040	61,422	69,790	1.0%	$112,636	Above Moderate
Production	15,310	55,727	56,197	1.1%	$90,698	Above Moderate
Transportation and Material Moving	23,920	49,720	51,252	1.8%	$82,718	Moderate
Total or Weighted Average	**1,348,420**		**$100,194**	**100.00%**	**$161,706**	

[1] Includes NAICS Sectors: 512100, 515100 and 541700
[2] Adjusted using factors calculated in Table 4.

Sources: US Bureau of Labor Statistics, May 2019 National Industry-Specific Occupational Employment and Wage Estimates; Economic & Planning Systems, Inc.

Table B-5
Occupation and Wage Distribution - Lodging
Culver City Commercial Linkage Fee Study; EPS #194059

Lodging

Occupation Category	LODGING [1] US Total Jobs by Occupation in Industry	US Average Wage by Occupation in Industry	Los Angeles MSA Los Angeles County Wage Est. [2]	% of Industry Jobs in Occupation Category	HH Income at 1.61 workers/HH	Income Category
Management	91,380	$83,380	$92,379	4.31%	$149,094	Above Moderate
Business and Financial Operations	35,440	$57,260	$61,027	1.67%	$98,494	Above Moderate
Computer and Mathematical Science	4,140	$64,130	$68,831	0.20%	$111,090	Above Moderate
Architecture and Engineering	790	$65,820	$75,388	0.04%	$121,671	Above Moderate
Life, Physical, and Social Science	190	$54,230	$63,294	0.01%	$102,153	Above Moderate
Community and Social Services	310	$41,400	$50,003	0.01%	$80,701	Low
Legal Occupations	160	$127,680	$156,026	0.01%	$251,816	Above Moderate
Arts, Design, Entertainment, Sports, and Media	7,760	$50,060	$69,689	0.37%	$112,473	Above Moderate
Healthcare Practitioner and Technical	520	$50,570	$60,844	0.02%	$98,199	Above Moderate
Healthcare Support	10,840	$46,590	$46,719	0.51%	$75,402	Low
Protective Services	47,010	$33,890	$42,115	2.22%	$67,971	Low
Food Preparation and Serving	532,780	$31,820	$37,144	25.12%	$59,948	Low
Buildings and Grounds Cleaning and Maintenance	578,600	$28,000	$33,288	27.28%	$53,726	Low
Personal Care and Service	171,560	$30,510	$37,233	8.09%	$60,092	Low
Sales and Related Occupations	64,080	$41,850	$46,467	3.02%	$74,994	Low
Office and Administrative Support	378,340	$30,230	$35,177	17.84%	$56,773	Low
Farming, Fishing and Forestry	1,040	$31,700	$35,749	0.05%	$57,697	Low
Construction and Extraction	5,320	$51,440	$60,449	0.25%	$97,560	Above Moderate
Installation, Maintenance, and Repair	115,840	$38,830	$44,120	5.46%	$71,207	Low
Production	46,130	$28,150	$28,387	2.17%	$45,815	Very Low
Transportation and Material Moving	29,090	$29,430	$30,337	1.37%	$48,962	Very Low
Total or Weighted Average	**2,121,320**		**$39,337**	**100.00%**	**$63,487**	

[1] Includes NAICS Sector: 721000 - Accommodation.

[2] Adjusted using factors calculated in Table 4.

Sources: US Bureau of Labor Statistics, May 2019 National Industry-Specific Occupational Employment and Wage Estimates; Economic & Planning Systems, Inc.

Table B-6
Occupation and Wage Distribution - Assisted Living
Culver City Commercial Linkage Fee Study; EPS #194059

Assisted Living

Occupation Category	ASSISTED LIVING [1] US Total Jobs by Occupation in Industry	US Average Wage by Occupation in Industry	Los Angeles MSA Los Angeles County Wage Est. [2]	% of Industry Jobs in Occupation Category	HH Income at 1.61 workers/HH	Income Category
Management	32,940	85,700	94,950	3.5%	$153,243	Above Moderate
Business and Financial Operations	9,650	58,030	61,848	1.0%	$99,819	Above Moderate
Computer and Mathematical Science	730	63,200	67,833	0.1%	$109,479	Above Moderate
Architecture and Engineering	0	0	0	0.0%	$0	
Life, Physical, and Social Science	50	75,360	87,956	0.0%	$141,956	Above Moderate
Community and Social Services	7,300	46,660	56,356	0.8%	$90,955	Above Moderate
Legal Occupations	0	0	0	0.0%	$0	
Education, Training and Library	170	33,690	41,651	0.0%	$67,223	Low
Arts, Design, Entertainment, Sports, and Media	990	58,000	80,742	0.1%	$130,313	Above Moderate
Healthcare Practitioner and Technical	101,860	56,020	67,402	10.8%	$108,782	Above Moderate
Healthcare Support	424,730	27,680	27,757	44.9%	$44,798	Very Low
Protective Services	5,690	31,110	38,660	0.6%	$62,395	Low
Food Preparation and Serving	170,540	27,230	31,786	18.0%	$51,301	Low
Buildings and Grounds Cleaning and Maintenance	57,130	27,140	32,266	6.0%	$52,075	Low
Personal Care and Service	41,490	33,160	40,467	4.4%	$65,312	Low
Sales and Related Occupations	4,630	54,420	60,423	0.5%	$97,519	Above Moderate
Office and Administrative Support	48,750	35,080	40,820	5.1%	$65,881	Low
Farming, Fishing and Forestry	60	26,280	29,637	0.0%	$47,832	Very Low
Construction and Extraction	650	45,290	53,221	0.1%	$85,896	Above Moderate
Installation, Maintenance, and Repair	23,920	39,580	44,972	2.5%	$72,582	Low
Production	5,200	26,590	26,814	0.5%	$43,276	Very Low
Transportation and Material Moving	10,150	30,330	31,265	1.1%	$50,459	Very Low
Total or Weighted Average	**946,630**		**$37,959**	**100.00%**	**$61,264**	

[1] Includes NAICS Sectors: 632300 and 632900
[2] Adjusted using factors calculated in Table 4.

Sources: US Bureau of Labor Statistics, May 2019 National Industry-Specific Occupational Employment and Wage Estimates; Economic & Planning Systems, Inc.

The Basalt Affordable Community Housing (BACH) Meeting will be held by Teleconference – The Public may access the meeting by calling the number below and entering the Meeting ID when prompted.

Phone Number: 16699006833
Meeting ID: 81827376778
Passcode: 787551

Att. M

TOWN OF BASALT MEETINGS

Basalt Affordable Community Housing (BACH)

Thursday, May 11, 2023

Basalt Town Hall 101 Midland Avenue

12:00 PM	Roll Call
12:03	Approval of Minutes- April 13, 2023
12:05	Discussion Regarding Housing Assessment Proposals
12:25	Affordable Housing Bond Initiative
12:50	Staff Updates
12:55	Member Updates & Other
1:00	Adjourn

Public Comment is limited to 3 minutes. Those who wish to speak should email james.lindt@basalt.net before the meeting starts with their name, phone number, and identify what item they would like to address. During the meeting those wishing to comment may also email james.lindt@basalt.net, but it is not guaranteed that the email will be seen in a timely fashion.

Basalt Affordable Housing Commission (BACH)

ACTION MINUTES

BOARD MEMBERS PRESENT: Anne Baker, Perry Kleespies, Dave Portman, Katie Erickson, Jay Israel

STAFF PRESENT: Michelle Thibeault, James Lindt, Sara Nadolny

GUESTS: Erin Wackerle (Bendon Adams), Shannon Meyer (Response), Erica Golden and Anna Reynoso (2757 Design), Councilor Elyse Hottel Attended Meeting Near the Conclusion of the Meeting for the Western Regional Housing Coalition Agenda Item

DATE: 4/13/2023

MEETING CALLED TO ORDER AT 12:07 PM

AGENDA ITEMS

1. Review and Recommendation regarding Affordable Housing Proposal – 325 E. Cody Lane Application for Domestic Abuse Shelter.
2. Update from Elyse Hottel on the Western Regional Housing Coalition
3. Staff Updates
4. Member Updates & Other

1. **Review and Recommendation regarding Affordable Housing Proposal – 325 E. Cody Lane Application for Domestic Abuse Shelter**

James introduced the item as BACH's review of 325 E. Cody lane development proposal – AH mitigation aspects of project. Applicants is Response. The Applicant received a PUD amendment last year to add a domestic abuse shelter as a Special Review use for the Property in the Basalt Business Center East PUD. The Applicants have now submitted application for Special Review with design. The Application Includes a small office space around 2k sq ft, seven private client rooms and a deed-restricted community housing unit that is to be 2-bedrooms and 870 sq ft.

Staff provided a memo in the packet that identified some discussion topics. It was noted that that the Applicant had some addendums to their affordable housing proposal that were sent earlier this week, which included a request for occupancy priority for Response's employees and volunteers, a request for the deed-restricted unit to be a Category 2 unit, and the ability to reduce number of employment hours a tenant could have to be eligible to occupy the unit down to 1040 hours of work per year from 1500 per year that is required by the Town's Community Housing Guidelines.

James explained the mitigation requirements in the Town Code. It was pointed out that staff included commercial mitigation calculation in the Staff memo as it was interpreted by Staff that the commercial

mitigation requirements would apply even though the use is a hybrid between residential and commercial use. It was explained that the Town Code assumes that 4 full-time employees are generated per 1,000 sq ft of commercial space and that 15% of the employees generated are required to be mitigated for with affordable housing. The Applicants have proposed 2 bed unit to mitigate for the employees generated.

James described that there is a review process that allows for unique uses such as the proposed Domestic Abuse Shelter to demonstrate that they will generate less than the 4 employees per 1,000 sf that is assumed by the Town Code. As such the Applicants have proposed that they will have 5 total employees operating the proposed facilities. Staff evaluated the proposal and 5 total employees generated would require approximately 400 sq ft of affordable housing, which is proposed to be satisfied through the construction of the 870 sq ft deed-restricted unit.

Staff pointed out the Livability requirements of the community housing guidelines, which are livability requirements for restrooms, kitchen, storage and parking. It was noted that Staff believes the unit satisfies the livability requirements.

Related to Occupancy priority, Staff explained that under the Town's Community Housing Guidelines, essential employees within the town receive occupancy priority. Then if an employee in the first occupancy priority category is not interested in an available unit, the occupancy priorities waterfall to general employees working in Basalt, and then to employees between Aspen and Glenwood Springs. The Applicants have asked for a first priority category for their employees and volunteers. Staff believes this is supportive given the unit within the domestic abuse shelter.

In evaluating the Category 2 unit request, response thought Category 2 lined up better with their employees. Staff explained that this was acceptable to Staff since the domestic abuse shelter use was a hybrid between residential and commercial and residential was allowed to be mitigated at a Category 2 level.

The Applicants presented that Response is a local nonprofit that serves survivors of domestic and sexual abuse and human trafficking. It was noted that they also conduct healthy relationship programming in schools. It was described that it is challenging for domestic abuse survivors to secure housing when seeking to leave abusers. They explained that there is a growing need in the community for more temporary housing of this nature. This Project will be mixed use and consist of office and shelter space. It was described as critical temporary housing. The design is at a modest scale to provide comfort and refuge and fit into the neighborhood. The proposed community housing unit is on the second level.

The Applicants described their need for requesting flexibility for occupancy. Safety and security of clients is their highest priority.

People that come into the shelter may not be working, or only working part-time. 1500 annual hours worked is approx. 28 hours per week. The reduced employment hour requirement of 1040 annually = 20 hrs worked per week. Helping clients achieve financial independence is a goal of Response. So, the Applicants have requested that Response clients be allowed to occupy the community housing unit while working only a minimum of 1040 hours per year.

Shannon Meyer of Response discussed that 1 in 3 women and 1 in 5 men will experience domestic violence in lifetime and that it happens in this Valley. Response has seen the numbers increase by 20%

since the pandemic and housing is essential. Transitional housing is up to 3 months. Response has reached capacity with the apartment stock they already have. Last year they served 17 survivors and turned away 13.

There will be an on-site staffer will have eyes on the building at all tines and are skilled in addressing issues. The Applicants would like to add housing to the job description for an office manager (recruitment and retention). It was noted that the shelter is free housing for up to 3 months for clients and that clients work with a housing manager during this time to get into their own place. If the Community Housing Unit is not occupied by an employee of Response, it may be able to put a survivor into the unit. It would be another tool for Response to serve the survivors.

Erica Golden, the Applicants' architect expressed that she feels the design is meeting standards, but have delved more into accessibility standards. Two uses on site, office is first use and where people are received. The shelter is set back into the more private area of the site and there is screening for privacy. Bike parking and covered parking are included for the AH unit. There is also a play area for kids in a more secure area. The entire upper level is proposed as the shelter component. Additionally, an elevator is provided in the building and the Community Housing Unit is a Type A accessible unit. Therefore, they Applicants had to eliminate the second restroom to allow for larger radius to meet accessibility standards. An access door connecting into shelter space was needed so that the AH unit has access to elevator. Shannon described that have the unit be accessible is important to all aspects of Response's work.

James clarified that BACH will need to make a recommendation on losing the half bath.

Katie asked for occupancy clarification but said it's a great use of space.

Anne asked the number of hours a resident of 3 months needs to work. Shannon said that makes sense if the housing unit is used for a longer-term survivor rather than an employee.

Dave expressed that he feels good about the Category 2 and priority occupancy requests. He asked how to determine hours if a volunteer is eligible? He suggested that it could be Category 2 for just Response employees and volunteers and Category 1 for other priority occupancies.

Katie felt there was a need to have someone associated with Response in that space and not just random tenants and that random tenants could be putting people in the shelter at risk. Responding to a question, James responded that BACH and Council have the flexibility to accept the proposals.

Dave asked if it is Response's request to have Response employees, volunteers, and clients be the first occupancy in the Community Housing Unit or to eliminate the other occupancy priorities in the Community Housing Guidelines for this unit completely?

The Applicants responded that they desire Response employees, volunteers, and clients to be the first occupancy priority.

Perry described that he thought the intent of this project is a greater good of helping out the AH issue in the Basalt community. He expressed support for the approach to provide localized housing for staff, particularly in a first responder type requirement. He expressed that he thinks the AH unit should be strictly for Response employees, not potential use by the larger community.

James summarized that the majority of BACH seems accepting of concept of the AH unit being for Response employees, volunteers and clients.

M/S Katie and Dave to make a recommendation to Council to allow for occupancy of the Community Housing Unit by only Response employees, volunteers, and clients; that the unit be allowed to be a Category 2 unit; and that the unit receive a waiver to allow it to have only one bathroom. Motion passed 5 to 0.

Due to time constraints and the need for BACH members to leave the meeting, the Western Regional Housing Coalition Update was continued to a future meeting.

Katie motion to adjourn.

Meeting adjourned at 1:07 pm.

TOWN OF BASALT

BASALT AFFORDABLE HOUSING COMMISSION

By_____ Attest_____

Katie Erickson, Chair Michelle Bonfils Thibeault, Planning Director

Request for Proposals- Basalt Housing Assessment

Proposal Scoring Matrix - Please rank each from 1 to 10, with 10 meaning the Firm meets the criteria in totality, and 1 meaning not at all.

	Economic and Planning Systems		Smart City Policy Group	
	Score (1 to 10)	Comments	Score (1 to 10)	Comments
Comprehensiveness (45%)				
Qualifications of Project Team (30%)				
Compensation Proposal (10%)				
Schedule, including proposed phasing (5%)				
Client References (10%)				
Total Weighted Score	**0**		**0**	

Any additional comments:



Updated Affordable Housing Assessment and Short-Term Rental Impact Fee Nexus

Prepared for:

TOWN OF BASALT 1901

Prepared by:

EPS Economic & Planning Systems, Inc.

May 1, 2023

EPS #233067

1. INTRODUCTION

Economic & Planning Systems, Inc.
The Economics of Land Use

May 1, 2023

Mr. James Lindt
Assistant Planning Director
Town of Basalt
Basalt Town Hall
101 Midland Avenue
Basalt, CO 81621
submitted via email to james.lindt@basalt.net

Subject: Updated Affordable Housing Assessment and Short-Term Rental Impact Fee Nexus; EPS #233067

Dear James:

Economic & Planning Systems (EPS) is pleased to present this proposal to prepare a new Housing Needs Assessment and to update the Town's housing mitigation fees. EPS has enjoyed working with the Town over the years, from helping the Town negotiate with the Willits Town Center development in the early 2000s, a Cost of Growth Study, and a previous Housing Needs Assessment in 2015.

EPS is a full-service economic consulting firm with 50 employees in its Denver, Oakland, Sacramento, and Los Angeles offices. The firm has a broad-based practice in real estate analysis, public finance, and land use policy. Since 1983, EPS has worked with a wide range of public and private clients throughout the nation and has established a reputation for objective high-quality analysis and creativity. Within our Housing Practice, we have completed numerous needs assessments in Colorado mountain towns, and recent experience in the Roaring Fork Valley. We also have experience on the implementation side with several completed linkage and cash-in-lieu fee studies. EPS also prepared what we believe to be the first regulatory fee study for short-term rentals for the Town of Breckenridge.

An experienced team has been assigned to this project including Brian Duffany, Principal, as the principal-in-charge responsible for the overall project direction, management, and outcomes. Brian will work closely with Rachel Shindman, Vice President, who will support the technical work. Rachel and Brian have extensive experience in mountain and resort housing policy and regulation.

Our qualifications and proposed scope of work and fee is attached. We are open to your input on the overall scope, cost, and schedule. We appreciate the opportunity to work with the Town again. If you have any questions or need additional information please contact me at (720) 460-3302 or bduffany@epsdenver.com.

Sincerely,

Economic & Planning Systems, Inc.

Brian Duffany
Principal

730 17th Street
Suite 630
Denver, CO 80202
303 623 3557

Denver
Los Angeles
Oakland
Sacramento

epsys.com

2. QUALIFICATIONS, EXPERIENCE, AND CAPACITY

Key Staff Members

Brian Duffany, Principal, will be the principal-in-charge and project manager responsible for the overall project strategy, direction, delivery, and quality. He will be working side-by-side with Rachel Shindman, V.P. and co-project manager. Brian has nearly 20 years of consulting experience in housing, real estate market and feasibility analysis, and economic and community development. He has completed many needs assessments, linkage fee nexus studies, and short term rental regulatory fee studies.

Rachel Shindman, Vice President, will be the co-project manager working closely with Brian and the rest of the EPS Team. Rachel has managed housing technical studies and housing plans and strategies throughout Colorado and brings 8 years of experience in housing, nexus studies, and inclusionary housing policy. She is particularly skilled in explaining technical information to broad audiences.

Sarah Dunmire, Senior Associate will support the survey, needs assessment, market research, and fee analysis tasks. Sarah brings 6 years of experience in housing, community planning, geospatial analysis, and financial and economic analysis.

Carson Bryan, Associate will also support the survey, needs assessment, market research, and fee analysis tasks. Carson brings 3 years of experience in housing, community planning, geospatial analysis, and financial and economic analysis.

Résumés for key staff are provided on the following pages, followed by relevant project experience and current volume of work.



Education

Master of Regional Planning, Cornell University

Bachelor of Arts, Geology, Colby College

Employment History

24 Years Experience

19 Years with EPS

Affiliations

American Planning Association

Urban Land Institute

Speaking Engagements

TIF for TAT: Urban Renewal After HB 15-1348, Rocky Mountain Land Use Institute Conference, 2018

Streetcar Economics, American Planning Association Conference, 2010

Awards

Downtown Colorado, Inc. Governor's Best Plan Award – *City of Englewood Economic Development Strategic Plan*

American Planning Association, Colorado Chapter – West Vail Master Plan

Brian Duffany

Principal

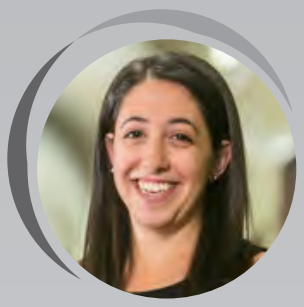
Brian Duffany is a real estate economist and planner with over 20 years' experience in land economics. Brian has a broad base of experience in real estate development feasibility analysis, workforce housing, financial and economic modeling, economic development, economic and demographic analysis, local government finance, fiscal impact analysis, and transportation planning. Much of his work is in mountain, rural, and amenity gateway communities. In this context, Brian helps communities understand the market and economic forces shaping them. His work includes housing strategy and policies, comprehensive and neighborhood planning, and impact fee programs.

SELECTED PROJECT EXPERIENCE

- Inclusionary Zoning and Linkage Fee Study | Fort Collins, CO
- Lumber Yard Housing Market Study | Aspen, CO
- Short Term Rental Regulatory Fee | Breckenridge, CO
- Housing Strategy | Chaffee County, CO
- Housing Strategy | Clear Creek County, CO
- Housing Mitigation Fee Study | Pagosa Springs, CO
- Housing Funding Plan | Fruita, CO
- Workforce Housing-USFS Land Swap Impact Analysis | Summit County, CO
- Housing and Community Sustainability Study | Flagstaff, AZ
  Economic and Real Estate Advisory Services | Bozeman, MT
- Growth Policy Update | Bozeman, MT
- West Steamboat Neighborhood Annexation | Steamboat Springs, CO
- Economic Sustainability Model | Mountain Village, CO
- Revenue Diversity and Capital Funding Analysis | Avon, CO
- West Vail Master Plan and Housing Strategy | Vail, CO
- Fruita In Motion Comprehensive Plan | Fruita, CO
- Downtown Housing Strategy | Billings, MT

Economic & Planning Systems, Inc.
The Economics of Land Use
www.epsys.com

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bduffany@epsdenver.com



Education

Master of Regional Planning, Cornell University

B.A., Queen's University

B.Ed., Queen's University

Certificate in GIS, Queen's University

Employment History

7.5 Years with EPS

Affiliations

American Institute of Certified Planners

American Planning Association

Urban Land Institute

Presentations

From Hiring to Housing: Employer Strategies for Housing Solutions Presentation (convener and presenter) American Planning Association - Colorado State Conference, Virtual 2020

Tiny Homes, Big Ideas: Alternative Housing, Conventional Reality Panel Discussion (convener and facilitator) American Planning Association – Colorado State Conference, Keystone, CO 2018

Can Tiny Homes Help Solve Denver's Affordable Housing Crisis? Panel Discussion (moderator) Denver Design Week, Denver, CO 2018

Finding the "Opportunity" in Opportunity Zones Panel Discussion (convener and moderator) American Planning Association – Colorado State Conference, Snowmass 2019

Rachel Shindman, AICP

Vice President

Rachel Shindman, AICP, brings several years of experience in many of EPS's practice areas. Her specializations include real estate economics, fiscal and economic impact analysis, and economic development and revitalization. She has a strong skill set for addressing urban economic and policy issues, and her experience in public, private, and nonprofit organizations enables her to work successfully with a diverse set of clients.

SELECTED PROJECT EXPERIENCE

- Short Term Rental Housing Fee Study | Summit County, CO
- Short Term Rental Study | Vail, CO
- Short Term Rental Regulatory Fee Study | Breckenridge, CO
- Short Term Rental Policy Evaluation | Eagle County, CO
- Housing Linkage Program | Mountain Village, CO
- St. Anthony Summit Medical Center Workforce Housing Solutions | Frisco, CO
- Affordable Housing Mitigation Rate and Fee-in-Lieu Updates | Vail, CO
- Housing Needs Update | Summit County, CO
- Housing Needs Assessment | Lake County, CO
- Housing Needs Study | Archuleta County, CO
- Housing Needs Assessment | Upper Arkansas Area Council of Governments, CO
- Housing Needs Assessment | Chaffee County, CO
- Peoria Crossing Market Study | Aurora, CO
- Comprehensive Housing Needs Assessment | Fort Morgan, CO
- Housing and Transportation Funding Model | Boulder County, CO
- Downtown Workforce Housing Needs Assessment | Billings, MT
- Comprehensive Housing Policy Framework | San Antonio, TX
- Housing Trends and Strategic Plan | Plano, TX
- Nashville Inclusionary Housing Study | Nashville, TN
- Inclusionary Housing Calculator Tool Development | Ontario, Canada

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rshindman@epsdenver.com



Sarah Dunmire

Senior Associate

Sarah joined EPS in 2017, bringing her academic and professional experience in planning and economics. Prior to EPS, Sarah worked in the public sector as a Regional Planner gaining experience in regional planning, growth management, and community development. Additionally, through her time as an Economic Analysis Program Assistant for Penn State Extension, Community and Economic Development she learned skills of economic development, strategic planning, and facilitation. She is passionate about equitable development and affordable housing and has experience with housing needs assessments, housing demand analysis, and housing policy.

Education

Masters of Urban and Regional Planning at the University of Colorado Denver

BS in Community, Environment, and Development; Minors in Economics and Communication Arts and Sciences—The Pennsylvania State University, 2015

Employment History

6 Years Experience

5 Years with EPS

Affiliations

Urban Land Institute

SELECTED PROJECT EXPERIENCE

- Comprehensive Housing Needs Assessment | Fort Morgan, CO
- San Miguel County Housing Demand Analysis | San Miguel County, CO
- Affordable Housing Entitlement Support | Loveland, CO
- Affordable Housing Task Force | Loveland, CO
- Kane-Elgin Consolidated Plan and Analysis of Impediments Kane County, IL
- Rural Housing Initiative Market Study | Telluride, CO
- Fruita in Motion | Fruita, CO
- West Vail Master Plan | Vail, CO
- Grand Avenue Corridor Plan | Eagle, CO
- Market Assessment Tool for HOME-Assisted Ownership | Kane County, IL
- Zoning Feasibility Analysis | State College, PA
- SA Tomorrow Comprehensive Plan | San Antonio, TX
- San Marcos Comprehensive Plan Update | San Marcos, TX

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sdunmire@epsdenver.com



Education

B.A. in Economics and in German - Washington and Lee University

Employment History

3 Years with EPS

Previous Experience

Fulbright teaching fellowship, Nuremberg, Germany

Washington and Lee University Real Estate Society

Charlotte Chamber of Commerce Intern

Carson Bryant

Associate

Carson Bryant has significant experience with housing market analysis, housing policy, affordable housing strategy, real estate finance, and financial modeling in downtowns and other infill settings. He has worked on a variety of projects across the region and has a strong skill set for identifying market opportunities and constraints, and formulating creative approaches to address them.

SELECTED PROJECT EXPERIENCE

- Lumber Yard Housing Market Assessment | Aspen, CO
- Pitkin County Economic and Community Analysis | Colorado
- Housing Funding Plan | Fruita, CO
- Deerbrook Townhomes Market and Feasibility Study | Snowmass Village, CO
- Loveland Affordable Housing Task Force Support | Colorado
- Affordable Housing Funding Plan | San Antionio, TX
- Workforce Housing Feasibility Study | Red Lodge, MT
- Beartooth RC&D Regional Housing Study and Needs Assessment | Joliet, MT
- Covid-19 Economic Resiliency Plan | Ouray County, CO
- Mountain Village Comprehensive Plan Economics | Mountain Village, CO
- Economic Development Plan | Santa Fe County, NM
- Resiliency and Recovery Roadmap Strategy | Mesa County
- Resiliency and Recovery Roadmap Strategy | Northwest Colorado
- Resiliency and Recovery Roadmap Strategy | Costilla County
- Opportunity Zone Prospectus | Southeast Colorado Econ. Dev. District
- Southside Opportunity Zones Strategic Plan | San Antonio, TX
- Urban Renewal Strategic Plan | Denver, CO
- Downtown Housing Market Study Update | Billings, MT

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Denver | Los Angeles | Oakland | Sacramento



About Economic & Planning Systems

Economic & Planning Systems, Inc. (EPS) is a land economics consulting firm experienced in the full spectrum of services related to real estate development, the financing of public infrastructure and government services, land use and conservation planning, and government organization.

EPS was founded on the principle that real estate development and land use-related public policy should be built on realistic assessment of market forces and economic trends, feasible implementation measures, and recognition of public policy objectives, including provisions for required public facilities and services.

AREAS OF EXPERTISE

- Real Estate Economics
- Public Finance
- Land Use & Transportation
- Economic Development & Revitalization
- Fiscal and Economic Impact Analysis
- Housing Policy
- Public-Private Partnership (P3)
- Parks and Open Space Economics

Clients Served

Since 1983 EPS has provided consulting services to hundreds of public- and private-sector clients in Colorado and throughout the United States. Clients include cities, counties, special districts, multi-jurisdictional authorities, property owners, developers, financial institutions, and land use attorneys.

Staff Capabilities

The professional staff includes specialists in public finance, real estate development, land use and transportation planning, government organization, and computer applications. The firm excels in preparing concise analyses that disclose risks and impacts, support decision making, and provide solutions to real estate development and land use-related problems.

Housing Policy



EPS has a depth of affordable housing related experience. Availability of housing that meets the need for the full spectrum of affordability should be viewed as an integral part of any successful region, conferring economic, social, and environmental benefits that underpin sustainable growth. In recent years, many communities have experienced significant increases in housing demand, pushing rents and prices beyond the level that median-income households can afford. Rising housing costs can cause overcrowding, financial hardship, and in some cases force households to leave their neighborhoods, jobs, and/or social networks. The lack of access to affordable housing affects all sectors of society and has become a particular problem for workers in lower paying fields (e.g., service, public, and non-profit sectors).

EPS offers a full spectrum of services related to assessing specific population affordable housing needs, workforce housing, and market-rate housing. We work with communities to structure initial strategic housing plan frameworks, revise housing needs goals, establish production or rehabilitation targets, develop financing plans, or provide rigorous analysis that quantifies the return on investment from public dollars directed toward housing goals. Our work integrates an understanding of local, regional, and national market and policy forces. EPS works in a variety of contexts, from large urban metropolitan areas and regional planning organizations to smaller, rural, suburban, and resort markets.

Representative Projects

- Archuleta County Housing Needs and Policy Assessment
- Aspen Housing Update
- Aurora Housing and Community Needs Assessment
- Basalt Affordable Housing Strategy
- Bexar County TX Housing Needs Assessment
- Big Sky MT Housing Development Plan
- Billings MT Workforce Housing Needs Assessment
- Boulder Inclusionary Housing Rental Policy Update
- Boulder Rental Housing Climate Action Plan Cost Impact
- Broomfield CO McWhinney Affordable Housing Analysis
- Chaffee County Housing Needs Assessment
- City & County of Denver Housing Economic Study/ Denver IHO
- Clear Creek County Housing Assessment
- Denver Housing Production and Funding Analysis
- Douglas County Housing Partnership Nexus Study
- Edwards Housing Economic Impact Study
- Fort Collins Inclusionary Housing Study
- Lakewood Housing Study
- Lakewood Support for Development Review Process
- Leadville and Lake County Housing Needs Assessment
- Longmont Inclusionary Housing Study
- Manitou Springs Affordable Housing Needs Assessment
- Northern Colorado Housing Density Analysis
- Oklahoma City OK Housing Plan
- Ontario Canada Inclusionary Zoning Policy Study
- Plano TX Housing Trends Analysis and Strategic Plan
- Portland OR Housing Incentive Analysis
- Roaring Fork Valley Regional Housing Authority 2017 Housing Needs
- San Antonio Housing Production Target Study
- San Antonio TX Housing Policy
- San Miguel County Housing Needs Analysis
- Sonoran Institute Housing Market Study
- St. Anthony Center Housing Needs Assessment
- Summit County Housing Needs Update
- Summit County Peer Review
- SW Colorado Regional Housing Plan
- Tri County Housing Needs Assessment
- UAACOG Housing Needs Assessment
- Windsor Study of Demographics and Housing Opportunities

The following are representative projects EPS has completed involving the assessment of housing demands, supply, and gaps; assessment of market rate, affordable, workforce, and special needs housing; and housing policy and plans.

Short Term Rental Housing Fee Study

Summit County, Colorado

Summit County hired an EPS led team to establish a basis for fees on STR units. This work included three key components:

1. Building on existing County data, we established a baseline STR context for the County. This provided data to inform policy makers as they consider new fees or other policies and strategies, and enable data-informed decision making for a proposed fee. Analysis included data on inventory, location, unit characteristics, economic characteristics, and guest spending.
2. To provide additional context, we provided an overview of how peer communities are addressing STRs, including how the STR contexts of other locations (including magnitude of inventory, share of total units, and guest expenditures) are similar or different from Summit County.
3. Lastly, EPS completed a nexus study to document the nexus between STR use and affordable/workforce housing demand. Using an economic impact model to document the relationship between STR guest spending and affordable housing demand, the model provides a basis from which the County can generate fee revenue to be used for housing development and/or to fund programs (e.g., buy downs).
    - Cost of project: $51,000
    - Client: Summit County, Colorado
    - Sub consultant: RRC Associates
    - Project over/under budget and schedule: Ongoing
    - Listing of general policy recommendations: Anticipated recommendations include STR fee and use of revenues.

Roaring Fork Valley Regional Housing Study

Aspen to Glenwood Springs and New Castle to Eagle, Colorado

The Roaring Fork Valley has become synonymous with high housing costs, a tight and constrained housing supply, and an ever-expanding commute shed. The discontinuity of affordable housing practices, goals, policies, and initiatives by numerous counties and municipalities makes tackling affordable housing needs and issues an even more challenging problem to solve. For the past few decades, it has been clear that housing needs for the workforce are not being met sufficiently. Years of applying best practices in most of the Valley's communities has helped many, but left still many more needs unmet.

The goal of this study was to provide a solid foundation from which a regional solution could finally address a regional problem. EPS and its subconsultant, RRC Associates, provided an in-depth analysis of workforce needs, a projection of age-and income-specific needs, and a robust foundation from which to communicate the story and issues to local governments, stakeholders, and the public. The team conducted the first-ever regional resident and employer survey to comprehensively assess the perceptions, concerns and housing needs of residents, workers, and employers. The team also pioneered a new methodology for identifying housing gaps by income. The findings revealed subregional under- and over-supplies, inter-regional dependencies, and a truer picture of the housing needs by income created by each driver of housing demand – factoring in wage and salary workers, proprietors, non-working residents, in-commuters and out-commuters.

- Cost of project: $116,500
- Client: Garfield County Housing Authority
- Sub consultant: RRC Associates
- Project over/under budget and schedule: Budget increase of $29,000 due to additional tasks and expanded report
- Listing of general policy recommendations: Quantified the regional housing gap and gaps at the community level, with recommendations on what AMI levels should receive the greatest focus.

Lake County Housing Needs Assessment

Leadville, Colorado

Lake County is a unique community in the Rocky Mountain West, given its origins and continuity as a mining community and its growing appeal as a tourism and recreation destination. Leadville, the County's only incorporated municipality, has a strong mining history and downtown historic district. The regional context for Lake County is one of growth in both the commercial and residential sectors. The surrounding counties include Eagle, Summit, Chaffee, and Pitkin, each of which has a thriving real estate market and growing economy. Lake County's residents provide much of the workforce for these surrounding communities, as regional housing challenges push workers to seek housing in Lake County. There has been a major shift in the Lake County housing market since 2015, both in rental and for-sale homes. While Lake County is not alone in the challenges it is facing, its geographic and employment context make the challenges and opportunities present distinct in the region.

EPS prepared a Housing Needs Assessment for Lake County that focused on identifying the key housing issues facing the community as well as resources in the County available to address these issues. The analysis documented economic and demographic conditions contributing to housing affordability issues, evaluated the housing market to identify market trends affecting

affordability, and recommended strategies and actions for the City and County to pursue to increase the supply and affordability of housing.

This work was done through data analysis, stakeholder input obtained through focus groups and direct interviews, and community outreach through two community meetings. The resources and strategies available to the community were cataloged, and applicability to Leadville and Lake County was assessed as part of the creation of an action plan to address identified issues and goals. The analysis emphasized implementation measures focused around policy, funding, and governance.

- Cost of project: $44,000
- Client: Lake County, Colorado
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed on time and on budget
- Listing of general policy recommendations: EPS made recommendations in five categories: land strategy, policy initiatives, organization and management, funding sources, and regional partnerships.

Housing Conditions and Policy Update

Basalt, Colorado

EPS was retained to identify how market and economic conditions since the recession had changed and to what extent housing supply was or was not meeting demand. EPS conducted a targeted employee survey to collect primary data on residence preferences and assessed how widening gaps between local housing costs and lower-paid employees and their households were contributing to the need for a locally-funded affordable housing solution. The work included a full analysis of supply and demand conditions, such as trends in demographics, employment, wages and income, and commuting, as well as the housing inventory. EPS found that exacerbated cost-burden conditions, a drastic increase in low-wage jobs, housing prices in excess of the local workforce, and the lack of new affordable inventory in the pipeline contributed to a workforce development problem.

- Cost of project: $50,000
- Client: Town of Basalt, Colorado
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed on time and on budget
- Listing of general policy recommendations: Increase program income limits to 140% AMI; focus on deed restricted for-sale housing; increase unit and property amenities.

Aspen Lumber Yard Market Study

Pitkin County, Colorado

The City of Aspen purchased a 4.7-acre lumberyard and an additional 3-acre mini storage site along Highway 82 across from Aspen/Pitkin County Airport in 2020 for employee housing development. The site is just north of the Burlingame Neighborhood, a for-sale employee housing neighborhood that has been one of Aspen-Pitkin County Housing Authority's (APCHA) most successful projects. APCHA had been building largely for-sale housing in recent projects but this site is suitable for high densities, and APCHA was proposing nearly 300 units of rental housing. Since APCHA had not done a rental project in several years, it needed to develop a better understanding of the target market. In addition, Aspen City Council was interested in how it could better serve local businesses and wage earners with housing. This information would be used to inform the project design, unit mix, and rent and qualifying income levels.

APCHA hired EPS to conduct an analysis of job and wage growth in the Upper Valley, and a survey of recent rental projects in the larger valley from Glenwood Springs to Aspen to assess competitive rent levels. EPS analyzed detailed business-level employment data for the upper valley. The analysis found that job growth continued to be in tourism-oriented sectors, plus local government. For single earner households, these jobs equate to about 55 to 70 percent of AMI (APCHA Category 2) for about 25 percent of the jobs. Another 55 percent of jobs were in the 85 to 120 percent of AMI range (APCHA Category 3). The demographic analysis prepared by EPS also showed that roommates are a common living arrangement, and that combined roommate incomes put them above the APCHA categories, creating friction in the market.

- Cost of project: $30,000
- Client: Aspen-Pitkin County Housing Authority
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed on time and on budget
- Listing of general policy recommendations: EPS advised APCHA to review its roommate and income qualifying guidelines to housing market friction. We also recommended a unit mix to serve a range of incomes and household types.

Housing Funding Plan

Fruita, Colorado

The City of Fruita, located on the western slope, is facing mounting housing market pressure and, like so many other communities in Colorado, is concerned about the ability of the local workforce to access housing in the city. The City retained EPS to formulate a housing funding strategy focused on generating

new revenue streams and how those funds can be most effectively allocated to create more workforce housing options. The study also modeled various housing programs, including an ADU program, land banking, and down payment assistance, to determine the impact of new funding in relation to housing targets and the financial feasibility of establishing a revolving loan fund for the City.

- Cost of project: $89,210
- Client: City of Fruita, Colorado
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed on time and on budget
- Listing of general policy recommendations: A housing fee and new housing assistance programs and incentives.

Capital and Housing Impact Fee Process

Pagosa Springs, Colorado

In 2018, the Town decided to reevaluate its impact fee program in 2018. With affordable housing being an increasingly difficult challenge, the Town also wanted to explore new tools for funding affordable housing. The Town hired EPS to conduct a study and process of updating its existing impact fees and exploring the option of replacing the capital impact fees with an affordable housing impact fee (linkage fee).

- **Capital Impact Fees –** EPS prepared a new nexus analysis and new fee calculations for Town Council to consider. The fee categories were municipal facilities, parks and recreation, trails, Town fleet, and police. EPS and staff determined that transportation should be eliminated because it was determined that there were few if any roadway capacity projects appropriate for impact fees.
- **Housing Linkage Fee Nexus Study –** To address affordable housing, EPS performed a housing linkage nexus study using an economic impact model. The model estimates the jobs and households generated by AMI range from new market rate housing development. Linkage fees were calculated on a per square foot basis.
- **Council Decision –** The Town Council ultimately determined not to adopt either type of fee as the revenues were deemed not to be worth the potential impacts on economic development.
  - Cost of project: $39,860
  - Client: Town of Pagosa Springs, Colorado
  - Sub consultant: N/A
  - Project over/under budget and schedule: Project completed on time and on budget

- Listing of general policy recommendations: EPS prepared revenue projections from impact fees and housing linkage fees to gauge their impact on the Town's capital and housing budgets. EPS provided objective analysis and facilitated discussions with Town Council. Council opted to repeal capital impact fees.

Inclusionary Zoning and Linkage Fee Nexus Study

Fort Collins, Colorado

In response to a continuation of concerns about steep appreciation in rents and for-sale price points, the City selected EPS to evaluate the feasibility, impact, and market-readiness of these two policies. Following a process of outreach, including a technical advisory group of housing advocates, service providers, real estate professionals, developers, and builders, as well as technical modeling, EPS gave the City guidance on the community's readiness for voluntary and mandatory IZ, as well as residential and commercial linkage fees.

EPS evaluated the feasibility and impacts of IZ on prototypical development scenarios and tested sensitivities to identify an optimal programming structure – the outcomes produced an understanding of feasible housing set-asides, affordability levels, incentive structures, among the other programmatic elements. The technical analysis also included a linkage fee nexus study, required legally to justify maximum supportable fees that could be applied to different land use developments for generating revenue to mitigate the affordable housing needs created through those developments.

- Cost of project: $135,000
- Client: City of Fort Collins, Colorado
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed on time and on budget
- Listing of general policy recommendations: Provided IZ set aside percentages and AMI limits; potential nonresidential linkage fee amounts; and impacts on development feasibility.

Affordable Housing Mitigation Rate and Fee-in-Lieu Updates

Vail, Colorado

The Town of Vail recognized the need to update its affordable housing mitigation requirements given that the standards were dated and exempted a large geography of the community from compliance. As the Town developed a work program to address the need it focused on 1) generation rates; 2) mitigation rates; and 3) updated factors for fee-in-lieu calculations. The goal was to provide a comprehensive set of tools that reflected the current Town Council's priorities and policy objectives.

The Town retained EPS to address the full range of elements. EPS provided the generation rates, using the most recent industry standards for residential linkage that provided the Town with job formation rates graduated by size of home. To enable the Town to set new mitigation rates, EPS provided a range of trend data related to economic growth, housing costs, residential land supply, and housing gap analyses. EPS also constructed a fee model, using the factors related to development costs, household income, and employee ratios to arrive at an affordability gap. A key element in the final task was to create a simple, data-driven system for annual updates to the fee calculations that will enable the Town to keep pace with the escalations in development costs.

- Cost of project: $48,500
- Client: Town of Vail, Colorado
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed on time and on budget
- Listing of general policy recommendations: Town is considering the study in the context of other code changes.

Affordable Housing Mitigation Strategies

Mountain Village, Colorado

Mountain Village, located at the base of the Telluride Ski Area, is a municipality that sought to generate affordable housing solutions. Mountain Village, along with many peer communities throughout the Rocky Mountain West, is challenged to provide the workforce to staff local business. In addition to economic goals, these towns also seek to increase community vitality with a greater number of affordable housing units for local residents.

Mountain Village retained EPS to provide affordable housing mitigation strategies that covered all uses of new development. The mitigation model that EPS constructed identified both the employment generation rates for all types of residential product as well as all types of commercial uses. Following the employment generation rates, the model identified the financial gaps faced by local households. These factors were used to generate mitigation programs that the Town began applying to development requests immediately following the adoption of the program. The benefit will be the construction of dedicated affordable housing and/or the generation of fees that the Town will use to fund its development efforts.

- Cost of project: $80,000
- Client: Town of Mountain Village, Colorado
- Sub consultant: RRC Associates
- Project over/under budget and schedule: Project completed within budget; 8/2021-3/2022

- Listing of general policy recommendations: Recommended housing requirements and linkage fees for new commercial and residential development, along with a tiered mitigation strategy to incentivize on-site and in-town housing, which were adopted by Council.

Employment Generation Rate Update

Aspen, Colorado

EPS provided the City of Aspen with the original fee estimates and employment generation rates for the City of Aspen's Employee Mitigation Requirements in 2002 and was contracted by the City in 2012 to update the employment generation rates to reflect changed economic conditions. EPS collected primary data from each of the businesses in downtown Aspen and surrounding areas in the city to provide the City with updated values on employment generation rates by land use and sufficient information to provide distinguishable values for downtown core versus elsewhere in the city.

- Cost of project: $15,000
- Client: City of Aspen, Colorado
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed within budget; 9/2012-12/2012
- Listing of general policy recommendations: Updated employee generation rates by major land use type.

Short Term Rental Regulatory Fee Study

Breckenridge, Colorado

The Town of Breckenridge is a national and international ski and outdoor recreation destination. Town policy makers are facing a housing crisis and pressure from constituents to address the problem. The housing challenges are being amplified by the ongoing COVID-19 pandemic and its impacts on "amenity migration" patterns resulting in increased purchases and occupancy of second homes and conversion of second homes and long term rentals to full time residences for remote workers, further pricing out the local workforce. On top of that, the growth of vacation rental by owner platforms such as VRBO and Airbnb is driving investment in housing by corporate entities buying "trophy" properties to manage and market with usage patterns more like hotels than traditional vacation rentals. The growth of Metro Denver has also generated more buyers who tend to purchase older and lower priced properties as second homes, sometimes converting long-term rental housing to second homes and short term rentals (STRs).

The Town hired EPS to work with its legal staff to design a regulatory fee program applied to short term rentals. Traditional lodging properties such as hotels and lodges (defined by zoning classifications) are exempt from the

fee in order to target properties more likely to affect neighborhoods and long term rental or purchase opportunities for the local workforce. EPS prepared an economic analysis that demonstrated the impacts of STR use on the demand for workforce housing and calculated an annual fee designed to fund related housing programs. We then projected the potential fee revenue the program would generate and worked with Town Housing and Finance staff to ensure the fee revenues would be restricted to housing programs. Town Council adopted the fee in November 2021.

- Cost of project: $34,370
- Client: Town of Breckenridge, Colorado
- Sub consultant: RRC Associates
- Project over/under budget and schedule: Project completed within budget; 8/2021-11/2021
- Listing of general policy recommendations: Short term rental fee and uses of funds

Short Term Rental Fee Study

Aspen, Colorado

Aspen and other mountain resort communities in Colorado are evaluating tools to regulate the impact of STRs on housing availability and affordability. EPS was retained by the City to analyze a fee-based approach that would levy an annual licensing fee on these units, with the fee revenue dedicated to providing a specific purpose such as housing development or housing programs.

EPS completed a fee study outlining both an administrative fee that the City can charge to cover the costs of regulating and managing STRs, as well as a fee structure that would link expenditures from STR guests to housing need in the community, based on employment supported through spending. The analysis included a detailed nexus study to document the community need stemming from expenditures, and how that linkage could be used to form the basis for a fee. As the project progressed, City Council adopted the administrative fee and gave direction to pursue a tax initiative to address housing impacts. The EPS nexus analysis is being used to calibrate the parameters in considering a ballot measure to adopt an excise tax on STRs.

- Cost of project: $77,000
- Client: City of Aspen, Colorado
- Sub consultant: RRC Associates
- Project over/under budget and schedule: Project completed within budget; 3/2022-8/2022
- Listing of general policy recommendations: Fee structure to address administrative and housing impacts of short term rentals.

Short Term Rental Study

Vail, Colorado

The Town hired EPS to analyze the existing STR inventory, understand the housing impacts of STR use in the town, and complete a nexus study to support a fee on STR units. Through this work, EPS was able to characterize the STR inventory in the Town of Vail, including location, size, occupancy, rental rate, and ownership characteristics. This data was contextualized within the overall town lodging inventory to understand the role of STR units in the lodging sector.

EPS also analyzed the Town's housing market over a three year period, with a focus on units registered as STRs before and/or after sale, to evaluate the type and value of units used as STRs and how those units relate to the overall housing market.

The final component of this effort was a nexus study to support a fee program, with revenue supporting local workforce housing programs. EPS's analysis used an economic impact model to document the relationship between STR guest spending and affordable housing demand based on employment generated by spending.

- Cost of project: $48,500
- Client: Town of Vail, Colorado
- Sub consultant: RRC Associates
- Project over/under budget and schedule: Project completed within budget; 10/2021-5/2022
- Listing of general policy recommendations: EPS recommended a fee for mitigating the impacts of STRs on housing need in the town. This fee program and other policy changes, determined in partnership with staff have yet to be adopted by Council.

St. Anthony Summit Hospital Workforce Housing Solutions

Summit County, Colorado

St. Anthony Summit Hospital (St. Anthony) is situated in one of the state's most expensive and supply-constrained housing markets. Limited new residential construction, a predominance of second homeowners and a largely tourism-driven economy translate to challenges not only for the workforce, but for a growing entity like St. Anthony to recruit and retain a qualified workforce.

St. Anthony selected EPS to provide options it may consider to address the housing-related challenges for its new hires and existing associates. Based on analysis of a survey fielded to all associates, market data, and a series of focus groups, EPS recommended a range of strategies that could be implemented to address housing challenges among its workforce. These strategies varied in terms of cost, target employee cohort, and timing.

- Cost of project: $20,000
- Client: St. Anthony Summit Hospital
- Sub consultant: N/A
- Project over/under budget and schedule: Project completed within budget; 11/2019-1/2020
- Listing of general policy recommendations: Pay adjustments and housing stipend recommendations. EPS also advised St. Anthony on a development partnership on a site the hospital owns.

Short Term Rental Policy Evaluation

Eagle County, Colorado

EPS is currently undertaking a comprehensive STR conditions analysis and fee study for Eagle County. This work includes an analysis of STR trends and existing conditions throughout the county, including inventory and performance metrics. In addition to this conditions analysis, EPS is completing a study to support a regulatory fee based on workforce housing impacts, as well as analysis to support adoption of an administrative fee to assist the County with the costs of administering and enforcing an STR regulatory program.

- Cost of project: $57,500
- Client: Eagle County, Colorado
- Sub consultant: RRC Associates
- Project over/under budget and schedule: Ongoing
- Listing of general policy recommendations: N/A

Current Volume of Work

Brian Duffany

Bozeman On-Call Services

Adams County Commercial Nexus & Linkage Fee and Inclusionary Housing Policy Feasibility Studies

Commerce City Code Update Fiscal

Granby Short Term Rental Fee Study

Commerce City Code Update Fiscal

Burlington VT Impact Fee Study

Oklahoma City Housing Implementation Plan

Breckenridge Employee Generation

Rachel Shindman

Boulder Junction Phase 2

Ketchum ID Commercial Market Analysis

Firestone Comprehensive Master Plan

Fort Collins Transit Funding Study

Adams County Commercial Nexus & Linkage Fee and IH Policy Feasibility Studies

Summit County Vacation Rental Housing Fee Study

Eagle County Short Term Rental Program Fee Nexus Study

Colfax Transit Implementation - Bus Rapid Transit

Breckenridge Employee Generation

Ouray Housing Needs Analysis and Strategy

Sarah Dunmire

Colorado Springs On-Call Community Planning

Fort Collins Southwest Annexation URA Plan

Burlington VT Impact Fee Study

Wheat Ridge URA Lutheran Legacy Campus Plan Area

Commerce City Urban Renewal Plan Development Services

Brighton Impact Fee Study

Lafayette Kensington Revenue Sharing Agreement

State College PA Zoning Code Economic Feasibility Study

Eagle Economic Development Plan

Brighton Urban Renewal Authority PBS Update

Wheat Ridge Town Center V Development TIF

Carson Bryant

Commerce City Fiscal Growth Study

Adams County Commercial Nexus & Linkage Fee and IH Policy Feasibility Studies

Granby Short Term Rental Study

Glenwood Springs Strategic Housing Update

Oklahoma City Housing Implementation Plan

Kansas City MO Downtown BRT East West Corridor

3. APPROACH TO PROPOSAL

Project Understanding

The Town of Basalt has a comprehensive set of land use regulations and fees that are designed to mitigate the impacts of new development and produce and fund more affordable housing. The two main programs are in inclusionary zoning requirement of 20 percent of units, with a cash-in-lieu option, and a commercial linkage fee or affordable housing impact fee on nonresidential development. The Town has had these regulations for many years and has produced roughly 280 units from these and other programs and funding sources.

The Town sees a need to update its regulations and fees given the continued increases in prices, widening housing gaps for the workforce, an aging population, and the evolution of the market post-pandemic. Post pandemic, there are more remote workers in the region which is also affecting housing supply and prices. The continued increase in prices in Basalt and other mountain towns is causing policy makers to consider increasing the income limits of their programs, as even higher income professionals are priced out of the market. The Town's income limits cap out at 120 percent of AMI, while other communities have programs that go to 200 percent of AMI or higher. Last, the Town would also like to explore a regulatory fee on short-term rentals to mitigate their impacts on affordable housing.

Project Approach

The proposed Scope of Work below is divided into four components that address the Town's needs as we understand them from the RFP.

- **Surveys (Primary Data)** – An employer survey is needed to update employee generation rates for the linkage fee update, and to get feedback on how housing or other issues are affecting the local economy. The Town would like to survey residents of its deed restricted housing to understand their housing preferences and needs, and future plans. This survey will inform the future unit mix and amenities in new projects.
- **Needs Assessment / Secondary Data** – This group of tasks includes a housing market and affordability assessment, and analysis of other economic and demographic information to inform the degree of housing needs and housing gaps by tenure and income level.
- **Mitigation Fee Updates** – These tasks are to update and recalculate the inclusionary housing cash-in-lieu fee and the commercial linkage fee. It includes reviewing the current methodologies and proposing any changes to reflect current best practices.
- **Reports and Presentations** – Last, we will document all work in draft and final reports, and include an in-person presentation to the BACH and Town Council.

Scope of Work

The proposed Scope of Work below closely follows the RFP. It summarizes the major tasks we anticipate completing. Based on our experience, there are often minor deviations from the specifics that evolve during the project, but the overall intent follows the RFP. We are also open to discussing the scope with the Town to make any modifications to best meet your needs and budget.

Task 1: Kickoff and Review of Existing Housing Initiatives

EPS will host a phone/video kickoff meeting with Town staff and potentially interested members of the Basalt Affordable Community Housing Commission (BACH).

- Collect relevant data, current program and policy information, other studies, and establish key Town contacts.
- Listen to input on policy and technical issues to address in the study, ensure that the work plan can address them.
- Begin planning survey distribution logistics.

Task 2: Data Collection

This task is comprised of three main components needed to provide the updated housing need and housing preference recommendations, and to make the proposed updates to specific policies and implementation measures such as the cash-in-lieu and commercial linkage fees.

First, the RFP requests a survey (primary data) of current deed restricted housing residents to inform housing preferences and needs. Next, an employer survey is requested to inform economic aspects of housing such as employee recruitment and retention, and to inform the employee generation rates used in the commercial linkage fee program. The last component is the important secondary data on demographics, incomes, wages, and home prices needed to round out the information used in the Needs Assessment.

2.1 - Deed Restricted Housing Survey

In this task, we will survey current residents of the Town's deed restricted housing to gain insight on their demographics, employment status and occupations, tenure plans (move, stay, etc.), and preferences on unit types and features. This information will inform the Town's programs and the design and unit mix of future projects.

- Meet with Town staff and select BACH members to brainstorm on survey topics and questions.
- Prepare a draft and final survey, proposed to be electronic on the Survey Monkey platform.

- If hard copies are needed for people without ability or access to an internet-connected device, the Town will be responsible for distributing those and providing assistance in completing the survey.
- The Town will provide a distribution list of all current residents, including email addresses.
- EPS will monitor responses and determine with the Town when the survey should be closed (e.g., when there is an adequate number of responses for analysis, and the response rate drops off).
- EPS will compile and analyze the results in summary tables and charts.

2.2 - Employer Survey

We understand that there are two main purposes for the employer survey. First, information on the health of local businesses is needed, and how housing may be a factor. We can also get good information on where employees live (commute distances), and some information on workforce housing preferences. Second, we would collect data on business floor area and the number of employees to update the employment generation rates used in the commercial linkage fee program.

- Meet with Town staff and select BACH members to discuss the survey and key topics.
- Design draft and final survey instruments for electronic distribution using Survey Monkey.
- Obtain employer email addresses. This proposal assumes they are readily available through the Town's business license program or that the Town can provide them through other sources.
- Distribute survey and monitor responses, close the survey at the appropriate time.
- EPS will compile and analyze the results in summary tables and charts.
- EPS will calculate the updated employment generation rates and strive to follow the current land use categories.

2.3 - Needs Assessment Secondary Data

We understand that the primary purposes of this project are to inform and provide proposed updates to the Town's current housing policies and programs. The Needs Assessment component will draw from both surveys, plus additional data on the area housing market and economy to inform housing needs and recommended priorities. The Needs Assessment data component will address the demand side, while the supply side will be addressed in Task 3 (Market Analysis and Needs Assessment).

- **Demographics** – Data will include household income levels and distribution by Town Category, tenure (renters and owners), age distribution, and trends in growth and change. We will also look specifically to gauge if senior housing should be an increased priority, as it has not been the typical focus of housing programs in the Roaring Fork Valley.

- **Economy** – We will examine local and regional Upper Valley economic trends and wages levels, and comparisons of job shifts between the Upper and Lower Roaring Fork and Colorado River Valleys building on our recent work in the Pitkin County Economic and Community Analysis (2022).

Task 3: Market Analysis and Needs Assessment

3.1 - Market Analysis

This task covers the analysis of the housing supply and market and then combines the analysis from the demand side (surveys and secondary data) to arrive at a clear definition of housing needs and recommended priority market segments (income levels, job types, age and demographic groups).

- **Housing stock and production** – Characterize the existing housing stock. Quantify housing production by housing type for the past 10 or so years including market rate and deed restricted units.

- **For-sale market** – Analyze data from the multiple listing service (MLS) to get accurate local data on current prices and trends. Categorize sales by the AMI to which they are affordable, including the change in affordability levels and incomes required over time.

- **Rental market** – Data on the rental market is more limited as there is no central service like an MLS for rentals in the Basalt area. Data on the rental market will come from multiple sources such as CoStar (may have limited coverage, focusing on newer buildings), interviews with 2-3 major property managers, and American Community Survey data. We will summarize key indicators such as rent and vacancy levels, and approximate income/AMI levels served in the rental market.

- **Affordability metrics** – From the above data, EPS will prepare a concise and simple set of metrics that summarize affordability levels by tenure (renters and owners) and housing gaps.

- **Available land** – Land is an important part of the future housing supply. We will coordinate with the ongoing study by the Western Regional Housing Coalition to determine if there is adequate land in and near Basalt to address current and future housing needs.

3.2 - Needs Assessment

The Needs Assessment will bring together the findings from the surveys, secondary data, and market analysis to clearly define and recommend the top housing need areas and proposed areas of focus (e.g., rental, for-sale, senior). We will also recommend the most needed types and sizes of units. Depending on the available findings from the Western Regional Housing Coalition study, we will also assess how much supply could be potentially delivered in the next 10 years on those sites.

The overall Needs Assessment needs to be concise to fit within the project budget. It needs to serve two main purposes in our interpretation of the RFP: inform areas of greatest need and priority, and help us determine if any of the Town's current policies need to be updated. In particular, we will look at income levels and need as it compares to the Town's current categories that cap at 120 percent of AMI. There has been movement and need in many mountain towns to serve higher incomes in deed restricted housing programs and other housing assistance.

Task 4: Implementation Strategies and Recommendations

Task 4 includes preparing proposed updates to the Town's current housing policies and regulations. The findings from the Surveys and Needs Assessment will be used to direct this task and inform the recommendations. In particular, the Town's housing mitigation fees have not been updated in several years and the cost and market assumptions need to be updated.

Embedded in each task is working with the Town to determine if the income category levels should be updated to reflect current market conditions. Depending on the methodology selected, we may also interview local builders/ developers to collect current cost factors to use in the fee calculations.

4.1 - Commercial Linkage Fee Update

In this task, we will update the housing gap calculations and resulting fees by land use type in the Town's commercial linkage fee program.

- Review the current calculation methodologies with Town staff and discuss any proposed refinements, including aligning generation rates with land use categories.
- Apply the appropriate generation rates to the major land use types and determine employee wage and household income levels to establish the affordable price for employees generated. Ensure that factors such as interest rates, utility costs, and HOA dues and insurance are included as necessary.
- Calculate housing gaps by major land use type based on either housing sale prices or construction costs.

4.2 - Residential Inclusionary Cash-in-Lieu Update

- Review the current calculation methodologies with Town staff and discuss any proposed refinements, including aligning generation rates with land use categories.
- Calculate affordable prices by AMI range, ensuring factors such as interest rates, utility costs, and HOA dues and insurance are included as necessary.
- Calculate housing gaps by AMI range based on either housing sale prices or construction costs.

4.3 - Short-Term Rental Regulatory Fee Study

EPS has completed several regulatory fee studies to mitigate the impacts of short-term rentals on affordable housing. The relationship between STRs and housing demand is based on guest spending and the resulting jobs generated. The Short-Term Rental Study cannot be completed within the available budget for this work. Depending on the final scope, we estimate a cost range of $25,000 to $35,000. A scope of work for an STR Study typically includes the following elements:

- **STR Inventory Analysis** – Gather and analyze data on the physical characteristics of the STR inventory to establish inputs to the fee study, and characterize the types of housing in the STR inventory. This includes factors such as unit size and type, number of bedrooms, assessed value, and age.
- **STR Economic Characteristics** – Gather and analyze data on guest spending patterns, STR unit annual occupancy, and average annual daily rental rates as inputs to the economic impact model and fee calculation.
- **Fee Calculation and Economic Impact** – Prepare the economic impact model and subsequent housing gap and fee calculations.

Task 5: Report and Presentation(s)

5.1 Needs Assessment Report

EPS will prepare a Draft and Final Report for the Town. The proposed focus of the report is on the findings from the Surveys and Needs Assessment and documenting the recommended housing priorities for the Town. The key topics we anticipate addressing include:

- Recommended AMI categories
- Greatest areas of housing preferences
- Income and job/wage types with the greatest needs to sustain the economy
- Degree of need for senior housing

- Strategies to increase production in the town, interfacing with the Western Regional Housing Coalition.

5.2 - Technical Deliverables (Fee Calculations)

We propose to provide separate technical deliverables documenting the proposed updates to the commercial linkage fees and residential cash-in-lieu fees. The deliverables would include the recommended new fee levels by AMI category and land use type, with documentation of the calculation methodologies, data sources, and major assumptions.

5.3 - Presentation

EPS will make an in-person presentation to the BACH and Town Council on the findings and recommendations.

4. REFERENCES

References

Mountain Village Affordable Housing Mitigation Strategies

Michelle Haynes
Planning and Development Services Director
Town of Mountain Village
970 239 4061 | mhaynes@mtnvillage.org

Aspen Short Term Rental Study

Phillip Supino
Community Development Director
City of Aspen
970 319 0833 | phillip.supino@aspen.gov

Breckenridge Short Term Rental Regulatory Fee Study

Rick G. Holman
Town Manager
Town of Breckenridge
970 547 3166 | rickh@townofbreckenridge.com

Fruita Housing Funding Plan

Dan Caris
Director, Planning & Development
City of Fruita
970 858 0786 | dcaris@fruita.org

Aspen Lumber Yard Market Study

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Affordable Housing Development Senior Project Manager
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5. FEE PROPOSAL AND SCHEDULE

Fee Proposal and Schedule

The estimated budget for all scope items, except the STR Study, is not to exceed $104,420 as shown below. We understand this may be more than the Town has allocated for the project and we would be happy to discuss how the scope could be reduced, refined, or phased to lower the cost.

Table 1. Proposed Fee by Task and Staff

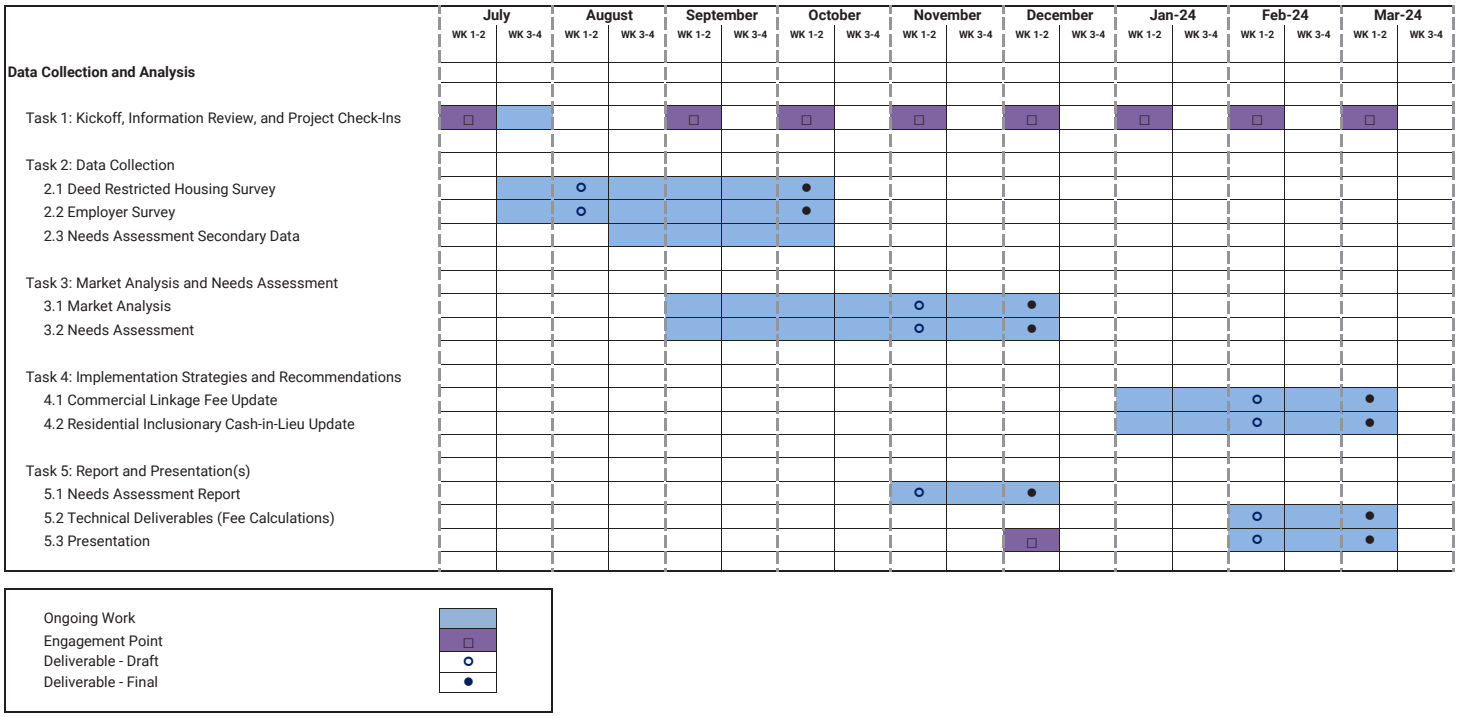
Description	Principal & V.P [1]	Associate	Research Analyst	Total
Billing Rate	**$223**	**$145**	**$115**	
Task 1: Kickoff and Review of Existing Housing Initiatives	**4**	**16**	**0**	**$3,210**
Task 2: Data Collection	**44**	**120**	**88**	**$37,310**
2.1 Deed Restricted Housing Survey	16	40	24	12,120
2.2 Employer Survey	16	48	32	14,200
2.3 Needs Assessment Secondary Data	12	32	32	10,990
Task 3: Market Analysis and Needs Assessment	**28**	**48**	**48**	**$18,710**
3.1 Market Analysis	16	24	32	10,720
3.2 Needs Assessment	12	24	16	7,990
Task 4: Implementation Strategies and Recommendations	**48**	**64**	**0**	**$19,960**
4.1 Commercial Linkage Fee Update	24	32	0	9,980
4.2 Residential Inclusionary Cash-in-Lieu Update	24	32	0	9,980
4.3 Short-Term Rental Regulatory Fee Study		*see below*		---
Task 5: Report and Presentation(s)	**52**	**76**	**16**	**$24,430**
5.1 Needs Assessment Report	16	32	8	9,120
5.2 Technical Deliverables (Fee Calculations)	24	32	8	10,900
5.3 Presentation	12	12	0	4,410
Total Labor	**176**	**324**	**152**	**$103,620**
Travel Expenses (one trip)				$800
Total Cost				**$104,420**
STR Regulatory Fee Study (additional cost)				**$25,000-$35,000**

[1] Includes Principal at $250/hour and V.P. at $195/hour

Source: Economic & Planning Systems

EPS proposes to complete the scope of work within a 9-month period of the initial notice to proceed as shown in **Figure 1**. With a project kickoff at the first of July, the final deliverable is anticipated by early March 2024. EPS anticipates monthly check-ins with the Town project team and/or at the end of each task to provide a brief project update and initial findings.

Figure 1. Proposed Schedule



Town of Basalt Affordable Housing Assessment Proposal



Introduction

The team led by Smart City Policy Group has worked on hundreds of Short-term Rental regulatory analysis, stakeholder engagement, compliance and policy creation. The team has also worked on multiple Economic Analysis, Economic Impact, Fee Analysis and Recommendation and Stakeholder Engagement in multiple destination communities.

One eye-catching example of success is the work completed in Galveston, Texas. This community, which includes significant hotel and resort inventory, found significant success in the compliance of registration and tax collection.

The team led by Smart City Policy Group worked to help Galveston, Texas increase their registrations of Short-term Rentals from less than 2000 to 4170 registered properties as of February 20th, 2023. The team also helped Galveston increase Hotel Occupancy Tax collection from Short-term Rentals from 31.5% in 2019 to 53% 2022.

The Team also helped Galveston, and other communities, by producing a survey and "virtual site visits" of peer communities for the purpose of understanding the opportunities, and challenges of various fee structures for registration fees, permit fees and other associated Short-term Rental fees.

Smart City Policy Group, working with the economics analytics team at TXP, and the housing analytics team at RCLCO, have completed numerous studies, analysis, fee recommendations and compliance policy creation on Short-term Rentals, including our work in the vacation regions of Asheville (Buncombe County) North Carolina, and La Quinta (Riverside County) California.

The team has read the proposal, and understands that the city of Basalt is looking for an assessment of prior initiatives addressing housing, an update to the current data with regards to households, housing units, population, and employment, will provide information on the current market rate for short-term rentals and ownership units including the availability of units in question, and looks forward to providing solutions to address the pertinent housing needs for different housing types, rates, the mix of ownership and rentals, and any other needs that arise based on the market analysis.

We look forward to helping Basalt achieve local goals and creating effective solutions through data, transparent dialogue, community engagement and regular iteration of

results and information with staff and stakeholders. Please contact the team lead, Matt Curtis, through the contact information provided below for any additional information.

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Qualifications and Capacity

About Smart City
The team at Smart City Policy Group is made up of former mayors, policy makers and travel industry leaders focused on creating government and public solutions for Short-term Vacation Rental regulations. The group has worked for years to help cities, counties, real estate associations, destination marketing organizations and vacation rental management companies work to identify national best practices and model examples that achieve compliance for Vacation Rental regulations.

In 2020 the team partnered with the State of New Mexico to host a Vacation Rental-focused compliance discussion called, “The Future of Tourism”. In 2019 the team worked with the Pocono Mountains Association of Realtors to hold two half-day summits on the data and solutions for Vacation Rental regulations. And, in September 2021 the team will hold their third annual Conference on Short-term Rental Regulations.

The Smart City Policy Group team is responsible for researching hundreds of communities and their impacts of Vacation Rental regulations. Recently the team developed solutions for two destination markets in their work with the Carolina Coastal Association of Realtors and South Carolina Vacation Rental Alliance focused on North Myrtle Beach, and the Golden Isles Convention and Visitors Bureau focused on Glynn County, Georgia.
Smart City Policy Group is the only team with the breadth of regulatory understanding and compliance experience in the rapidly evolving vacation rental industry.

Matt Curtis, Founder and CEO
Matt is a former Deputy to the last two Austin mayors and he has extensive experience in municipal government and local politics, working on a broad variety of initiatives and best practices in a rapidly changing city. He is a trained facilitator with 15 years of expertise in helping connect potentially conflicting interests to create effective policy.

Most recently, he served as Head of Global Government Affairs and Public Policy for HomeAway/Expedia where he worked with governments, and local communities around the world to create best practices and effective policies. He has served on the United States Conference of Mayors Business Council, the National League of Cities

Corporate Council, the Sharing Economy Advisory Network, the Travel Technology Association board and served on the Vacation Rental Management Association board.

His team at Smart City Policy Group includes former Austin mayor Lee Leffingwell, former Pleasanton mayor Jennifer Hosterman, former Economic Development Association board member Kevin Johns, former City Manager Jeff Coffee and several other former policy makers and thought leaders with extensive backgrounds in local governments.

Together they have worked on Vacation Rental, or Short-term Rental, regulatory and government advocacy issues for nearly ten years. Matt and his team have presented on Short-term Rental regulations around the world including; National Council of State Legislators, National Governors Association, European Parliament, Destinations International, US Travel - ESTO, United States Conference of Mayors and many more government and travel industry associations.

Matt works daily with affected local stakeholders on how to create effective regulations that achieve compliance.

Jeff Coffee, Former City Manager
Jeff served as City Councilmember and City Administrator in Buda, Texas, an immediate neighbor to Austin, and a community facing the growth challenges as one of the five fastest growing counties in the country. Jeff adeptly navigated Buda through the financial, political and policy changes of a city in transition.

His success includes the ideation, pursuit and execution of a 40 million dollar incentive package, the creation of a local government and private sector partnership for land development, and new municipal modeling to address growth.

While serving as a local elected official Jeff Coffee was recruited by the City of Elgin, Texas to fill the role of City Manager. Under Jeff's leadership the City of Elgin rose to a position of regional prominence as it became the pivotal community in the region's transportation network.

Jeff worked to delicately balance the changes occurring in Elgin through his daily interactions with the Chief of Police and the police department. Working closely to balance the police department budget with the city's evolving general operating budget,

Jeff struck a chord by working to fully understand the everyday impacts of each financial decision.

In recent months Jeff conducted a nationwide research project of the impacts of Short-term Rental regulations, helped to facilitate the ordinance affecting Vacation Rentals in North Myrtle Beach, South Carolina, and helped to create a countywide ordinance for Vacation Rentals in Glynn County, Georgia.

Jeff Coffee earned his BA in Political Science from UCLA, and his JD from the University of Houston, and is licensed to practice law in Texas. He currently works with a group of former policy makers as part of Smart City Policy Group.

About TXP
TXP, Inc. is an economic analysis and public policy consulting firm founded in 1987 in Austin, Texas. Our clients have discovered that we are the firm to hire when there is not an immediate, obvious, or simple solution to their economic or public policy challenge. In addition to drawing on the expertise of our firm members, we regularly partner with urban planning, engineering, and public policy firms to put together teams uniquely suited to our clients' needs.

TXP offers a full-range of economic analysis and forecasting services to public and private clients. The firm specializes in applying focused primary research to enhance secondary data. TXP offers a number of other services to clients, including periodic reports highlighting economic trends in regional economies and presentations to a range of stakeholders. TXP currently serves as economist-on-retainer for a number of high-profile private and public clients.

TXP's past economic and fiscal impact studies have covered a wide range of topics, including expanding and relocating businesses, educational facilities, tourism activity, arts and music festivals, transportation projects, and mixed-use developments. For each client, TXP develops a customized methodology that yields appropriate, cost-effective results that can be communicated effectively to a wide variety of audiences and stakeholders.

John Hockenyos, Economist and Project Manager
Following stints as an aide to a member of the British Parliament and work on a Senatorial campaign, Mr. Hockenyos founded TXP while attending the LBJ School of Public Affairs at the University of Texas at Austin in 1987. Since then, TXP has

successfully completed hundreds of projects for a wide variety of clients, with a strong record of on-time, on-budget delivery.

In his role as President of the firm, Mr. Hockenyos is involved in managing the day-to-day operations of the organization, performing technical analysis, and developing strategies for clients. In addition, he makes numerous public presentations and speeches. Mr. Hockenyos has served as a resource witness on a variety of issues in front of city councils, state legislatures, and the U.S. Congress.

Mr. Hockenyos' private sector background extends beyond TXP. He is currently a board member of Ascension Texas (a nationwide network of not-for-profit hospitals) and American Bank of Commerce. He also served on the Board of Directors for Capital Metro (the Austin area transit authority), and the Board of the ARC of the Capital Area.

Mr. Hockenyos received a B.A in Philosophy from the University of Illinois and M. Pub. Aff. from the LBJ School of Public Affairs, where he has taught as an Adjunct Professor.

Travis D. James, Economist
Travis D. James brings nearly 20 years of experience in economic analysis, strategic planning, and policy development. Currently, Mr. James leads the firm's efforts in economic impact studies, statistical analysis, and strategic planning. While at TXP, Mr. James has conducted over 200 economic and tax revenue impact studies for projects located in California, Florida, Louisiana, Maryland, New York, Pennsylvania, South Carolina, and Texas. He specializes in sub-regional analysis that requires blending economic analysis, land planning, GIS tools, and long-term forecasting.

Prior to joining TXP, Mr. James worked at ExxonMobil in the global information systems technology division in Washington, D.C. His duties required lengthy international travel to South America, Europe, and Asia in order to develop and support large-scale global systems solutions. Mr. James also spent five years as a project manager at a national economic development consulting firm where he worked on numerous studies throughout the United States.

Mr. James holds a Bachelor of Arts degree in Economics from the University of Texas at Austin. He also received a Bachelor of Science in Computer Science from Texas State University. Mr. James earned an MBA from St. Edward's University.

Mr. James has attended workshops and training seminars for economic impact modeling software including the U.S. Bureau of Economic Analysis' Regional Input-Output Modeling System (RIMS II) and MIG, Inc.'s IMPLAN software.

About RCLCO

In 1967, Bob Lesser, then an architect and developer, was asked to evaluate the potential uses for the center of the new town of Thousand Oaks, California. In carrying out this assignment, he found that the creativity and financial imagination required for the study were extremely stimulating—so much so that he started RCLCO. Today, our team of experienced professionals still share that original enthusiasm and eagerness to solve challenging real estate questions while adding value to our clients' real estate endeavors. We are proud to be the "first call" for real estate developers, investors, the public sector, and non-real estate organizations seeking strategic and tactical advice regarding property investment, planning, and development. RCLCO leverages quantitative analytics and a strategic planning framework to provide end-to-end business planning and implementation solutions at an entity, portfolio, or project level. With the insights and experience gained over 50 years and thousands of projects – touching over $5B of real estate activity each year – RCLCO brings success to all product types across the United States and around the world.

Todd LaRue, Managing Director

Todd joined RCLCO in 2004 and leads the Austin, Texas office. He manages engagements for developers, land owners, investors, and public sector entities seeking strategic development, investment, and/or planning advice regarding their real estate. His work includes consulting for numerous types of large-scale master-planned communities, high rise mixed-use developments, resorts, and commercial developments throughout Texas, the Southeast, and Mexico. For these engagements, he conducts highest and best use analyses, market opportunity analysis, consumer research, economic development assessments, financial analyses, fiscal impact analyses, metropolitan growth trends analyses, and various other analytical tasks to help guide clients' planning decisions and development strategies. Prior to RCLCO, Todd spent over seven years in construction management with Skanska in Atlanta, Georgia and W. H. Bass, Inc. in Norcross, Georgia. Much of his work was concentrated on managing ground-up construction projects in retail, banking, education, and telecommunication, as well as interior build-outs of high-rise office buildings.

Todd brings strong analytical skills in quantitative and qualitative analysis with his Bachelor's in Civil Engineering from the University of Virginia, and his Master's in

Business Administration (focusing on real estate and finance) from Emory University. He is an active member of the Urban Land institute (member of the ULI Austin Advisory Board) and has been a guest speaker at numerous real estate industry events and graduate business schools, including the Urban Land Institute, Congress for the New Urbanism, the University of Texas at Austin, and Emory University.

Cameron Pawelek, Vice President

Cameron Pawelek joined RCLCO in 2014 and is a Vice President based in Austin, Texas. As part of the firm's real estate economics practice, he focuses on providing strategic and actionable guidance for urban and suburban mixed-use developments, master-planned communities, resorts, and other complex, multi-use developments. His experience includes highest and best use analyses, financial feasibility studies, and market opportunity analyses for an extensive range of commercial and residential land uses. With an emphasis on consumer segmentation and insight, Cameron has helped clients in both the public and private sectors make informed development decisions.

Cameron serves as part of the leadership group responsible for RCLCO's firm-wide training program. Through this role, he educates and mentors new team members, and manages the programming and phasing of onboarding initiatives. He also assists in creating innovative business intelligence initiatives to further enhance RCLCO's segmentation analyses, long-term demand projections, and detailed supply-side studies.

Actively engaged in the Austin District Council of the Urban Land Institute, Cameron serves on the Advisory Board and has held previous positions on the Management Committee and Young Leaders Committee. In recognition of his contributions, Cameron was awarded the 2019 Young Leader of the Year.

Cameron graduated from the University of Texas at Austin with a Bachelor of Arts in Urban Studies, as well as interdisciplinary certificates in Real Estate and Business Foundations. His coursework focused on urban history, real estate economics, and geological sciences.

Expertise

The Smart City Policy Group team is uniquely situated as the most experienced on Short-term Rental policy creation, research and compliance. This experience allows the Group to host an annual Summit on Short-term Rental Policy on October 4, 2023.

Smart City Policy Group is made up of former policy makers including former mayors, a former tourism industry leader and travel association president, former economic development board member and several other former policy makers and thought leaders with extensive backgrounds in local governments. Our group has a decade of experience focused on the Vacation Rental industry, local government policies, data collection, analysis and STR mitigation fee studies.

The Smart City Policy Group team is responsible for researching hundreds of communities and their impacts of Vacation Rental regulations. The team has worked with;

- Galveston Park Board (Galveston's destination marketing organization) to help them make appropriate changes to their ordinance to increase compliance with registration and tax collection, including a national fee study
- Asheville (Buncombe County), and Brevard, North Carolina through the North Carolina Association of Realtors on an economic impact, housing analysis and cost of compliance study
- La Quinta, California on an economic impact, housing analysis and cost of compliance study
- The team has also conducted a comprehensive cost of compliance study reviewing North Myrtle Beach – North Carolina, Palm Desert - California, and Glynn County - Georgia

In performing short-term rental policy creation and compliance:

- assess the concerns of the community and local government through programmed engagement;
- analyze the short-term rental activity and any associated patterns and impacts;
- engage the major online providers, property management companies, associated service providers, and individual rent-by-owners to understand the potential hurdles to compliance;
- coordinate with any impacted organization that could benefit, or be challenged by, short-term rental activity; including tourism boards, convention and visitor

bureaus, chambers of commerce, neighborhood groups, homeowner's associations, and more;
- provide reports reflecting our findings and recommendations, and iterate those with local government;
- offer ordinance and administrative guidance providing the local government with a "model ordinance" to help bring their ordinance up to date, if needed;
- educate short-term rental owners, managers, and hosts to ensure future compliance with rules and any applicable registration, taxes, and more; and
- provide the local government with the opportunity for ongoing audits, evaluations, education, and compliance monitoring solutions.

Smart City Policy Group is the only team with the breadth of regulatory understanding and compliance experience in the rapidly evolving STR industry.

The Economic Impact of Short-Term Rentals

Various

Smart City and TXP have completed evaluations of the economic impact of short-term rentals in more than 20 destination communities across the United States, including Chicago, Honolulu, Los Angeles, Portland, and Seattle, as well as statewide in Texas. Georgia, and Missouri. The policy discussion over short-term rentals is highly localized, and often focuses on public nuisance concerns. Once again relying on the combination of survey research and secondary data, TXP's work provides an economic context, and also addresses the question as to the substitution effect with other local lodging options and the impact on the local housing market.

The Economic Impact, Jobs and Housing Analysis of Buncombe County, North Carolina (Asheville)

Buncombe County, North Carolina (Asheville)

Smart City Policy Group, TXP and RCLCO worked together to complete a third-party analysis of the impact of short-term rentals (STRs) on the housing supply in Buncombe County, North Carolina. During the course of the analysis we Identified tourism trends and tax revenue in Buncombe County, assessed housing supply statistics by tenure (including owner-occupied versus renter-occupied, as well as vacant units) and evaluated STR supply characteristics, including occupancy and average daily rate trends. We also reported on how the STR market was impacting the housing supply, analyzed concurrent rent increases and home price appreciation and compared the STR supply (number of bedrooms) to the dominant household types to get a sense of whether STRs

are reducing housing supply for primary residences and contributing to rising prices/rents.

The Fee Survey, Analysis and Recommendation for Galveston, Texas
Galveston, Texas
Smart City Policy Group, and the team, worked to conduct a national survey of fees associated with Short-term Rentals including registration fees, permit fees, other associated fees and fines. This work was coupled with a facilitated stakeholder engagement process, and taskforce facilitation, that included "virtual site visits" of targeted peer communities. The fee survey and recommendations came as part of our comprehensive efforts with Galveston's destination marketing organization, the Galveston Park Board. The outcome included the recommendation of a specific approach to fees, and an overall approach to a fluid registration program which successfully increased registrations by more than 100%, and resulted in significant recapture of obligated taxes.

The Economic Impact of Short-Term Rentals
Various
Smart City Policy Group and TXP have conducted economic impact studies of short-term rentals in more than 20 communities across the United States, including Chicago, Honolulu, Los Angeles, Portland, and Seattle, as well as statewide in Texas. Georgia, and Missouri. The policy discussion over short term rentals is highly localized, and often focuses on public nuisance concerns. Once again relying on the combination of survey research and secondary data, TXP's work provides an economic context, and also addresses the question as to the substitution effect with other local lodging options and the impact on the local housing market.

The Economic Impact of River Tourism in San Marcos, Texas
The City of San Marcos and the Greater San Marcos Partnership
Visitors come to San Marcos for a variety of reasons, but the San Marcos river is one of the primary sources of recreation for both locals and tourists. However, its impact on the local economy was unclear.TXP employed a similar methodology that built on a survey of river users that was developed and fielded that yielded data on spending patterns and levels, length of stay, motivation to travel, etc. TXP has also completed a similar project for New Braunfels, TX, which is served by the Comal and Guadalupe rivers.

The Economic Impact, Jobs and Housing Analysis of Buncombe County (Asheville), North Carolina

Buncombe County (Asheville), North Carolina

Smart City Policy Group, TXP and RCLCO worked together to complete a third-party analysis of the impact of short-term rentals (STRs) on the housing supply in Buncombe County, North Carolina – the Asheville area. During the course of the analysis we Identified tourism trends and tax revenue in Buncombe County, assessed housing supply statistics by tenure (including owner-occupied versus renter-occupied, as well as vacant units) and evaluated STR supply characteristics, including occupancy and average daily rate trends. We also reported on how the STR market was impacting the housing supply, analyzed concurrent rent increases and home price appreciation and compared the STR supply (number of bedrooms) to the dominant household types to get a sense of whether STRs are reducing housing supply for primary residences and contributing to rising prices/rents.

Economic Impacts, Housing Demand Analysis, and Mitigation Tools

Economic Impact, Jobs and Housing Analysis of Short-Term Rentals in Brevard/Transylvania County

Vacation rental properties have been part of the accommodations market for decades in some of North Carolina's most popular tourism destinations, especially in the Asheville region. For this project we identified the exact number of unique STR properties in the state at any given point is a challenge, given the ability of hosts to market their properties on multiple sites, the use of primary residences as part-time STRs, and the use of STR websites by more traditional lodging accommodations. We calculated the aggregate direct accommodations spending of visitors using STRs, of calculating the STR guest spending on other tourism purchase categories, such as entertainment and food as well as total direct spending attributable to STRs.

The second step in the process was to translate the direct impact into the total economic impact through an input-output model of the Brevard MAS economy and each of the subregions that allows measurement of the secondary, or "ripple" effects. By doing this we distinguish three types of expenditure effects: direct, indirect, and induced to find the direct spending by STR guests Asheville in 2020, the total impact of the economic activity, value-added over annual earnings, and the amount of full-time, permanent jobs supported. We also aggregated further benefits accrue to state and local governments in the form of taxes assessed on direct spending by STR guests, as well as revenues generated by the ripple effects of that spending.

Approach to Proposal

Smart City Policy Group understands that the Town of Basalt would like a group to conduct a comprehensive STR program evaluation and a study supporting a reasonable fee program to be applied to short-term accommodation unit licenses to mitigate any potential impacts of STRs.

To accomplish this the team at Smart City Policy Group-team (the team) will research and review the best practices and model examples, and will conduct "virtual site visits" to discuss the successes and challenges of targeted communities.

We will accomplish this through:

- Analysis of existing Short-term Rental data, with the aim of including items such as;
    - identification of potentially affected interests, stakeholders and creation of a stakeholder map.
    - execution of a stakeholder engagement process.
    - an overview of the industry and its performance within Basalt and relative to peer mountain town/resort communities.
    - collection of data related to the overall % of town housing stock that are STRs, the location of STRs by neighborhood and % of STRs per neighborhood.
    - identify the number of hotel rooms existing and planned in Basalt, and the estimated number of STRs needed to supplement traditional hotel accommodations to adequately support current and future (10yr?) visitation to Basalt.
    - within recent sales of dwelling units with STRs, identify what % are out-of-town/state buyers and estimate what % are buyers are 2 nd home buyers.
    - identify the number of long-term rentals in Basalt that have been converted to short-term rentals over the past (10?) years and vice versa if available.

- Economic Activity Analysis – Collect available economic data related to STRs and other accommodations in the Town of Basalt, with the aim of including items such as;

- trends in the total accommodations bed base, annual and seasonal occupancy rates (owner vs. visitor nights), and average daily rates (ADR) trends.
- estimated average rental rates, and tax revenue generated from STRs.
- spending patterns of STR guests compared to traditional lodging types subject to available data.
- estimated rental income to STR owners, analyzed by unit characteristics and location.
- estimate the number of units managed by traditional property management companies (but cross-listed on STR sites) and by individuals from the list of units that applied for an STR license in the 2022 lottery and didn't receive one, how many, if any, are now LTRs and what is the occupation status of the others?
- from the list of units that did receive a STR business license in the lottery, how many licenses are being actively utilized?

- Housing Impact Analysis – Analyze data to determine if STRs in Basalt over time have reduced the amount of housing inventory historically available to the local workforce, and/or influenced increases to the cost of remaining available housing. The study should aim to include items such as:
  - evaluate if STRs contribute to the current workforce housing shortages in Basalt (distinguish between STRs that are rented a majority of the year vs. several weeks of the year vs. primary resident that rents a room in an occupied unit)
  - develop an analysis of home values townwide or by neighborhood and compare them to the value of units utilized as STRs
  - the STR influence property values
  - STR impacts and the cash flow generators that buyers are purchasing homes on expected cash flow rather than similar market values
  - the spectrum of home values used as STRs
  - the portion of the STR inventory is or was potentially available to local-residents as rental or for-sale housing

- Economic Impacts, Housing Demand Analysis, and Mitigation Tools - Drawing from other peer destination-communities, evaluate a range of policy tools to help mitigate the impact of STRs on Town administration, housing availability and affordability, with the aim of including items such as;

- estimate STR guest spending in comparison to other goods and services, and the jobs generated by STR guest spending.
- estimate workforce housing demand from STR visitor spending.
- distinguish between the impacts of STRs and other lodging types and between local and second homes.
- determine a method for converting housing gap costs into an annual fee.
- consider rational fee uses such as housing programs and admin costs, and adjust the nexus methodology as needed.
- consider whether there is a fee/tax threshold nationally or locally that begins to impact volume and spending
- develop a recommended fee for mitigating the impacts of DSTRs.

References

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Short-term Rental taskforce facilitation, policy and fee research and policy creation, and compliance analysis

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Fee Proposal and Structure

The fee basis for the project includes:

Cost Structure
The professional fee to provide the scope of services outlined is $49,150

Smart City Policy Group
Facilitated stakeholder engagement of any necessary internal or external stakeholders, a targeted peer community fee survey, management of "virtual site visits", comparison study of Short-term Rental fee programs - registration and more, and policy and mitigation tools, drafting of reports and more
$15,500

TXP
Economic Activity Analysis, Housing Demand Analysis
$19,650

RCLCO
Housing Impact Analysis
$14,000

*These rates include two in-person trips by the lead team to Basalt, and virtual meetings to be scheduled upon demand.

*Additional travel to Basalt by the lead team member is $1,500 per day

Affordable Housing Initiatives

Basalt Forward Bond Measure

Development Opportunities

1. Low Income Housing Tax Credit (LIHTC) development
2. Public Private Partnerships
3. Land banking (vacant lots)
4. Town Owned Lots
5. Expanded Inventory Good Deeds/Vail InDEED

Development Opportunities

1. Low Income Housing Tax Credit (LIHTC) development
2. Public Private Partnerships/Pre-Sales
3. Land banking (vacant lots)
4. Town Owned Lots
5. Expanded Inventory Good Deeds/Vail InDEED

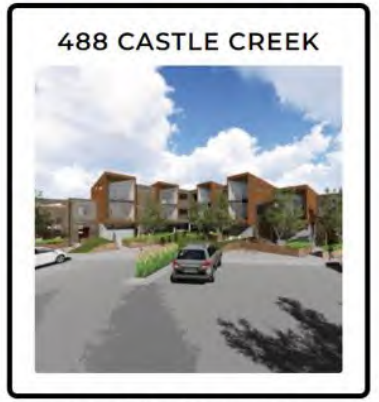




10 units (1bd)



11 units (2bd)



24 units (1-2 bd)

- Town advertises an RFP
- Town contributes land (sunk cost, no impacts to cash flow)
- LIHTC developer manages & maintains (30 years typical)

Development Opportunities

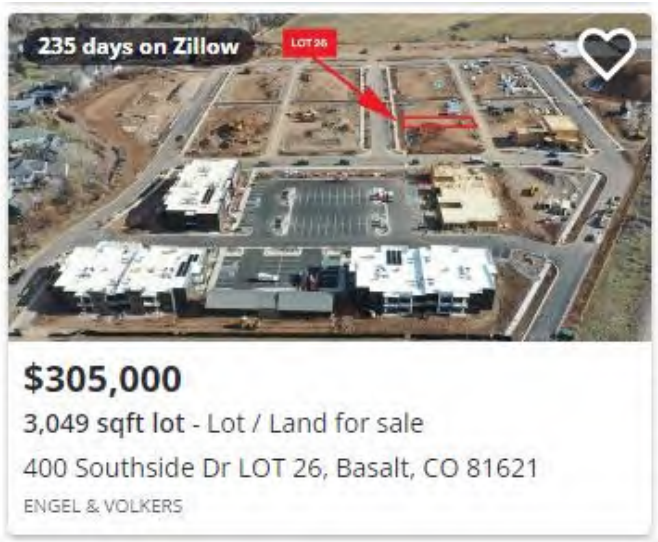
1. Low Income Housing Tax Credit (LIHTC) development
2. Public Private Partnerships/Pre-Sales
3. Land banking (vacant lots)
4. Town Owned Lots
5. Expanded Inventory Good Deeds/Vail InDEED

Create additional cashflow with presales of units to either employers or qualified buyers.

$ $ $ $

Development Opportunities

1. Low Income Housing Tax Credit (LIHTC) development
2. Public Private Partnerships/Pre-Sales
3. Land banking (vacant lots)
4. Town Owned Lots
5. Expanded Inventory Good Deeds/Vail InDEED





Land is only going up in value (and expense).

Today's high price is a discount of a future purchase.

Creates opportunities – Town development, LIHTC, PPP, …

Development Opportunities

1. Low Income Housing Tax Credit (LIHTC) development
2. Public Private Partnerships/Pre-Sales
3. Land banking (vacant lots)
4. Town Owned Lots
5. Expanded Inventory "Good Deeds" "Vail InDEED"

- Retain critical staff and prepare for future needs
- For sale units create some cashflow for other endeavors

- A focus of the MWRHC
- Town funds affordability gap between market price and affordable guidelines.
- Adds to general inventory.

Baseline

DEVELOPMENT ASSUMPTIONS						
						5,200,000
	Net Units	Net rentals	New Owner			Est. Budget
Rugby Field: Parcel E						
Habitat: 30						
Expanded Inventory						
Vacant Lots						
Stott's Mill Town Lots						

1. Town as Developer

2. LIHTC Scenario

3. Diversified Portfolio

Staff Direction

Is there a scenario(s) that should be prioritized for further research?

1. **Town as Developer**
2. **LIHTC Scenario**
3. **Diversified Portfolio**

1. Low Income Housing Tax Credit (LIHTC) development
2. Public Private Partnerships
3. Land banking (vacant lots)
4. Town Owned Lots
5. Expanded Inventory Good Deeds/Vail InDEED

Staff Direction

Next Steps

- Pursue purchase opportunities
- Hold an employer consortium to establish interest and financial thresholds for PPP participation
- Draft an RFP for LIHTC Developer proposals on Willits Lot/Rugby Field

1. Low Income Housing Tax Credit (LIHTC) development
2. Public Private Partnerships
3. Land banking (vacant lots)
4. Town Owned Lots
5. Expanded Inventory Good Deeds/Vail InDEED

Maine's Housing Outlook

January 2025

MaineHousing
MAINE STATE HOUSING AUTHORITY

Prepared by

Maine State Housing Authority

January 2025

mainehousing.org | 207-626-4600

Maine's Housing Outlook, January 2025

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Executive Summary

Economic Landscape

- **U.S. Economic Indicators**: The U.S. rates of inflation and unemployment are at or near levels generally seen indicative of a healthy and growing economy.
- **Maine's Economic Forecast**: State rates of inflation, of wage growth, and of employment growth are expected to be consistent with stable economic growth in the coming years.

Housing Production

- **Affordable Housing Production**: MaineHousing completed 775 affordable housing units in 2024. Another 1,005 units (727 of which are expected to complete in 2025) are in progress now.
- **Production Costs**: MaineHousing's average cost per unit increased in 2024 for a third consecutive year, but project costs are cumulative and currently financed projects indicate costs are leveling off.
- **Residential Construction Activity**: Construction employment in Maine grew by 7.3% from 2023 to 2024. Maine's construction capacity is growing to meet new home construction and repair demand.
- **Regional Housing Production**: New housing starts in the Northeastern states sharply increased in the third quarter of 2024, exceeding recent quarterly averages by nearly 50%.

Homeownership

- **Mortgage Rates**: Market rates have stopped rising and MaineHousing's First Home program is maintaining rates well below the market average. MaineHousing decreased the First Home mortgage rate to 5.375% prior to the end of 2024.
- **Housing Prices**: Rising home prices continue to be a primary concern for homeownership access in Maine. From 2020 to 2024, the median home price in Maine grew by more than 50% while the wages and salaries of Maine workers grew by less than 33.3%.
- **Mortgages Issued**: Statewide loan originations decreased sharply in response to the rise in mortgage rates during 2022, but MaineHousing's First Home programs have steadily continued to create homeownership opportunities for first-time buyers.
- **Foreclosures**: Since July 2022, a monthly average of 1,225 notices of default were issued in Maine, 40% lower than the monthly average prior to the COVID-19 pandemic.

Housing Affordability

- **Heating Fuel Prices**: Although they remain above their historic low points, prices for heating oil, kerosene, and propane have all stabilized. Heating oil and kerosene prices, which saw historic highs in 2022 and 2023, have been trending downwards since April 2024.
- **Rental Cost Burden**: Since 2018, rental cost burden has increased sharply among Maine households earning between $35,000 and $75,000 in total household income.
- **Eviction Filings**: Annual statewide eviction filings decreased in 2024 for the first time since the eviction moratorium in 2020.

Homelessness

- **Length of Stay**: Average length of stay in a shelter in 2024 increased to 11.6 days, a 38% increase from the previous year.
- **Returns to Homelessness**: In 2024, Maine saw a 43% decrease in the average number of people reentering the homeless services system after having exited to a permanent housing solution less than twelve months earlier.
- **Point in Time**: The total number of people in shelters, unsheltered, and in transitional housing increased from less than 1,700 to over 2,300 in 2024.

Introduction

This report is the first edition of what is intended to be an annual summary of the state of housing and housing-related issues in Maine. The report combines data from national and state agencies and organizations to examine the health of housing and employment markets, housing affordability trends, and homelessness trends. This examination is primarily conducted by reviewing historical data up to and including the previous year. The purpose of this report is to help inform expectations for the coming year, not to make predictions. The report conducts this examination in the context of the current state of the U.S. economy, as measured by inflation and unemployment trends, and the Maine Economic Forecast, produced by Maine's Consensus Economic Forecasting Commission (CEFC). Those elements are covered in the following two subsections. The report is then organized into sections reviewing metrics in four topic areas: Housing Production, Homeownership, Housing Affordability, and Homelessness.

U.S. Inflation & Unemployment Rates

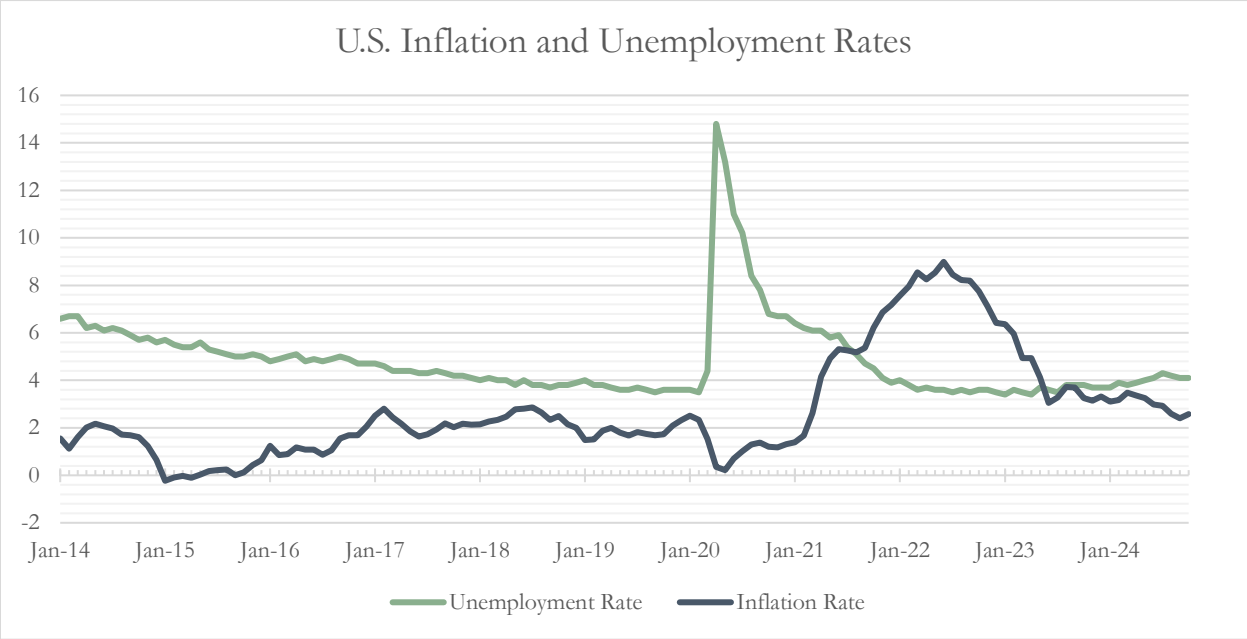


Figure 1 - Historical U.S. inflation (year-over-year CPI percent change) and U.S. unemployment rates.
Source: fred.stlouisfed.org

The U.S. economy experienced historic upheaval during the COVID-19 pandemic, beginning in 2020. This is first observed in the sudden quadrupling of the unemployment rate and then, as the unemployment rate recovered, the steadily climbing rate of inflation. Both economic indicators appear to have been stabilizing throughout 2024. The unemployment rate rose to just above 4%, which is commonly understood to be the United States' *natural rate of unemployment*.[1] Inflation has fallen below 3% and is trending downwards, nearing the 2% rate that is the standard inflation target of the Federal Reserve Board. These indicators are consistent with a stable and healthy U.S. economy going into the year 2025.

[1] The *natural rate of unemployment* is the rate that you expect to see in a healthy economy, due to natural employment frictions that cause job separations and new job searches.

Maine Economic Forecast

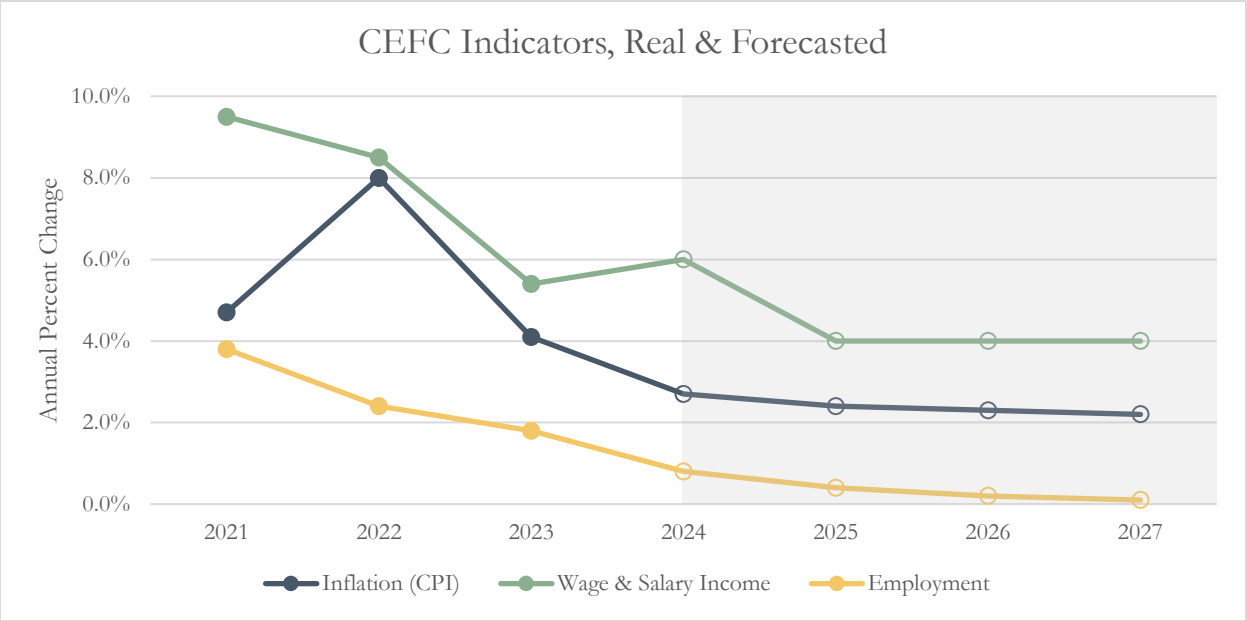


Figure 2 - CEFC Forecast summary. All values for 2024 and onward, the shaded region, are forecasts based on available information at the time of the fall 2024 CEFC meeting. Each value represents the percent increase since the previous year in total employment, wages and salaries, or prices (inflation) as measured by the Consumer Price Index.
Source: Report of the Consensus Economic Forecasting Commission, November 1, 2024.

Maine's CEFC meets twice yearly to forecast key indicators of Maine's economic health. Figure 2 includes the historic and forecast values of those indicators, limited to three years pre- and post-2024. The CEFC predicts that inflation will continue to converge towards 2%, which is the standard rate of growth targeted by the U.S. Federal Reserve. Wages and salaries are expected to grow at a stable 4% in each of the coming years, slower than the rapid wage growth of recent years, but steadily greater than the rate of inflation. Finally, employment growth slowed down significantly in 2024 and is expected to continue slowing through 2027.

After uncertainty and volatility during and immediately following the COVID-19 pandemic, Maine appears to be entering a period of stable economic growth. Although the experience of the pandemic is a clear reminder of how quickly economic conditions can shift, if Maine's economy remains on this stable trajectory, it will offer a positive environment for public and private investment in housing production and preservation. This environment is unlikely to result in any large increases in public revenues to invest in issues like housing stabilization, but it could support incremental improvements in the rate of naturally occurring affordability in the housing market. It is also a reasonable environment in which to fine-tune and expand existing housing affordability and homelessness prevention programs that have been shown to be effective.

Housing Production

Affordable Housing Construction

Indication: *Positive*

Highlight: Pandemic and supply chain disruptions to the affordable housing pipeline have dissipated, labor markets have begun to stabilize, and new affordable housing units are again coming online at a steady rate.

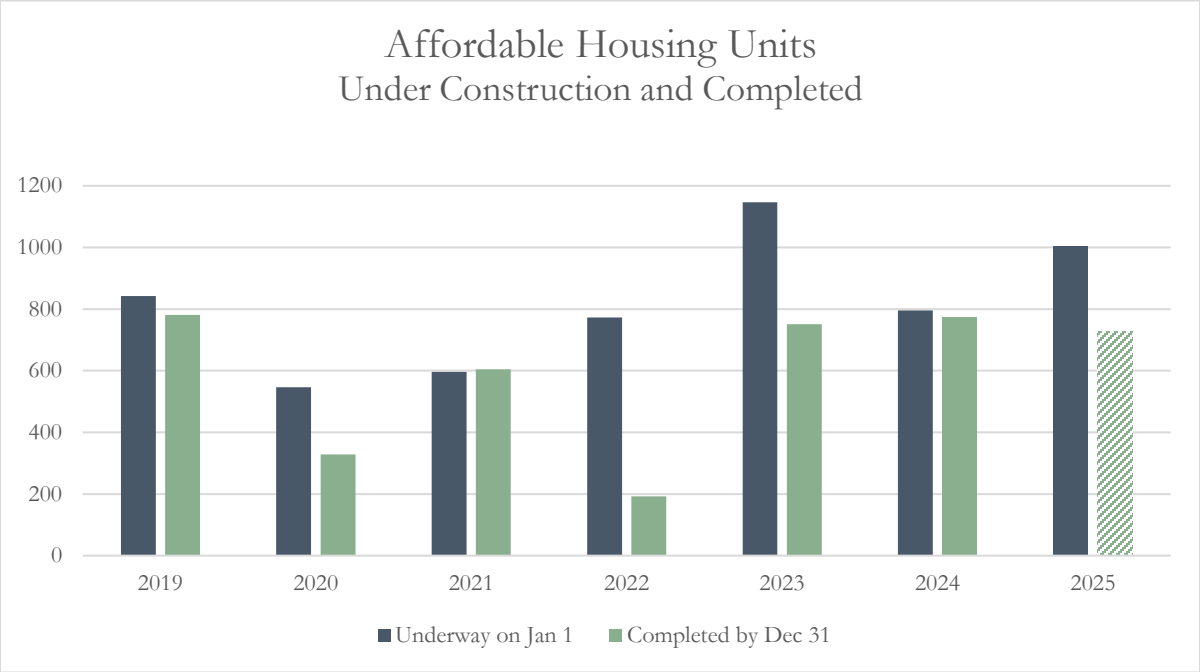


Figure 3 - Affordable units financed by MaineHousing. The graph depicts those under construction at the start of each year (blue) and completed by the end of the same year (green); it does not include financed units that have yet to begin construction. The number of units completed in 2025 is forecast based on available information as of December 10, 2024.
Source: MaineHousing Annual Accomplishments Reports, and 2024 development estimates produced for the MaineHousing Board of Commissioners.

New affordable rental housing in Maine is financed through MaineHousing's development programs, designed to meet the varying needs of communities around the state. The unit counts in the chart above include all rental units[2] financed by those programs. A total of 775 affordable housing units were completed in 2024. Another 1,005 units are under construction as we enter 2025 with 727 of those units expected to be complete by the end of 2025. Assuming bipartisan support and funding for affordable housing development remains steady, MaineHousing expects to continue increasing Maine's affordable housing supply at this steady pace.

[2] This excludes production financed by the Recovery Housing Program, which does not produce standalone housing units, and the Affordable Homeownership Program, which won an NCSHA Annual Award for Program Excellence in 2024 for financing the production of price-restricted single family homes that are sold to qualifying homebuyers.

The Cost of Affordable Housing

Indication: ***Mixed, with some concerns***

Highlight: The cost of units completed in 2024 increased for the third year in a row. However, project costs accumulate over multiple years and indications from currently financed projects are that costs have leveled out.

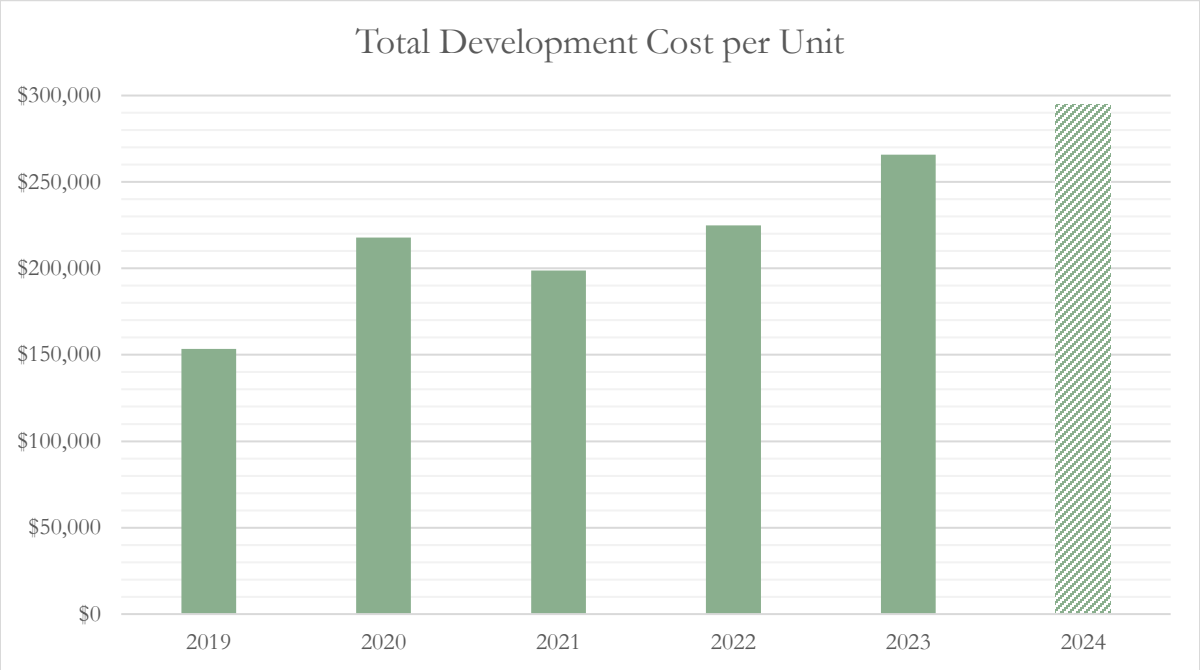


Figure 4 - Total development costs (TDC) per unit over time. This figure depicts the overall TDC index for all MaineHousing-financed units completed in the given year. The 2024 average is subject to change because some of those projects have yet to undergo project loan closing at the time of this report, their expected final costs are included.
Source: MaineHousing Annual Accomplishments and 2024 Development Department project data.

Production costs have risen steadily over recent years, increasing the demand on the existing sources of funding needed to maintain production levels. Although the data from these completed projects shows only increasing costs, we have begun to see evidence from ongoing projects that cost increases appear to have slowed and may have leveled out. MaineHousing's Development team reports that wages remain high, but appear to have stabilized; average time to completion of development projects, although still longer than it has been historically, appears to have stopped increasing; supply chains have become more predictable; and for those scarce inputs that still experience delays, developers have adapted to incorporate those delays into planning. On the whole, development costs are expected to stabilize at or near the levels seen in 2024.

However, policy and economic factors can shift the cost environment very quickly. In particular, the Build America, Buy America (BABA) Act, which sets requirements to source construction materials domestically, could lead to significant price increases as the law is fully implemented. Alternatively, recently proposed tariffs would also increase the price of construction materials, even in the absence of BABA restrictions.

Maine Residential Construction Indicators

Indication: ***Neutral***

Highlight: Construction employment in Maine is on a growth trajectory. Weekly construction wages indicate increasing construction activity per worker. Maine's construction capacity is growing to meet the demand for new housing construction and home repair activities.

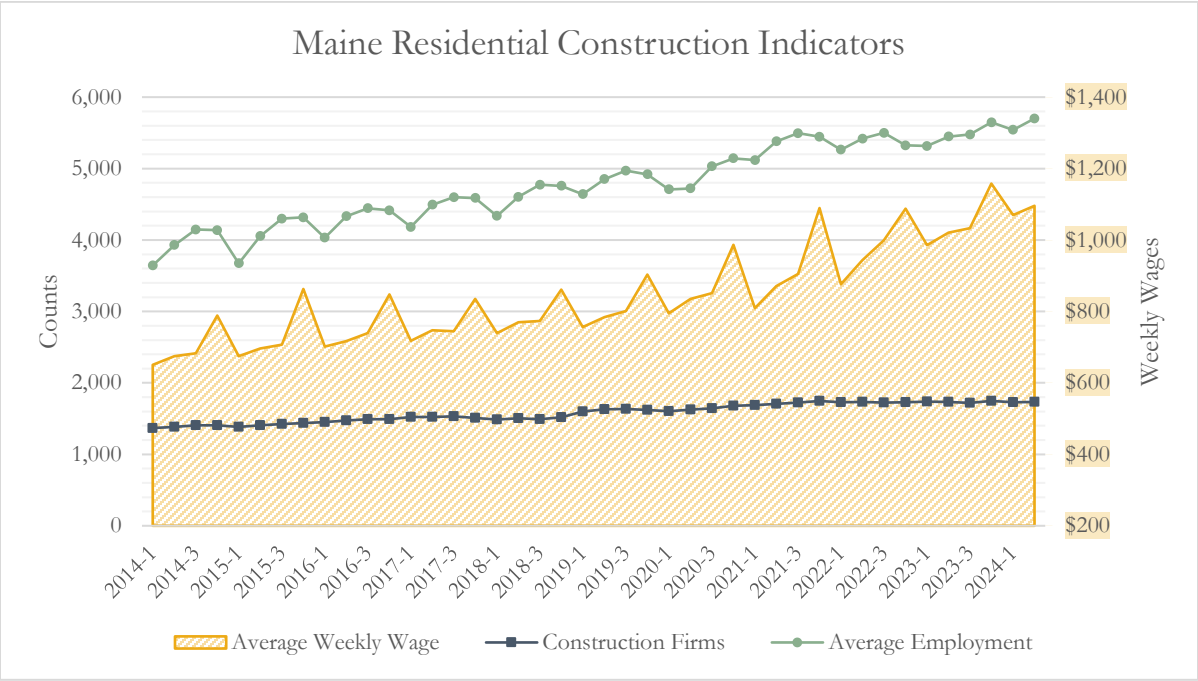


Figure 5 - State of Maine Residential Construction Quarterly Data. Total number of residential construction firms and employees reported on the left axis. Average weekly wages paid to residential construction workers reported on the right axis.
Source: Center for Workforce Research and Information, www.maine.gov/labor/cwri/qcew1.html.

Prior to 2022, the number of construction firms grew by an average of just over 3% each year, while construction employment grew by an average of 4.3% each year. That growth leveled off during 2022 and only resumed for construction employment, which grew by 2.6%-3.6% year-over-year during 2023 and the first half of 2024. The number of construction firms remained constant throughout that period.

Average weekly wages are the total weekly earnings of workers, reflecting the changes in the average hours worked by each worker, as well as any changes in the hourly rate of pay. This explains the seasonality with which average weekly wage increases in the third or fourth quarter of each year, then dips down during the winter. However, the overall upward trend in this metric reflects both increasing hourly wages and increasing hours of work. Altogether, there are an increasing number of people working in construction and they are working more hours, which translates to greater construction capacity. The lack of growth in construction firms could be a limiting factor with respect to that capacity, but construction firms may simply be finding it more efficient to have more or larger crews than they have in the past.

National and Northeast Regional Housing Starts

Indication: ***Positive***

Highlight: During 2023, the Northeast Region experienced a more sustained decrease in housing production than the broader U.S. market. However, both single and multifamily housing starts trended significantly upward in the Northeast during the second and third quarters of 2024.

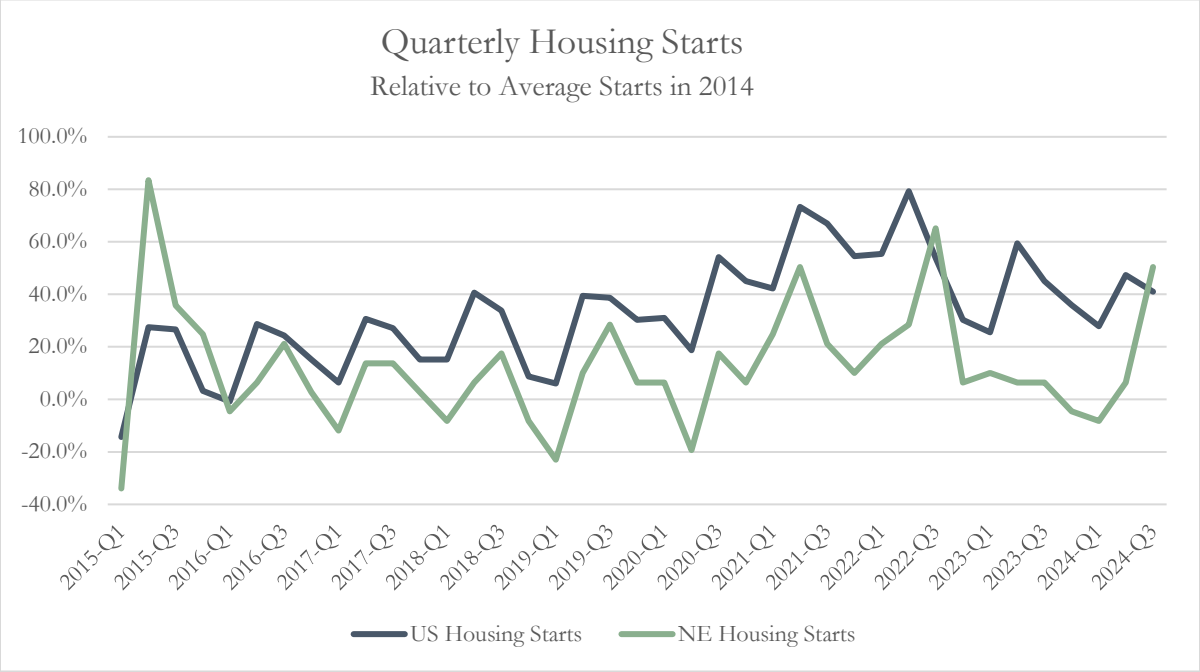


Figure 6 - Regional and National Housing Production Trends. The U.S. and Northeast trend lines show the percent difference in total (single family plus multifamily) quarterly housing starts relative to their own average quarterly housing starts in the year 2014. In addition to Maine, the Northeast Region includes NH, VT, MA, CT, RI, NY, NJ, and PA. *Source: US Census Bureau, Survey of Construction, https://www.census.gov/construction/nrc/data/series.html*

Housing production in Maine is impacted by regional and national market conditions. This is due to globalized supply chains and regional labor trends. Although Maine markets may deviate from regional and national trends, they are subject to many of the same market pressures and so tracking is potentially informative. This observation is reinforced by the fact, depicted in the chart above, that housing starts in the Northeast have historically had a close correlation with the national trend.

Since the beginning of 2023, the trend in the Northeast has not aligned as well with nationwide housing starts. New activity is relatively stagnant throughout 2023, but then climbs quickly during the observable portion of 2024. During the third quarter of 2024, housing starts in the Northeast exceed the benchmark (2014 quarterly average) by more than 50%. That may be a seasonal peak, but even so would indicate positive regional production activity.

Homeownership

Mortgage Rate Comparison

Indication: *Neutral*

Highlight: Mortgage rates have stopped rising and MaineHousing's First Home program is maintaining rates well below the market average. MaineHousing decreased the First Home mortgage rate to 5.375% prior to the end of 2024.

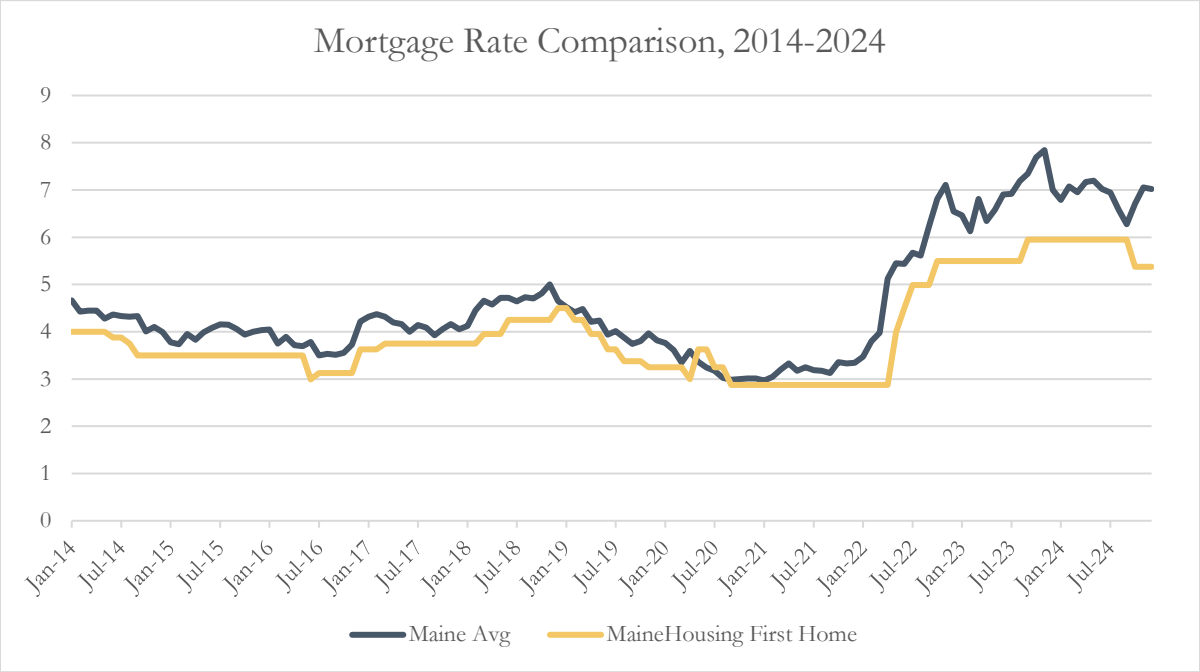


Figure 7 - Mortgage Rates in Maine. This figure shows MaineHousing's First Home Program base rate over the past decade, alongside the average 30-year fixed rate reported by Maine mortgage lending institutions.
Source: MaineHousing Homeownership Department, Rate Watch surveys.

Mortgage rates are a primary determinant of home buying activity. The average market rate in Maine peaked at 7.8% in November 2023, fell to about 7% throughout 2024, dipped to a low of 6.2%, and rose back to 7% by year end. MaineHousing maintained the First Home Program rate at 5.95% through the first three quarters of 2024, then dropped the rate to 5.375%. That represents a large spread relative to the average market rate. If the market rate remains around 7%, MaineHousing may consider raising the First Home rate above 5.5% again.

The importance of mortgage rates to home buying activity is best understood by considering the impact an interest rate can have on a monthly mortgage payment. For example, if a household can afford a maximum mortgage payment of $2,000 per month, then a rate decrease from 7% to 6% on a 30-year mortgage increases that household's affordable home price from approximately $250,000 to $270,000. The increase in available options means that potential homebuyers are, on average, more likely to find one or more homes that suit their preferences and make an offer on those homes.

Housing Prices

Indication: ***Ongoing Concern***

Highlight: Rising home prices continue to be a primary concern for homeownership access in Maine. From 2020 to 2024, the median home price in Maine grew by more than 50% while the wages and salaries of Maine workers grew by less than 33.3%.

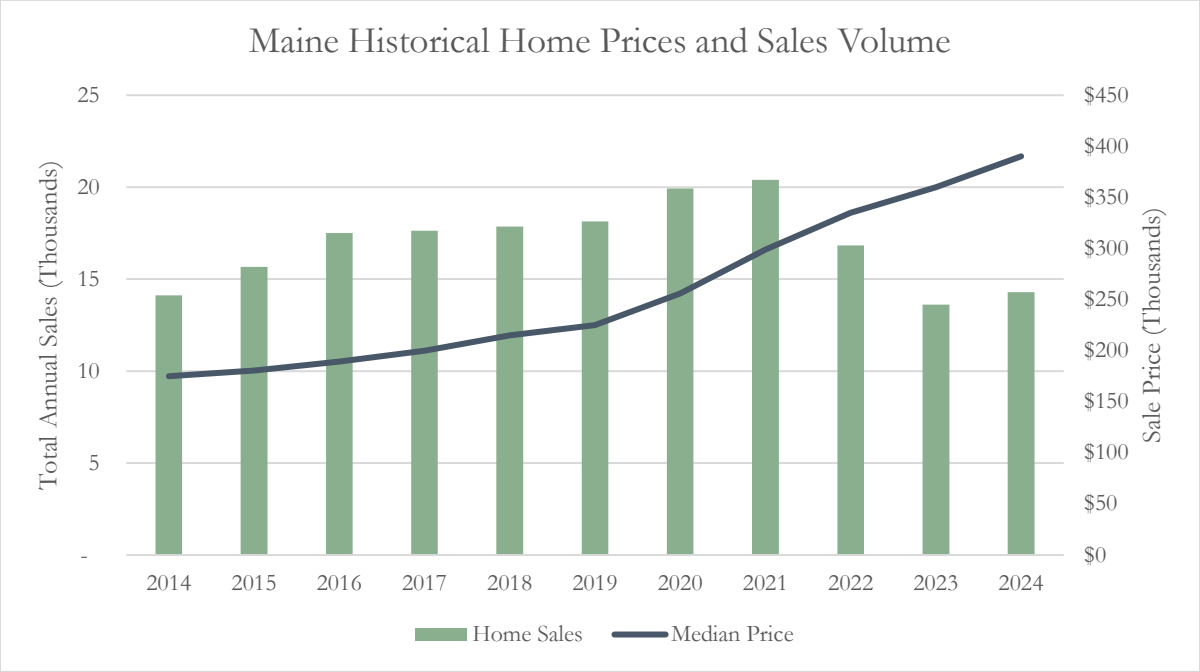


Figure 8 - Median Home Prices and Total Sales Volume in Maine. Prices include only homes purchased for occupancy by the owner, not those purchased for rental or other uses.
Source: Maine Association of Realtors, Home Sales Statistics & Press Releases.

Throughout the beginning of the previous decade, Maine's median home price grew more slowly than nationwide home prices. However, from 2020 through 2023, the median home price in Maine increased by 43.5%, while the U.S. median price increased 39.1% (American Community Survey estimates, U.S. Census Bureau). Figure 8 depicts the median Maine home price increasing more than 50% from 2020 to 2024. During that same period, Maine's workforce saw an average wage or salary increase of less than 33% (Figure 2). Even that rapid rate of wage growth failed to keep up with increasing home prices, making homeownership less affordable for many Maine households.

The decreased volume of home sales in 2023 and 2024, each less than in any other year since 2014, may indicate downward pressure on home prices. This is the case if the decrease in volume is a demand-side response, meaning a result of potential homebuyers balking at high home prices. However, high mortgage rates, which spiked in 2022, are indicative of a potential supply-side response that would also reduce sales volume, as homeowners refrain from selling their homes because they currently enjoy a much lower mortgage rate. This is discussed further in the next section.

Mortgages Issued

Indication: ***Neutral/Positive***

Highlight: Although total volume of mortgage activity has decreased, those trends have followed expected trajectories given the home price and rate environments. Statewide loan origination decreased quickly as mortgage rates rose during 2022 and have yet to show definitive sign of recovery. However, MaineHousing's First Home programs have steadily continued to create homeownership opportunities for first-time buyers.

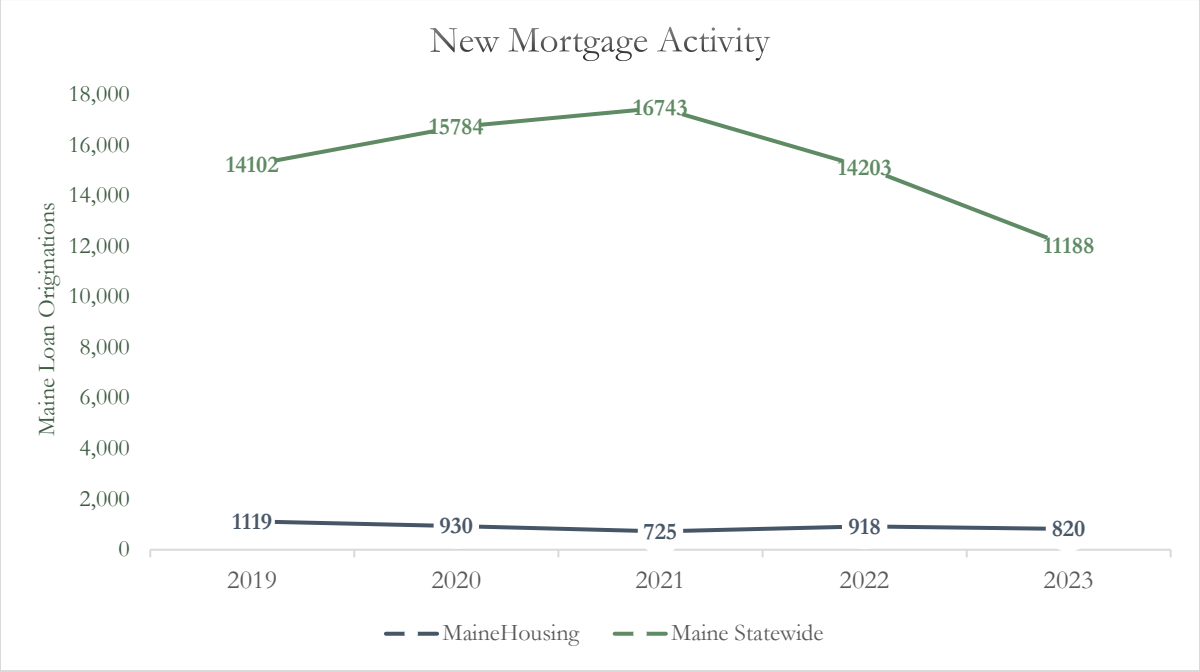


Figure 9 - Residential Loan Originations in Maine. The graph shows the total number of new residential mortgages issued (excluding homes purchased by business entities) in Maine each year and the total number of First Home mortgages purchased by MaineHousing each year. At the date of this publication, statewide mortgage data for the year 2024 is not yet available.
Sources: MaineHousing Accomplishments reports and Homeownership Department data; Consumer Financial Protection Bureau. HMDA (2023) Data.

Unlike home sales volume in Figure 8, the data in this metric is restricted to residential mortgages issued to individual buyers. Home purchasing in Maine peaked during the height of the COVID-19 pandemic, with close to 17,000 new residential home purchases in 2021. By 2023, new loans decreased by nearly one-third. This sudden decrease in activity coincided with mortgage rates roughly doubling between the beginning and end of 2022. Such a significant rise in mortgage rates not only makes purchasing more expensive for potential buyers, it also creates a phenomenon where current homeowners can't afford to sell and move to a new home. Homeowners with low mortgage rates and limited home equity are unable to afford, or unwilling to face, the increased payments on a new mortgage. However, even if mortgage rates remain elevated, the share of homeowners in this situation decreases as they build home equity through appreciation and loan payments.

MaineHousing's First Home programs, including First Home, SaluteME, and First Generation mortgages, maintained steady loan activity throughout the high-rate environment by offering rates further below the market average than it is possible to maintain during lower rate periods. With down payment and closing cost assistance, MaineHousing's mortgage programs continue to expand homeownership opportunities for first-time buyers, veterans, and those who have never lived in a home owned by their family.

Foreclosures

Indication: ***Positive***

Highlight: Homeowners in Maine are defaulting on their mortgages at much lower rates than was the case prior to the COVID-19 pandemic.

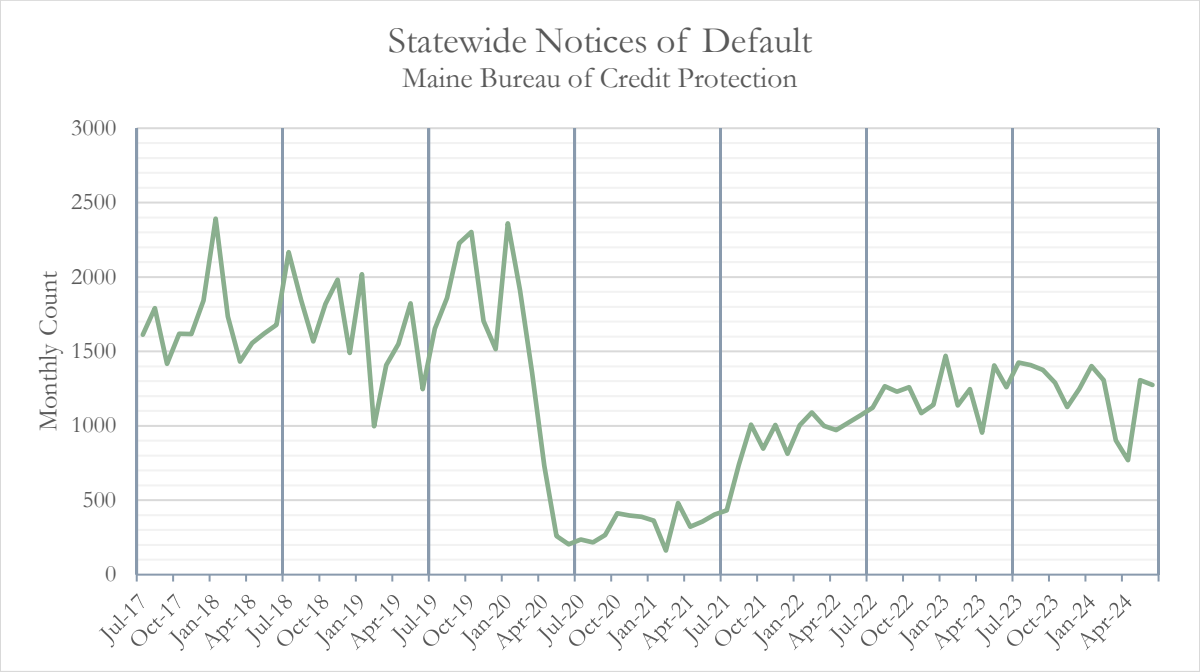


Figure 10 – Notices of Mortgage Default in Maine. The graph depicts the monthly count of statewide notices issued. The abrupt decrease in early 2020 captures the impact of pandemic-era policies, like the eviction moratorium in the federal CARES Act.
Source: Maine Bureau of Consumer Credit Protection, Quarterly Reports.

Notices of default fell dramatically during the COVID-19 pandemic due to several factors, including a moratorium on foreclosures and several state and federal programs to aid homeowners. Although default notices have climbed back up since the slow period during the pandemic, they have resumed at a new normal that is notably lower than it was previously. Since July 2022, the average number of default notices per month in Maine has been 1,225. Prior to the pandemic, the monthly average was more than 40% higher. The explanation for this shift in trend is unclear, but it implies improvement in the ability of current homeowners to manage their mortgage and home expenses, despite the rapid inflation that recently beset the nation. This financial strength indicates potential for increased liquidity in Maine's real estate market when the rate environment improves and transitioning to new homes becomes more financially attractive.

Housing Affordability

Heating Fuel Prices

Indication: *Positive*

Highlight: Although still well above their historic low points, all three of the primary heating fuel prices have stabilized. Heating oil and kerosene prices are both trending downwards.

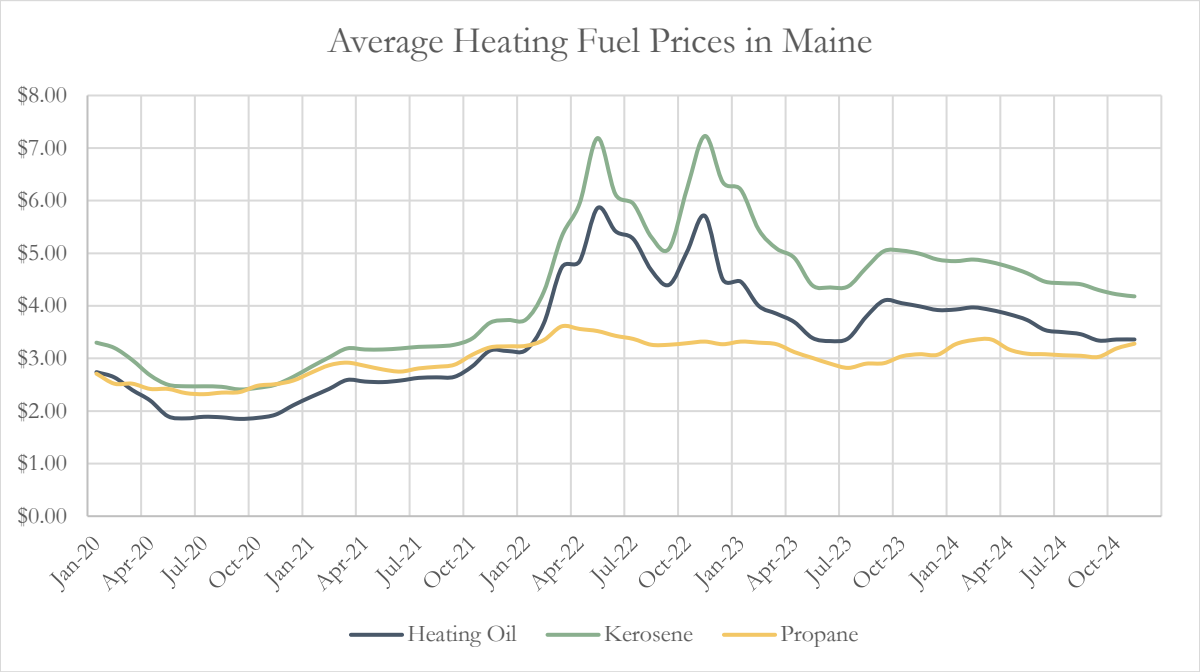


Figure 11 - Heating Fuel Prices in Maine. The graph depicts the price per gallon of delivered heating oil, kerosene, and propane measured via a weekly survey of retailers statewide.
Source: Historical Heating Fuel Prices, State of Maine Governor's Energy Office. https://www.maine.gov/energy/heating-fuel-prices

Heating costs are a significant affordability concern for households in Maine. Failure to plan for extended cold spells or price increases can leave a household facing frigid temperatures with few good options. MaineHousing's Energy Crisis Intervention Program can provide support to eligible households experiencing such an emergency, but that is a contingency for crisis situations. Additionally, failure to properly heat a home can have costly negative health effects for residents, especially for older Mainers and the very young.

Heating fuel prices in Maine were extremely volatile in 2022 and 2023, with both heating oil and kerosene reaching record highs. Propane remained more stable than the other fuels, but still climbed above $3 per gallon and has largely remained there since. Heating oil and kerosene remained historically elevated in 2024 but have both been trending downwards since April. The home heating situation is much improved relative to the previous two years.

Rental Cost Burden

Indication: ***Ongoing Concern***

Highlight: Since 2018, rental cost burden has increased sharply among Maine households earning between $35,000 and $75,000 in total household income.

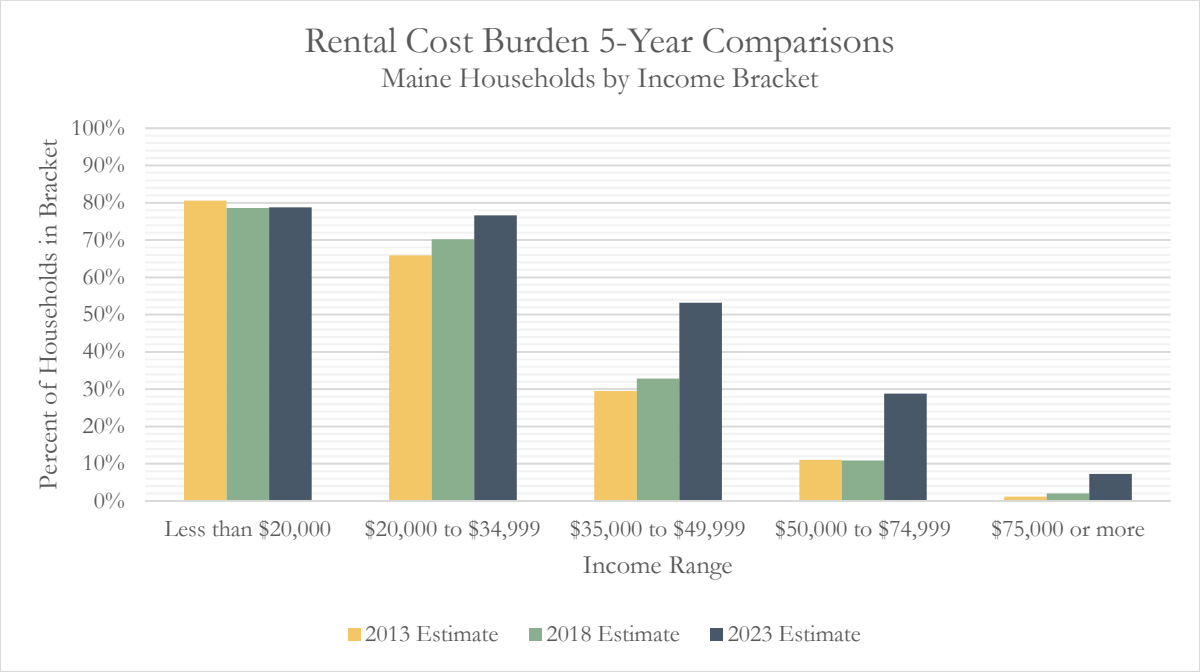


Figure 12 - Rental Cost Burden in Maine. 2013, 2018, and 2023 comparisons by household income brackets. Each bar shows the estimated percentage of all renter households in the given income range that are cost burdened, with the color of the bar indicating which year the estimate is for. Cost burden is defined as spending more than 30% of gross household income on total housing costs.
Source: ACS 5-year Samples; Census Data Table CP04 – Comparison Profiles; Financial Characteristics.

Housing cost burden is a straightforward means of identifying households spending a disproportionate percentage of their income on housing costs. A household that spends more than 30% of gross household income on housing costs has little remaining to cover necessities, much less any savings or discretionary spending.

The most notable changes in rental cost burden occurred for those Mainers earning between $35,000 and $75,000 in total income. 53.2% of renters earning $35,000-$49,999 were cost burdened in 2023, up from 32.8% just 5 years earlier, and 28.8% of renters earning $50,000-$74,999 were cost burdened in 2023, more than double the 10.8% from five years earlier. Even among those renter households earning more than $75,000 per year, a small but notable share (7.3%) were cost burdened in 2023.

Among renter households earning less than $20,000 per year, a large and stable majority were cost burdened in each of the sample years. Finally, for renter households earning $20,000-$34,999, the share that are cost burdened has increased incrementally in each sample, from 65.9% in 2013 to 76.6% in 2023.

Data Note: It is important to remember when viewing estimates using the 5-year samples of the American Community Survey (ACS 5-year Samples) that the underlying five years of survey data are pooled together. This results in large sample sizes and very reliable estimates. However, since it pools surveys over several years, estimates using these data have been criticized as lagging behind real-time changes in the estimated metrics.

Eviction Filings

Indication: *Positive*

Highlight: Annual statewide eviction filings in Maine decreased for the first time since the eviction moratorium in 2020.

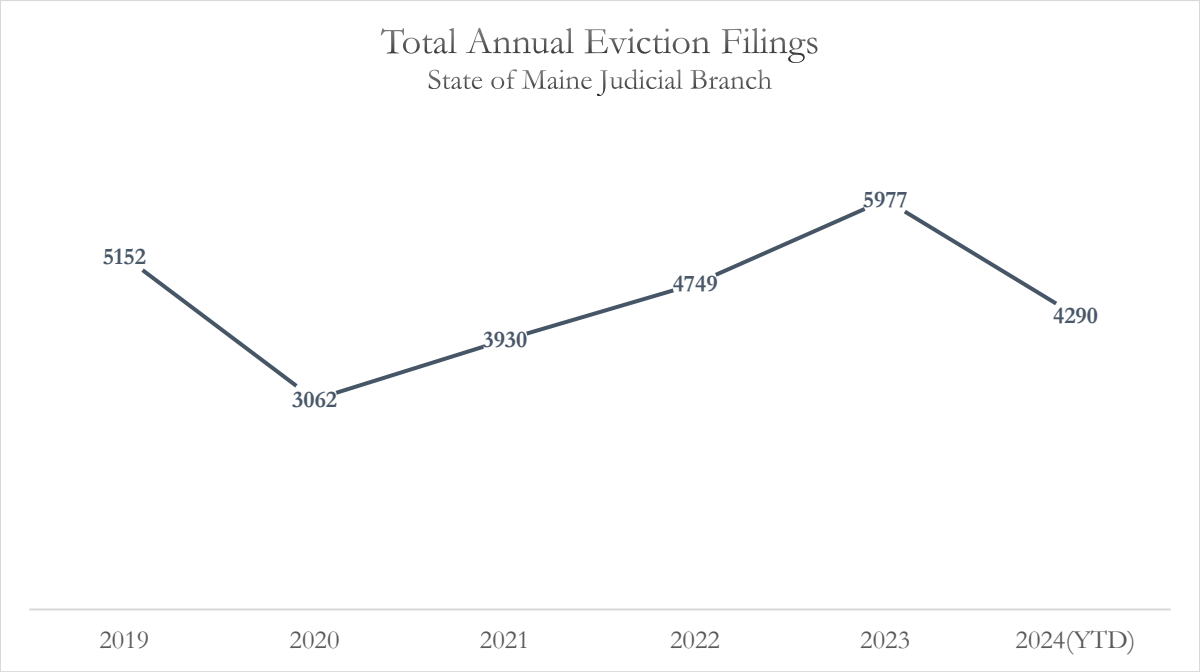


Figure 13 - Eviction Filings in Maine Courts. This figure depicts the total count of eviction filings registered with the Maine Judicial Branch in each year. The year-to-date (YTD) count for 2024 only includes data through the end of the month of November.
Source: State of Maine Judicial Branch. https://www.courts.maine.gov/about/reports/fed-monthly15yr-report.pdf

In order to carry out a lawful eviction, a landlord or property manager must register an eviction filing with their nearest district court. Not all filings result in an actual eviction, but the filing is a necessary and serious step towards an eviction. During the COVID-19 pandemic, a sequence of executive orders and legislation, both state and federal, instituted moratoriums on evictions by limiting the allowable grounds for an eviction. Those laws and executive orders will have artificially decreased the count in both 2020 and 2021.

Although the 2024 count only includes eleven months of data, it is safely on track to be the first year since 2020 that the total number of evictions in Maine has decreased relative to the previous year. Assuming evictions in the final month of 2024 are no greater than the average of all other months in 2024, the total – 4,680 or fewer – will be less than preceding years. Although MaineHousing's Eviction Prevention Pilot Program was launched in 2024, the decrease in evictions cannot be directly attributed to the success of the program as it did not begin issuing benefits until the final month of this data. It is possible that unexpected variable expenses, such as heating costs, play an outsized role in causing evictions, in which case the moderating prices of heating fuels aligns well with the positive trend in this metric.

Homelessness

Length of Stay

Indication: ***Ongoing Concern***

Highlight: Average length of stay in 2024 increased to 11.6 days, a 38% increase from the previous year.

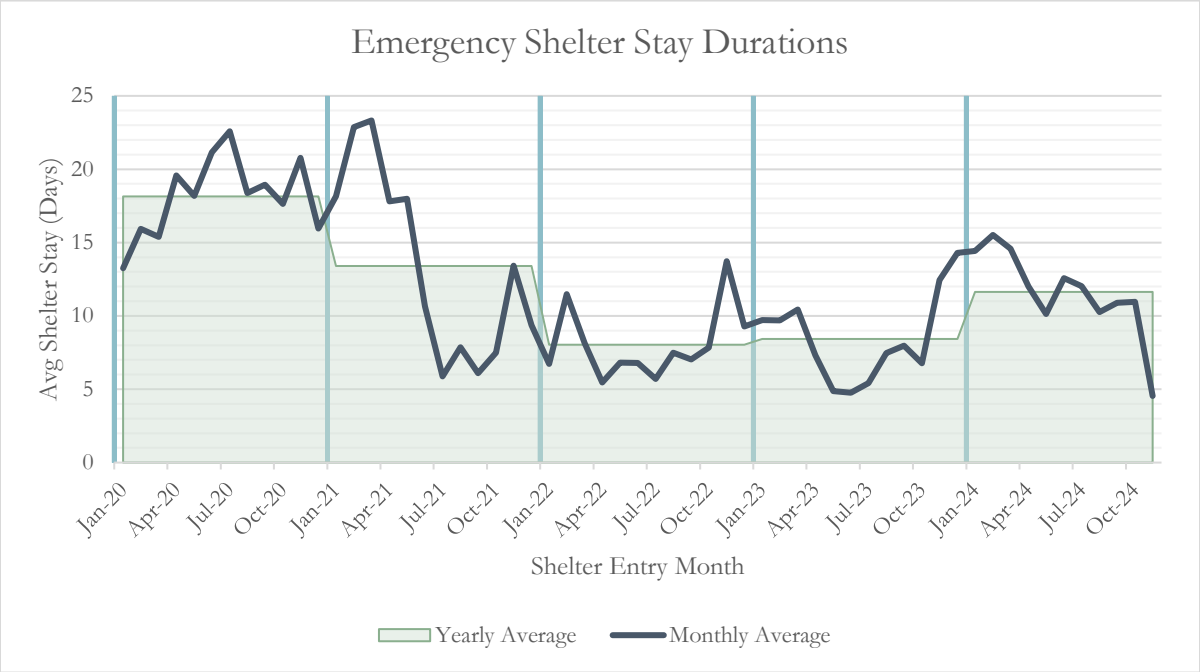


Figure 14 - Maine Shelter Stay Durations. The graph depicts the average length of stay for all new admissions to shelters in the associated month. The data includes all participating ESHAP shelters in the State of Maine. **Technical note: the sharp decrease in the last month of 2024 is a necessary result of the fact that those entering in the final period cannot have a length of stay longer than the time between their entry and the date that this report was drawn.**
Source: MSHA Project Participation/LOS Report (WellSky BusinessObjects), compiled on 12/02/24.

Length of stay is an important indicator of the current shelter and housing environment for people experiencing homelessness. It reflects not only the individuals' willingness to remain in the shelter, but the difficulty of finding viable permanent housing solutions. Average length of stay in 2024 increased 38%, up to 11.6 days from 8.4 days in 2023. While this still represents a much lower average than during the height of the COVID-19 pandemic, it is a concerning shift that suggests permanent housing solutions for those leaving homelessness were in scarce supply this year.

Returns to Homelessness

Indication: ***Positive***

Highlight: In 2024, Maine saw a 43% decrease in the average number of people reentering the homeless services system after having exited to a permanent housing solution less than twelve months earlier.

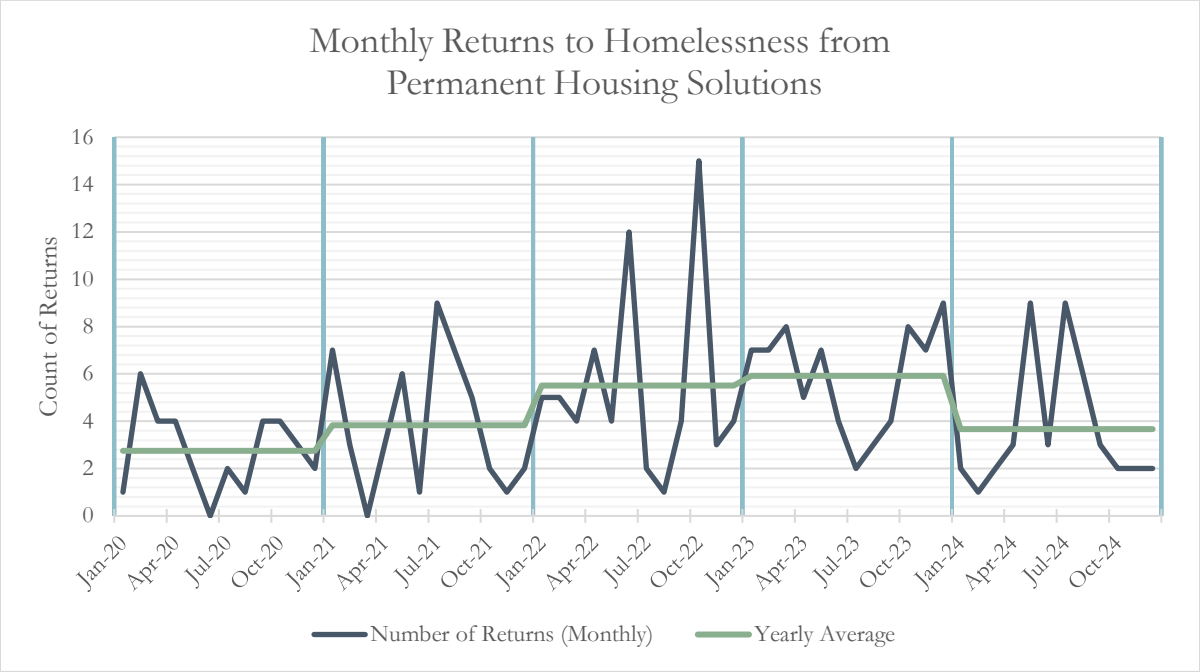


Figure 15 - Returns to Homelessness in Maine. Returns are people enrolling in homeless services who had previously exited homelessness to a permanent housing solution less than 12 months prior to their reenrollment. The data includes all participating ESHAP shelters in the State of Maine.
Source: MSHA Return to Homelessness Report (WellSky BusinessObjects), compiled on 01/21/25.

This metric measures the frequency with which people in Maine exit homelessness to a permanent housing solution and yet find themselves back in the system again. A return to homelessness, in this data, is identified as an individual enrolling in homeless services less than 12 months after having exited homeless services with a placement in a permanent housing solution. Individuals out of the system for more than twelve months before re-experiencing homelessness are not included in the totals depicted above. The monthly totals are highly variable, so the yearly averages are more telling. Average returns climbed each year prior to 2024, then fell from 5.9 per month to 3.3 per month in 2024.

This metric offers an interesting contrast with the length-of-stay metric. People experiencing homelessness are staying longer in shelters, but appear to be more successful in remaining housed when the shelter is able to help them find a permanent housing solution. On the other hand, that success could very well lead to a greater scarcity of available permanent housing solutions and therefore contribute to the issue in Figure 14.

Point In Time

Indication: ***Ongoing Concern***

Highlight: The counts of people in shelters, unsheltered, and in transitional housing increased to over 2,300 in 2024. The marked decrease in availability of emergency motel rooms, used as a housing solution during and for some time after the pandemic, causes a misleading decrease in the overall homeless count.

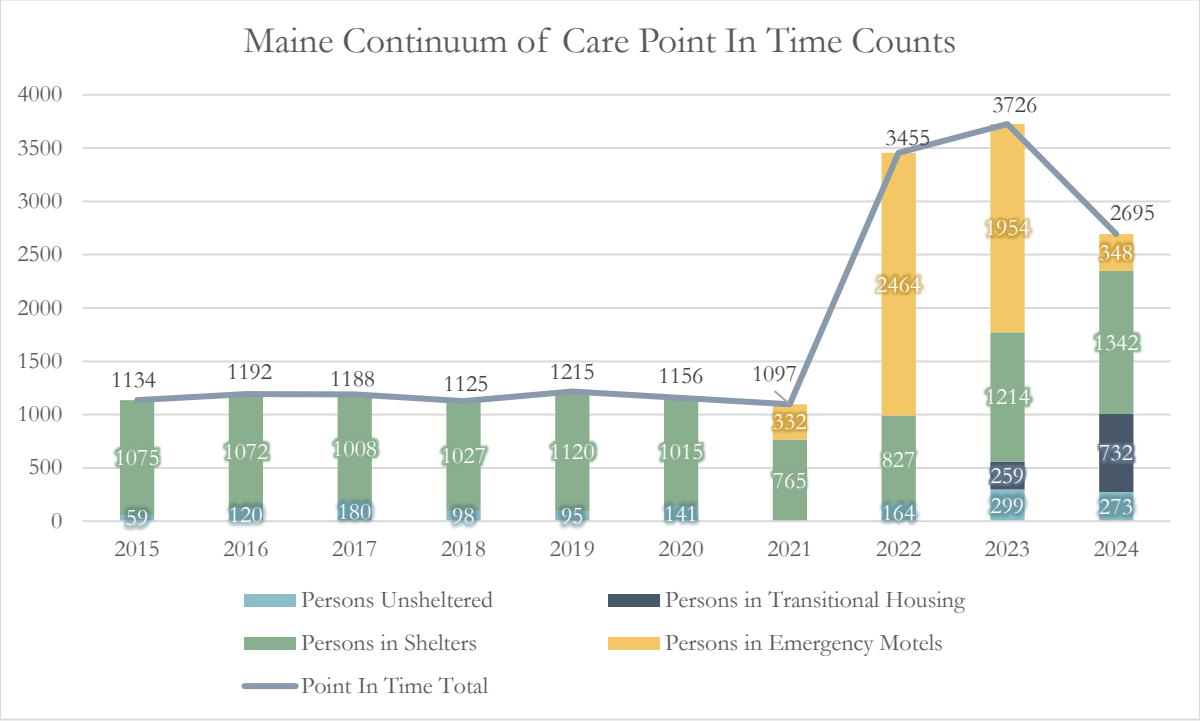


Figure 16 - Point In Time Counts. Snapshot counts of people experiencing homelessness in late January of each year. The counts are shown by unsheltered, sheltered, in transitional housing, or in emergency motels. The emergency motels were a product of COVID-related emergency relief programs that have now expired. *Source: MSHA Point In Time Count, 2015 – 2024.*

Although the total count decreased in 2024, that reduction cannot be attributed to fewer people in Maine facing housing crises and homelessness because it is so closely linked to changes in program availability. Specifically, the reduction in the total count is less than the decrease in the number of persons in emergency motel rooms, for which pandemic-related funding is no longer available. The key 2024 statistics pertain to the other three groups: the count of Persons in Shelters increased by more than 10%; the count of Persons in Transitional Housing nearly tripled; and the count of Persons Unsheltered remained elevated well above historic norms. All of these indicate that the threat of homelessness remains a significant concern in Maine.

The appearance of emergency motels in 2021 resulted from emergency relief available under myriad COVID-19 response programs. Those relief programs made access to no-cost shelter in motels available to individuals and families who may otherwise have relied on informal solutions to their housing needs, such as doubling up with a friend or "couch surfing." Importantly, those arrangements are not classified by HUD as experiencing homelessness, but motel stays paid for by emergency relief programs are. COVID-related emergency relief programs have now expired. Although a small portion of emergency motels are now in use as transitional housing, the remainder are no longer available. It is unknown how many of those households have returned to informal housing arrangements that are not observable in these data.

Pedestrian Activities District (PAD) Overlay
Chapter 14 - Land Use Code Text Amendment
City of Portland, Applicant

Submitted to: Portland Planning Board **Public Hearing Date**: July 8, 2025 **Date Prepared**: July 2, 2025	**Prepared by**: Andrew Graminski Planning & Development Review Manager

I. INTRODUCTION

On June 17, 2025, The City Council's Housing and Economic Development Committee (HEDC) recommended the adoption of a new commercial vacancy ordinance, prepared and presented to the Committee by staff from the Economic Development Department. As drafted, the ordinance aims to promote the use of vacant space, encourage communication between property owners and those seeking commercial space, collect data for future programs, and coordinate collaboration with Portland's artist community to actively utilize vacant spaces. While the commercial vacancy ordinance has been drafted as an element of Chapter 6 of the Code of Ordinances, the ordinance is proposed to apply within the limits of the City's Pedestrian Activities District (PAD) Overlay Zone (see map below). The draft proposed vacant commercial properties ordinance is attached as Attachment B.



Pedestrian Activities District (PAD) Overlay Map

As the commercial vacancy ordinance is proposed to tie geographically to an element of the City's zoning, the Land Use Code needs to be amended to add a reference to the vacancy ordinance within the PAD Overlay Zone. As with all amendments to the land use code, this amendment must be reviewed by the Planning Board, who will make a recommendation to the City Council.

A legal advertisement for this zoning amendment ran in the June 26, 2025 and June 27, 2025 editions of the Portland Press Herald.

II. BACKGROUND

At the August 20, 2024 HEDC meeting, Housing and Economic Development (HED) staff discussed strategies to address commercial vacancies in downtown Portland. One of those options included the idea of a commercial vacancy ordinance. The HEDC supported this concept, directing HED staff to draft policy for review at their April 15, 2025 meeting.

The proposed ordinance was subsequently discussed at the May 20, 2025 HEDC meeting, where staff incorporated suggested revisions to the ordinance. At the June 17, 2025 HEDC meeting, the committee recommended approval of the proposed ordinance to Chapter 6 of the City's Municipal Code. Given that the proposed Commercial Vacancy Ordinance is geographically tied to an element of the City's zoning, and the HEDC has unanimously recommended its adoption, City staff is bringing the associated zoning text amendment to the Planning Board for a public hearing. Following the Planning Board's vote, the intent is for both the Commercial Vacancy Ordinance and the zoning text amendment to be presented as companion items to the full City Council at their August 2025 meeting.

III. PROPOSED TEXT AMENDMENT

Below is the proposed text amendment to Section 8.5 Pedestrian Activities District (PAD) Overlay. Please see attachment A for the full draft amendment to Article 8.

Section 8.5.2(D):
Buildings located within the areas identified on the PAD Overlay Zone map shall comply with the Vacant Commercial Properties Ordinance, as outlined in Chapter 6, Article XXX. of the City Code.

IV. COMPREHENSIVE PLAN ANALYSIS

Planning staff find that the proposed amendment to Section 8.5 of the Land Use Code aligns with *Portland's Plan 2030*, the city's comprehensive plan. Insofar as the amendment helps to support the implementation of a commercial vacancy ordinance, the amendment will help further goals outlined in the plan's economic and recreation and open space chapters, specifically advancing objectives related to capitalizing on the potential of temporary activities, leveraging arts and culture, and incorporating creative design, public art, and placemaking.

V. PUBLIC COMMENT

At this time no written public comments have been submitted to the Planning and Urban Development Department.

VI. PROPOSED MOTION

On the basis of material provided in this report dated July 2, 2025, public testimony, and other information provided during the Planning Board's review process and at the July 8, 2025 public hearing, the Planning Board finds that the proposed amendments to Section 8.5 of the land use code ***[are / are not]*** *consistent with the City of Portland's comprehensive plan and therefore* ***[recommends / does not***

recommend] *adoption of said amended land use code to the City Council.*

VII. ATTACHMENTS

A. Draft Zoning Amendment to the Pedestrian Activities District (PAD) Overlay Section 8.5
B. Draft Vacant Commercial Properties Ordinance, Chapter 6, Section 6-XXX
C. Commercial Vacancy Ordinance Memo dated June 17, 2025 from Housing and Economic Development

8 OVERLAY ZONES

8.1 COASTAL FLOOD RESILIENCE OVERLAY (CFROZ)

8.1.1 Purpose

The purpose of the Coastal Flood Resilience Overlay Zone (CFROZ) is to protect persons and structures from the adverse effects of sea level rise and storm surge associated with climate change by:

A. Advancing adaptation strategies for long-term resilience.
B. Complementing public realm resilience measures by guiding development on private property.
C. Mitigating flood risks in a way that is specific to Portland's unique hydrological conditions and affected uses, particularly in areas that are not currently recognized as flood zones but are vulnerable to future sea level rise.
D. Providing a balanced framework in which flood protection requirements are proportional to the vulnerability and risks of various occupancies.

8.1.2 Applicability

The provisions of the CFROZ shall apply to property or proposed projects wholly or partially within the boundaries of the Coastal Flood Resilience Overlay Zone as depicted on the City of Portland Zoning Map. However, property or proposed projects within the CFROZ boundary that are also located wholly or partially within special flood hazard areas with a BFE of 13 feet or higher as defined in Article 12 shall be exempt from the provisions of the CFROZ.

8.1.3 Relationship to underlying zoning

The CFROZ constitutes an overlay zone. The provisions of the underlying zoning, as they may be amended from time to time, continue to apply, except as expressly superseded by this Section. Where conflicts exist between this Section and the remainder of this Code, the more restrictive provision shall govern.

8.1.4 Use classifications

A. For the purposes of this Section, uses in the CFROZ shall be classified as follows:
    1. *Critical uses.* Critical uses generally include residential, governmental, educational, medical, emergency, and related high-risk uses.
    2. *Non-critical uses.* Non-critical uses generally include retail, restaurant, commercial, and related medium-risk uses.
    3. *Exempt uses.* Exempt uses generally include low risk and low occupancy uses such as parking, construction yards, and storage.
B. Table 8-A shall determine whether a use is classified as critical, non-critical, or exempt. For uses not listed in Table 8-A, the Building Authority or the Planning Authority shall determine the classification based upon the most nearly comparable land use. Water-dependent uses shall be considered exempt.
C. All accessory uses shall be considered non-critical, with the following exceptions:
    1. Accessory dwelling units.
    2. Child care centers and small child care facilities greater than 1,000 square feet in floor area.
    3. Clinics greater than 1,000 square feet in floor area.



OVERLAY ZONES



TABLE 8-A: CLASSIFICATION OF USES AS CRITICAL, NON-CRITICAL, OR EXEMPT

		Critical	Non-Critical	Exempt
Residential	Single-family dwellings	●		
	Two-family dwellings	●		
	Three-family dwellings	●		
	Four-family dwellings	●		
	Townhouse dwellings	●		
	Multi-family dwellings	●		
	Live/work dwellings	●		
	Group homes	●		
	Lodging houses	●		
Institutional	Child care centers + small child care facilities	●		
	Clinics	●		
	Cultural facilities	●		
	Elementary, middle, and secondary schools	●		
	Emergency shelters	●		
	Governmental uses	●		
	Hospitals	●		
	Places of assembly	●		
	Post-secondary schools	●		
	Residential care facilities (small)	●		
	Residential care facilities (large)	●		
Commercial	Adult business establishments		●	
	Animal-related services		●	
	Auto, boat, and related dealerships		●	
	Auto service stations			●
	Bars		●	
	Bed and breakfasts	●		
	Exhibition, meeting, and convention halls		●	
	Funeral homes		●	
	General offices		●	
	General services		●	
	Greenhouse/Nursery, retail			●
	Hostels	●		
	Hotels	●		
	Marijuana retail store		●	
	Market garden			●

TABLE 8-A: CLASSIFICATION OF USES AS CRITICAL, NON-CRITICAL, OR EXEMPT

		Critical	Non-Critical	Exempt
Commercial	Neighborhood nonresidential reuse		●	
	Office park		●	
	Recreation and amusement centers		●	
	Registered marijuana dispensary		●	
	Restaurants		●	
	Retail		●	
	Small-scale marijuana caregiver		●	
	Specialty food service		●	
	Theaters and performance halls		●	
	Veterinary services		●	
Industrial	Communication studios		●	
	Construction & engineering services		●	
	Dairies			●
	Fish waste processing		●	
	Food & seafood processing, packing, and distribution		●	
	High-impact industrial uses		●	
	Impound lots			●
	Intermodal transportation facilities		●	
	Laboratory and research facilities		●	
	Low-impact industrial		●	
	Lumber yards			●
	Marijuana cultivation facility (<2,000 SF plant canopy)			●
	Marijuana cultivation facility (2,000-7,000 SF plant canopy)		●	
	Marijuana cultivation facility (>7,000 SF plant canopy)		●	
	Marijuana manufacturing facilities		●	
	Marijuana testing facilities		●	
	Printing and publishing		●	
	Recycling facilities			●
	Self-storage		●	
	Solid waste disposal facilities			●
	Studios for artists and craftspeople		●	
	Telecommunication towers (ground-mounted)			●
	Warehousing and distribution		●	
O +	Agriculture			●

TABLE 8-A: CLASSIFICATION OF USES AS CRITICAL, NON-CRITICAL, OR EXEMPT

	Critical	Non-Critical	Exempt
Boathouses and storehouses for fishing equipment			●
Campgrounds			●
Cemeteries			●
Marinas and yacht clubs			●
Marine uses			●
Off-street parking			●
Parks and open spaces			●
Social service centers	●		
Solar energy system (minor)			●
Solar energy system (major)			●
Utility substations	●		
Wharves, piers, docks, and landing ramps			●
Wind energy system (minor)			●
Wind energy system (major)			●

8.1.5 Projects subject to the standards of the CFROZ

A. Any development located within the established boundary of the CFROZ, and which meets the thresholds listed below, shall be subject to the standards of the CFROZ.
   1. All new construction containing a critical use or uses.
   2. New construction of greater than 1,000 square feet containing non-critical uses only.
   3. Any addition of greater than 1,000 square feet containing critical or non-critical uses.

B. Where a change of use occurs within the CFROZ, all portions of a building containing a critical use and the critical systems supporting such use shall meet the CFROZ standards. Changes of use to non-critical uses shall not require compliance with the CFROZ standards.

C. Structures within the CFROZ that are 50,000 square feet or greater in gross floor area and undergoing substantial improvement are required to meet the CFROZ standards when they contain a critical use or uses. For the purposes of this subsection, substantial improvement shall be as defined in Article 12.

8.1.6 Use and dimensional requirements

A. Sea level rise design flood elevation (SLR-DFE). The required SLR-DFE shall be determined by use classification. For mixed-use developments that contain uses in different classifications sharing a ground floor, each use shall be addressed independently.

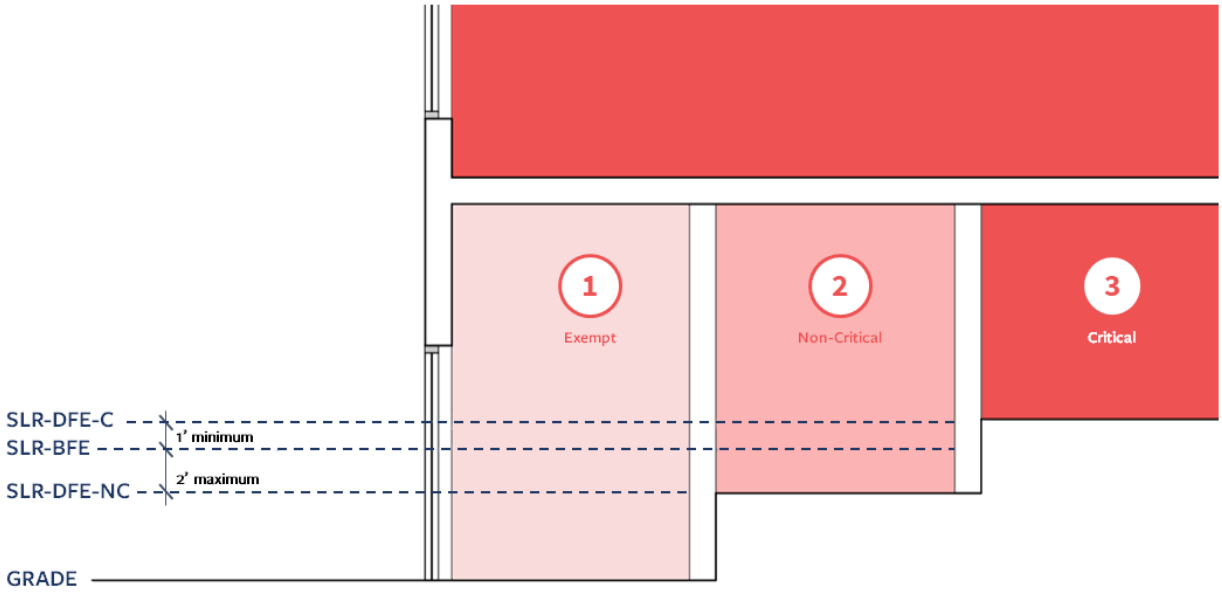


FIGURE 8-A: CFROZ USE CLASSIFICATIONS AND DESIGN FLOOD ELEVATION

1. *Critical uses.* The SLR-DFE for all critical uses (SLR-DFE-C), including the critical systems serving such uses, shall be a minimum of one foot above SLR-BFE, as defined in Article 3. In a proposed project containing critical uses, the following building and site elements are permitted to be located below the SLR-DFE:
    a. Lobbies, entries, egress stairs, and elements required for vertical circulation from the SLR-DFE to grade, such as elevators, ramps, and stairs.
    b. Parking.
    c. Storage.
    d. Flood protection equipment.
2. *Non-critical uses.* The SLR-DFE for non-critical uses (SLR-DFE-NC), including the critical systems serving those uses, shall be no lower than two feet below SLR-BFE, as defined in Article 3. The minimum elevation of the underside of the beams supporting the second floor in a multi-story building, or the roof in a one-story building, shall be no less than 13 feet above SLR-BFE. In a proposed project containing non-critical uses, the following building and site elements are permitted to be located below SLR-DFE:
    a. Lobbies, entries, egress stairs, and elements required for vertical circulation from the SLR-DFE to grade, such as elevators, ramps, and stairs.
    b. Parking.
    c. Storage.
    d. Flood protection equipment.
3. *Exempt uses.* Exempt uses shall not be subject to dimensional requirements with respect to SLR-BFE.

B. Building height. Within the CFROZ, if a proposed project contains principal critical or

non-critical uses on the ground floor, height shall be measured from the SLR-DFE or from average grade, whichever is higher.

C. Exemptions for required ramping and stairs. Ramping and stairs necessary to meet any required SLR-DFE may be included within the calculation of area required to meet landscaped open space ratio requirements, and shall not be included within the calculation of lot coverage. Ramping and stairs necessary to meet any required SLR-DFE may be located in any required front yard, interior or corner side yard, or rear yard, and in cases where build-to requirements apply, shall be considered to meet the build-to percentage.

D. Hazardous materials. Any hazardous materials shall be fully contained and elevated a minimum of two feet above SLR-DFE.

8.2 FORT SUMNER PARK HEIGHT OVERLAY

8.2.1 Purpose

The purpose of the Fort Sumner Park Height Overlay is to protect the public interest by limiting the impact of development on the quintessential views of natural resources and the changing Portland skyline from Fort Sumner Park.

8.2.2 Applicability

A key apex point is established in Fort Sumner Park at 43° 40’ 2.3359” N. 70° 15’ 4.3687” W . The Fort Sumner Park Height Overlay includes all land within 200 feet to the west of this key apex point as indicated on the City of Portland Zoning Map.

8.2.3 Standards

Notwithstanding any other section of this Land Use Code, development in the Fort Sumner Park Height Overlay shall be subject to the following additional provisions:

A. The top of structures, including rooftop appurtenances, within the overlay shall not exceed the baseline vertical height of the apex point (160.27’ City of Portland Datum (Mean Tide)). For each 25’ radially away from the apex point, the vertical height permitted in the overlay is reduced by 1 foot. (See Figure 8-B.)

B. The minimum building setback from the park property shall be 15 feet.

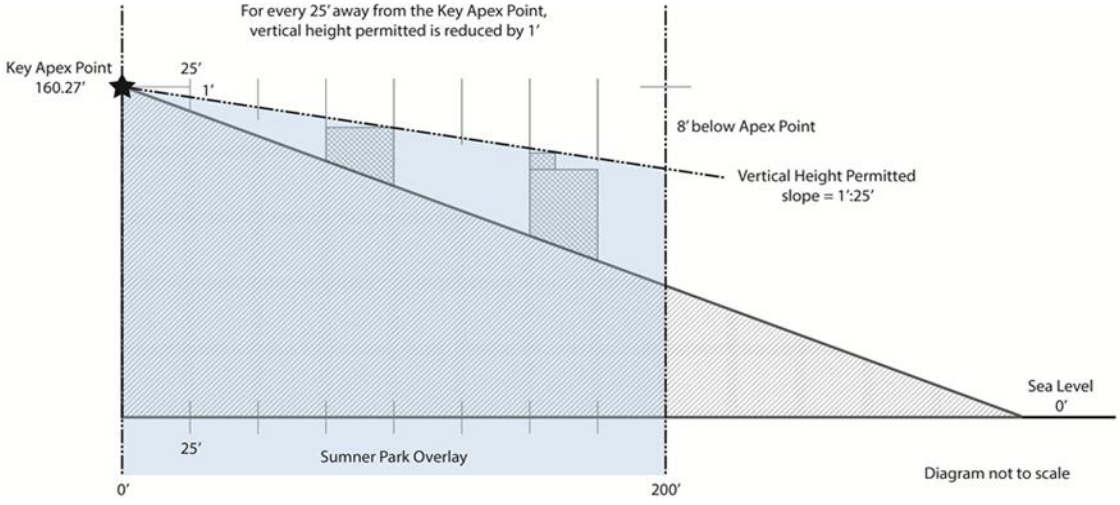


FIGURE 8-B: FORT SUMNER PARK OVERLAY PERMISSIBLE HEIGHT

8.2.4 Review process

Any project within the Fort Sumner Park Overlay shall go before the Parks Commission for a recommendation to the Planning Board regarding potential impacts on Fort Sumner Park.

8.3 INSTITUTIONAL OVERLAY (IOZ)

8.3.1 Purpose

The Institutional Overlay Zone (IOZ) provides a regulatory tool available to the city's major medical and higher education campuses where an alternative regulatory structure is needed to facilitate a consistent, predictable, and clear growth management process. The purposes of the Institutional Overlay Zone are to:

A. Acknowledge that the city's major academic and medical institutions play a prominent role in the health and well-being of the local and regional community, and to sustain that role, these institutions need flexibility to change and grow.
B. Encourage proactive planning for institutional change and growth which identifies and addresses likely long-term institutional needs and cumulative impacts while leveraging potential benefits at the neighborhood, city, and regional level.
C. Ensure that institutional change and growth both complements and, as appropriate, integrates adjacent or surrounding neighborhoods through carefully planned transitions.
D. Support the formation and continuation of mutually beneficial public-private cooperation.
E. Support an ongoing public engagement process that benefits both the institutions and nearby neighborhoods.
F. Reflect Comprehensive Plan and other policy objectives.
G. Provide a regulatory tool for Portland's major institutions that includes the flexibility required to balance the particular needs of institutions with the needs of the surrounding neighborhood and wider community.

8.3.2 Location and applicability

The city's major medical and higher education institutions are eligible to apply for designation as Institutional Overlay Zones. Use of an Institutional Overlay Zone is encouraged for these institutions, particularly where proposed future development may be inconsistent with current base zoning.

8.3.3 Establishment

A. Application for an Institutional Overlay Zone. Where an eligible institution seeks designation as an IOZ, they shall submit a zone change application consisting of two components:
    1. An Institutional Development Plan (IDP) in accordance with Subsection 8.3.4.
    2. A regulatory framework in accordance with Subsection 8.3.5. If adopted, this framework shall serve as the text and map amendment to the City's Land Use Code and zoning map.
B. Required public involvement. At least two neighborhood meetings shall be required to establish designation as an IOZ. The first shall be held prior to the formal submission of a zone change application, and the second shall be held during the City's review. Meetings

shall identify the concerns, if any, of affected residents and property owners, and should solicit feedback to inform the Institutional Development Plan (IDP) and regulatory framework proposed. Meetings shall be held in a convenient location proximate to the institution. The applicant shall provide written notification to property owners of record within 500 feet of the proposed IOZ boundary at least ten days prior to the meeting dates, and shall maintain written records of the meetings.

C. Required scoping meeting. The eligible institution shall meet with the Planning Authority after the first required neighborhood meeting and prior to submission of the zone change application to confirm the focus of the Institutional Development Plan (IDP) and regulatory framework, including associated study areas that may be outside of the proposed IOZ boundary. The IDP and regulatory framework will vary in detail and focus depending on the eligible institution and its context. The content requirements in Subsections 8.**3**.4 and 8.**3**.5 and the recorded comments from neighborhood meeting(s) shall provide direction for the content of the IDP. The Planning Authority or Planning Board may require additional information or modify content requirements as is relevant to the eligible institution.

D. Reviewing authority. The Planning Board shall review the zone change application, including the IDP and regulatory framework. At least one public workshop and a public hearing before the Planning Board are required. Upon recommendation of the Planning Board, the City Council shall review and consider adoption of the Institutional Overlay Zone and the accompanying regulatory framework as an amendment to the City's Code of Ordinances.

E. Future institutional development. All new development shall be compliant with the established IOZ and accompanying regulatory framework. It shall also be consistent with the IDP, consistent with the Comprehensive Plan, and shall meet applicable site plan standards, unless such standards are superseded by the regulatory framework. Any development proposed by an eligible institution outside the established IOZ boundary shall be reviewed under the standards of the applicable zone , unless such development is proposed in a residential zone and is functionally related to the operations within the IOZ, in which case it shall be addressed by the IDP and require an amendment to the IDP as applicable.

8.3.4 Institutional Development Plan (IDP)

A. Purpose. Any use conducted by an eligible institution and any construction by an eligible institution in an Institutional Overlay Zone shall be consistent with an Institutional Development Plan (IDP) approved by the Planning Board in accordance with this section. The purpose of the IDP is to establish baseline data about institutional land uses, facilities, and services, and to measure, analyze, and address the anticipated or potential impacts of planned institutional growth and change. The IDP shall serve as a background document that supports the proposed regulatory framework and informs subsequent site plan review(s).

B. Planning horizon. An IDP shall provide the City and abutting neighborhoods with a clear outline of the anticipated or potential growth and change of the eligible institution for the short- to medium-term (e.g. 1-5 and 5-10 years respectively), as well as a conceptual growth plan for the long-term (e.g. 10 years or more). However, the specific planning horizons for each institution will be determined as part of the IDP approval process.

C. Content. The IDP submission shall address the following elements unless specifically modified by the Planning Authority or Planning Board, with the scope and level of detail to be clarified at the required scoping meeting:

1. Context information, including:
    a. The institution's adopted mission, vision, or purpose statement.
    b. A summary of relevant baseline data on the institution, including:
        i. A neighborhood context plan.
        ii. An inventory of current programs and services.
        iii. A current census of the number of people using the institution (e.g., employees, enrollment, patients), with an indication of maximums and minimums over time.
        iv. An inventory and/or plan of all existing property holdings within the main campus and within the City of Portland, including an indication of functional land use links between off-campus properties and the main campus (e.g. remote parking).
        v. An inventory and/or plan of existing facilities, including data on use, floor area, and any existing functional connections between facilities.
    c. A summary of the baseline characteristics of the existing campus and context of the institution, based on identified study areas, including:
        i. A summary of existing resources, such as historic, open space, and natural resources.
        ii. A summary of the existing transportation system, including vehicular, pedestrian, transit, bicycle, and parking supply, demand, and utilization.
        iii. A summary of existing public infrastructure supporting the institution, including demand, utilization and any capacity issues.
        iv. Relevant municipal plans, projects, and studies that may influence the IDP study area and opportunities for integrating institutional growth.
    d. A summary of public involvement in the development of the IDP, including major areas of public concern.
2. Assessment of future institutional growth and change, including:
    a. A description of institutional needs and areas of future institutional growth and change, with:

i. A projected census of users (e.g., enrollment /employment/patient/ visitor figures and anticipated variations over time).
ii. Institutional objectives for property both within and outside the IOZ boundary (e.g. acquisition and/or disposition), including an indication of any functional land use connection for sites outside the IOZ boundary to the main campus.
iii. A development plan addressing anticipated or potential institutional needs and physical improvements, including the proposed boundary of the IOZ and any phasing of the development.

b. Analysis and associated plans that address the following elements in terms of anticipated growth or potential impacts within the identified study area, and support the development parameters as set out in the regulatory framework, including:
   i. Transportation and access, with:
      a) An analysis of the projected changes in parking demand, supply, and impacts to the off-street and on-street parking capacity, including an explanation of the proposed parking plan.
      b) An analysis of the projected changes in vehicular, pedestrian, transit, and bicycle access routes and facilities, their capacity, and safety.
      c) A transportation, access, and circulation plan, representing the synthesis of the analysis, and including a program of potential improvements or set of guidelines to address access deficiencies to and within the IOZ. The plan should outline proposed mechanisms and potential strategies to meet transportation objectives, including transportation demand management, phasing, and when a Traffic Movement Permit (TMP) may be required.
   ii. Environment, with:
      a) An analysis of potential cumulative impacts on natural resources and open spaces.
      b) An analysis of projected energy consumption, hazardous materials generation, noise generation, and similar issues as relevant.
      c) An environmental plan, representing the synthesis of the analysis and

including a proposed program or set of guidelines for future preservation, enhancement, conservation, and/or mitigation.

iii. Infrastructure, with:

a) An analysis of projected public utility demand and the capacity of associated infrastructure.

b) An analysis of projected public safety needs and projected impacts to the capacity of these services.

c) An infrastructure plan, representing the synthesis of the analysis and including a proposed program or set of guidelines to support sustainable growth.

iv. Design, with:

a) An analysis of projected impacts to neighboring properties and public spaces, including potential shadow, wind, and lighting impacts, impacts of height and massing, and impacts to historic resources.

b) An analysis of transition areas between the institution and adjoining neighborhoods, including identification of key character defining components of the surrounding context.

c) An analysis of existing Crime Prevention Through Environmental Design issues and identification of how these principles would be addressed as part of the proposed campus development.

d) A conceptual built environment/public realm plan, representing the synthesis of the analysis and including a set of guidelines for urban design, landscape, open space, and streetscape treatments, with particular attention to the treatment of edges (both within and abutting the IOZ boundary) to achieve compatible transitions.

v. Neighborhood engagement, with:

a) A plan for ongoing community engagement that represents best practices, promotes collaborative problem solving around community concerns, fosters transparency, and identifies mechanisms for neighborhood feedback and institutional accountability.

b) A property management framework that identifies the institution's process for handling operational property issues with neighbors.
c) Strategies for assuring communication pertaining to property acquisition and disposition in surrounding neighborhoods.
d) A set of construction management principles to apply to all institutional construction, that represent best practice, aim to minimize short- and long-term construction impacts on surrounding residents and businesses, and ensure a clear communication strategy is in place in advance of construction.

D. Standards of review. The IDP shall:
1. Address all content requirements, unless explicitly modified by the Planning Authority or Planning Board.
2. Reflect the issues/topics identified in the required public process.
3. Demonstrate consistency with the City's Comprehensive Plan and the purpose of this ordinance.
4. Demonstrate how the property ownership, proposed growth, and requested regulatory framework relate to the institution's mission.
5. Demonstrate that traffic and parking impacts have been anticipated and that the proposed parking provision is justified as based on an assessment of options for reducing traffic and parking demands.
6. Outline an approach to open space, natural, and historic resources that supports preservation and enhancement.
7. Demonstrate that potential cumulative environmental impacts have been anticipated and can be minimized or satisfactorily mitigated.
8. Demonstrate that utility impacts have been anticipated and can be minimized or satisfactorily mitigated.
9. Reflect a comprehensive design approach that ensures appropriate transitions with the existing or future scale and character of the neighboring urban fabric.
10. Promote compatibility with existing or future uses in adjacent neighborhoods, maintain housing, and support local amenities.
11. Anticipate future off-site improvements that would support the integration of the institution into the community and city-wide infrastructure.
12. Conform with the standards of Article 16 for designated landmarks or for properties within designated historic districts or designated historic landscapes, if applicable. When proposed adjacent to or within 100 feet of designated landmarks, historic districts, or historic landscapes, the IDP shall be generally compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity.

13. Incorporate strategies to support clear communication and ongoing public engagement between institutions and nearby neighbors.

E. Approval. Upon finding that an eligible institution's IDP meets the standards of review, the Planning Board shall approve, approve with conditions, or deny an IDP.

F. Monitoring. The IDP shall establish a schedule for reporting on IDP implementation at regular intervals of not more than ten years from the date of approval of the initial or amended IDP, and identify thresholds for IDP amendments.

G. Amendments. An approved IDP shall guide campus development unless and until amended. If at any time the eligible institutions request minor amendments to an approved IDP, the Planning Authority may approve such minor amendments, provided that they do not constitute a substantial alteration of the IDP and do not affect any condition or requirement of the Planning Board. The applicant shall apply with a written statement of the proposed amendment and proposed amended IDP to the Planning Authority, whose decision as to whether the amendment is minor shall be final. Major amendments shall be reviewed by the Planning Board. When the IDP is amended, the baseline data in the IDP shall be updated as appropriate.

8.3.5 Regulatory framework

A. Purpose. The regulatory framework translates the IDP into a set of clear and specific zoning requirements for the IOZ that constitute the text and map amendments to the City's Land Use Code and zoning map. The zoning requirements are anticipated to include parameters that guide the growth and change of the institution as well as broad strategies to address potential impacts, with plans and details to be developed under site plan review.

B. Applicability. The regulatory framework shall apply only to properties that are within the IOZ boundary and to which the eligible institution holds right, title, or interest. For these properties, the Institutional Overlay Zone shall supersede the underlying zoning, and all new institutional development shall be conducted in compliance with the regulatory framework and the approved Institutional Development Plan. Properties located within the Institutional Overlay Zone not subject to right, title, or interest of the eligible institution shall continue to be governed by the regulations of the underlying zoning designation.

C. Uses. Institutional uses, including hospitals and higher education facilities, shall be permitted, as shall uses that are functionally integrated with, ancillary to, and/or substantively related to supporting the primary institutional use, consistent with the applicable approved IDP.

D. Content. The regulatory framework shall reflect the information and analysis of the IDP. The content shall be tailored to address the issues associated with the institution and its neighborhoods. The regulatory framework should be succinct and use tables and graphics to address the following, if applicable:

1. *Zoning boundary of the IOZ.* The area to

which the regulations apply, as shown on the zoning map, subject to other provisions of this ordinance (i.e. the map amendment to the City's zoning map).

2. *Phasing and schedules.* Requirements that relate to proposed phases; a chart showing the schedule or thresholds for submitting an amended IDP (or elements of an IDP, such as a Transportation Demand Management (TDM) Plan).
3. *Uses*. Clarification, as necessary, on permitted uses.
4. *Dimensional requirements.* Graphics, sketches, or standards, including details for transition zones within the IOZ boundary.
5. *Transportation.* Elements such as Transportation Demand Management Plan (TDM) trip reduction targets or contribution to area-wide TDM measures; broad parameters for ensuring pedestrian, vehicular, bicycle and transit access and safety; parking ratios and management strategies; thresholds for access improvements.
6. *Environment.* The approach to the inclusion of open space and preservation of environmentally-sensitive areas.
7. *Mitigation measures.* The broad approach to identified mitigation measures, which would be addressed in greater detail in the site plan review process; thresholds for addressing deficiencies; goals for preservation/protection.
8. *Design.* Graphics and standards to clarify building placement and envelope (height and massing); guidelines for integration of site features; required treatments for transition zones and treatment for all edges (both within and abutting the IOZ boundary); guidelines for establishing campus identity.
9. *Neighborhood integration.* Thresholds and strategies for neighborhood engagement; mitigation of impacts on neighboring properties, including construction impacts; buffering requirements; objectives for pedestrian linkages and safety; other requirements that address community concerns.
10. *Monitoring.* A schedule for regular monitoring reports on IDP implementation in accordance with the IDP.

E. Standards of review. The regulatory framework shall:
   1. Be consistent with the Comprehensive Plan and the Institutional Development Plan.
   2. Provide a clear zoning framework, using graphics and tables as appropriate, to apply to future site plan reviews.
   3. Provide specific regulatory statements as appropriate that respond to concerns raised during the required public involvement.
   4. Outline measurable goals and thresholds for improvements or other actions identified in the IDP to be advanced in subsequent site plan applications.

F. Approval/adoption. The Planning Board shall review the proposed regulatory framework against the standards of review and make a recommendation on the institution's IOZ designation and regulatory framework to the City Council for adoption as part of this Land

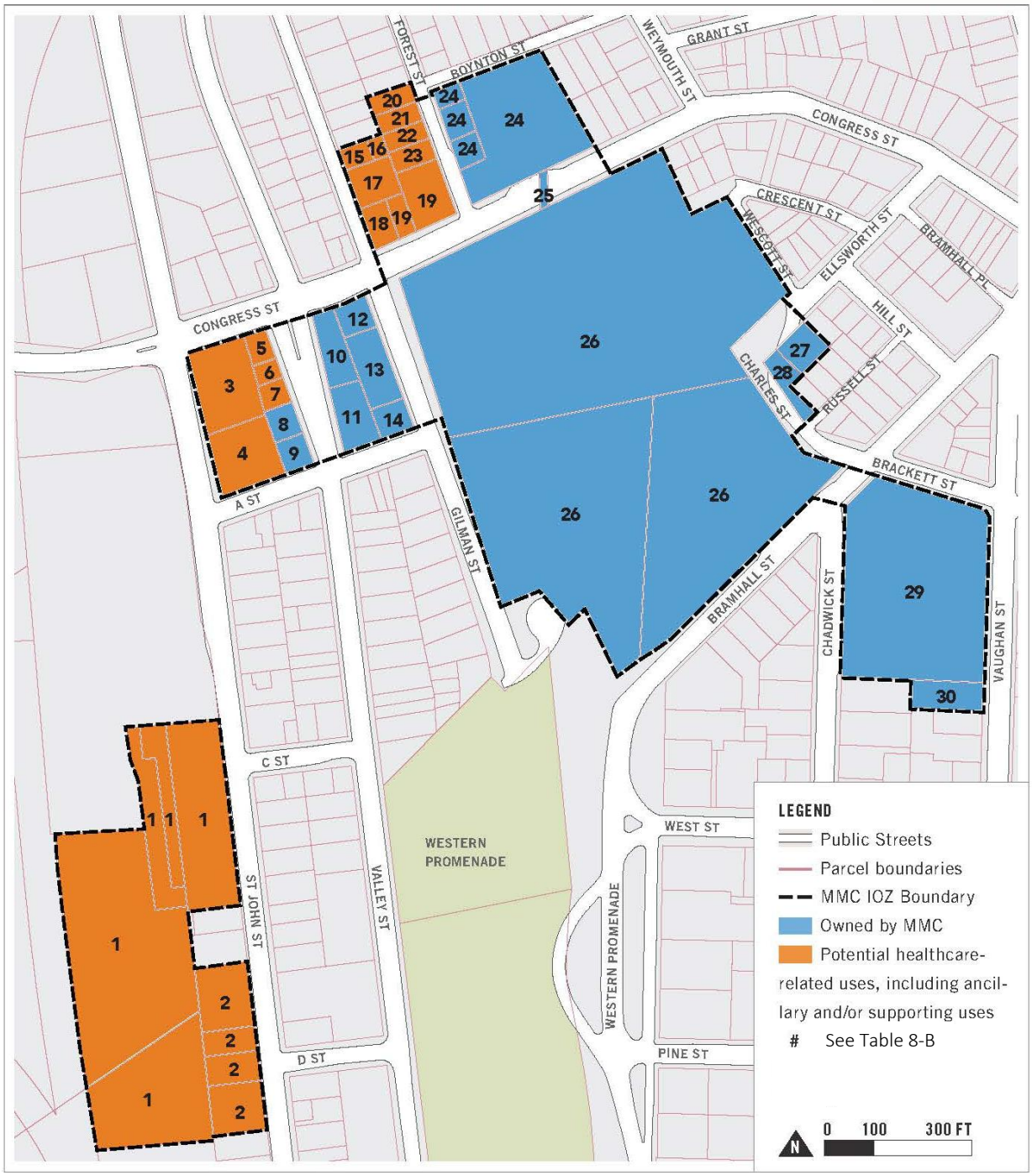
Use Code.

G. Amendments. A regulatory framework and IOZ boundary as adopted by the City Council shall remain in force unless and until amended. Amendments to a regulatory framework and/or IOZ boundary may be brought forth by the City or eligible institution. Proposed amendments to the IOZ boundary or regulatory framework shall be reviewed by the Planning Board and adopted by the City Council subject to the provisions of this ordinance.

8.3.6 Maine Medical Center Institutional Overlay Zone Regulatory Framework

A. Applicability. All development proposed by Maine Medical Center (MMC) within the boundary of the MMC Institutional Overlay Zone (IOZ) shall be consistent with the approved Institutional Development Plan (IDP), consistent with the Comprehensive Plan, and meet applicable standards of the Land Use Code, unless such standards are superseded by the following regulatory framework. This regulatory framework shall govern future development by MMC within the IOZ unless amended by the Portland City Council upon formal application of MMC. The MMC Institutional Overlay Zone shall have the boundaries depicted in Figure 8-C, and shall include the properties listed in Table 8-**B**.

B. Updates and amendments. It is intended that the IDP will be updated on a regular basis to



Note: Refer to Table 8-C for a list of permitted uses.

FIGURE 8-C: MMC IOZ BOUNDARY

TABLE 8-B: LIST OF PROPERTIES INCLUDED IN THE MMC IOZ

Map#	Legal Description	Address	Acreage	Ownership
1	64-A-2-8-9-11/74-A-7/75-A-6	222 St John St.	4.6516	Owned by others
2	68-D-1-3-13-14-16	180 St John St.	0.9494	Owned by others
3	65-G-1	950 Congress St.	0.4628	Owned by others
4	64-B-1	275 St John St.	0.4163	Owned by others
5	65-G-2	942 Congress St.	0.0659	Owned by others
6	65-G-3	940 Congress St.	0.0482	Owned by others
7	65-G-4	274 Valley St.	0.0667	Owned by others
8	65-G-5	268-270 Valley St.	0.0978	MMC
9	64-B-2	262-266 Valley St.	0.0895	MMC
10	65-H-1	932 Congress St.	0.1864	MMC
11	65-H-9	261 Valley St.	0.2185	MMC
12	65-H-2	930 Congress St.	0.1040	MMC
13	65-H-5	52 Gilman St.	0.2384	MMC
14	65-H-8	44 Gilman St.	0.1128	MMC
15	65-E-22	85 Gilman St.	0.0565	Owned by others
16	65-E-32	85 Gilman St.	0.0282	Owned by others
17	65-E-24	81 Gilman St.	0.1653	Owned by others
18	65-E-28	919 Congress St.	0.1059	Owned by others
19	65-E-29-30	909 Congress St.	0.3233	Owned by others
20	65-E-19	22 Forest St.	0.0826	Owned by others
21	65-E-21	18 Forest St.	0.0831	Owned by others
22	65-E-23	14 Forest St.	0.0826	Owned by others
23	65-E-25	12 Forest St.	0.0883	Owned by others
24	53-I-1-2-3-12	887 Congress St.	1.3400	MMC
25	53-X-1	Congress St. Pedestrian Walkway	---	MMC
26	53-D-7/54-H-1/64-C-1	22 Bramhall St.	12.563	MMC
27	54-C-6	34 Ellsworth St.	0.1341	MMC
28	54-C-10	40 Ellsworth St.	0.1155	MMC
29	54-I-1	308 Brackett St.	2.5200	MMC
30	63-B-8	214 Vaughan St.	0.1983	MMC

Properties owned by MMC are listed under MMC or MMC Realty Corp.
MMC will not extend its functionally-related Bramhall campus hospital operations beyond the boundary of the IOZ within the City of Portland without further amendment to the IDP. This includes any expansion of functionally-related operations that displace residential uses outside of the IOZ boundary. A functional relationship is defined as uses or activities that are traditionally or customarily linked to the day-to-day operations of the MMC Bramhall Campus that would relocate a significant proportion of the total employee population or activities.

ensure that the data is current and that the document remains accurate. Accordingly, monitoring reports will be filed every three years and shall include a summary of progress on IDP implementation and of acquisitions and divestment since the date of IDP approval. At the time of the submission of the monitoring report, MMC shall identify any updates to the IDP which may result from updated master planning, changes in baseline information, or changes in the adjacent neighborhoods which affect MMC, to allow the IDP to remain current. Updates and minor amendments not described below shall be reviewed administratively by the Planning Authority.

1. Minor amendments that impact phasing of the long-term development blocks or change the approach to parking, transportation, neighborhood engagement or design shall be reviewed by the Planning Board for consistency with the objectives of the IDP. In addition to consistency with the objectives of the IDP, review of phasing and development program amendments shall focus on integration with the campus and impacts on transportation or infrastructure. This review may occur simultaneously with the site plan review of an anticipated project.

2. Major amendments shall be reviewed by the Planning Board and are required under the following circumstances:
   a. A change to the regulatory framework is required.
   b. The IDP is no longer representative of the institutional mission or approach to community as a result of redevelopment in the area or City upgrades to neighborhood planning (such as roadway changes, infrastructure upgrades, community design, lighting).
   c. Development proposed by MMC is inconsistent with the master facility plan, transportation plan intent, design plan intent, or environment and infrastructure plan intent

TABLE 8-C: PERMITTED USES

Healthcare facilities, including but not limited to the following ancillary and/or supporting uses:

- Hospital
- Medical office/Clinic
- Laboratory center/services
- Research and development (R&D) laboratory or facility
- Educational facility/Conference center
- Administrative/Business office
- Accessory service or trade uses
- Guest house
- Multi-family housing for healthcare staff and students
- Rehab/Skilled nursing facility
- Retail
- Restaurant/cafe
- Employee service amenities
- Day care center
- Fitness center or gymnasium
- Parking lot or garage
- Bicycle storage
- Heliport
- Antenna station
- Outdoor use areas, such as green areas, parks, gardens, art installations, and other active and passive non-commercial recreation spaces

identified in the IDP.

3. Annual monitoring reports will be submitted for MMC's Transportation Demand Management (TDM) Plan. TDM monitoring reports shall include a summary of progress towards targets established in the TDM Plan.

C. Uses. In addition to the uses permitted in the underlying zone, the uses in Table 8-C are permitted as a matter of right. In recognition that MMC is part of a mixed-use area of the city, with important existing services and businesses that serve the local and wider community, healthcare facility development fronting onto Congress Street and St. John Street shall activate the public realm, to the extent able, with uses such as service and retail/restaurant, landscaping, active building entrances, pocket parks, etc., on the ground or other publicly accessible level, consistent with
the design intent contained in the approved IDP. In areas identified in the IDP as "Priority zone for commercially oriented/retail uses," usable ground floor retail, restaurant, or comparable community-oriented use that provides services to local residents and employees both during the day and evening hours is required. In areas labeled "Street activation through location of windows, entrances, etc.," usable ground floor retail, restaurant, or community-oriented use is encouraged to the extent practicable. Such uses, where constructed or facilitated as part of a healthcare related development, are expressly permitted whether ancillary or supporting the healthcare facility or not, and shall be open and welcoming to the general public in addition to employees or visitors of MMC.

D. Dimensional requirements. The MMC Institutional Overlay Zone shall have the dimensional requirements listed in Table 8-D and depicted in Figures 8-C and 8-D.

E. Design. New buildings within the IOZ shall adhere to the design guidelines set forth in Chapter 5: Design of the IDP and the site plan standards of Article 13.

F. Signs

1. At the time of first site plan review following IDP approval, a unified campus-wide signage plan shall be submitted for review and approval by the Planning Authority. Any update to such plan due to a change in name or logo shall not require amendment to the IDP.
2. Signs shall be designed in accordance with the campus-wide signage plan. All signs shall be designed in proportion and character with building facades and adjacent street typology. All signs shall be coordinated with the building and landscaping design and be constructed of appropriate permanent, high quality materials and finishes.

G. Transportation

1. *Transportation Demand Management (TDM)*
   a. At the time of the first site plan review following IDP approval, MMC shall submit a campus-wide TDM Plan substantially in accordance with those TDM objectives and strategies identified in the approved Institutional Development Plan. The TDM Plan may be phased into short-,



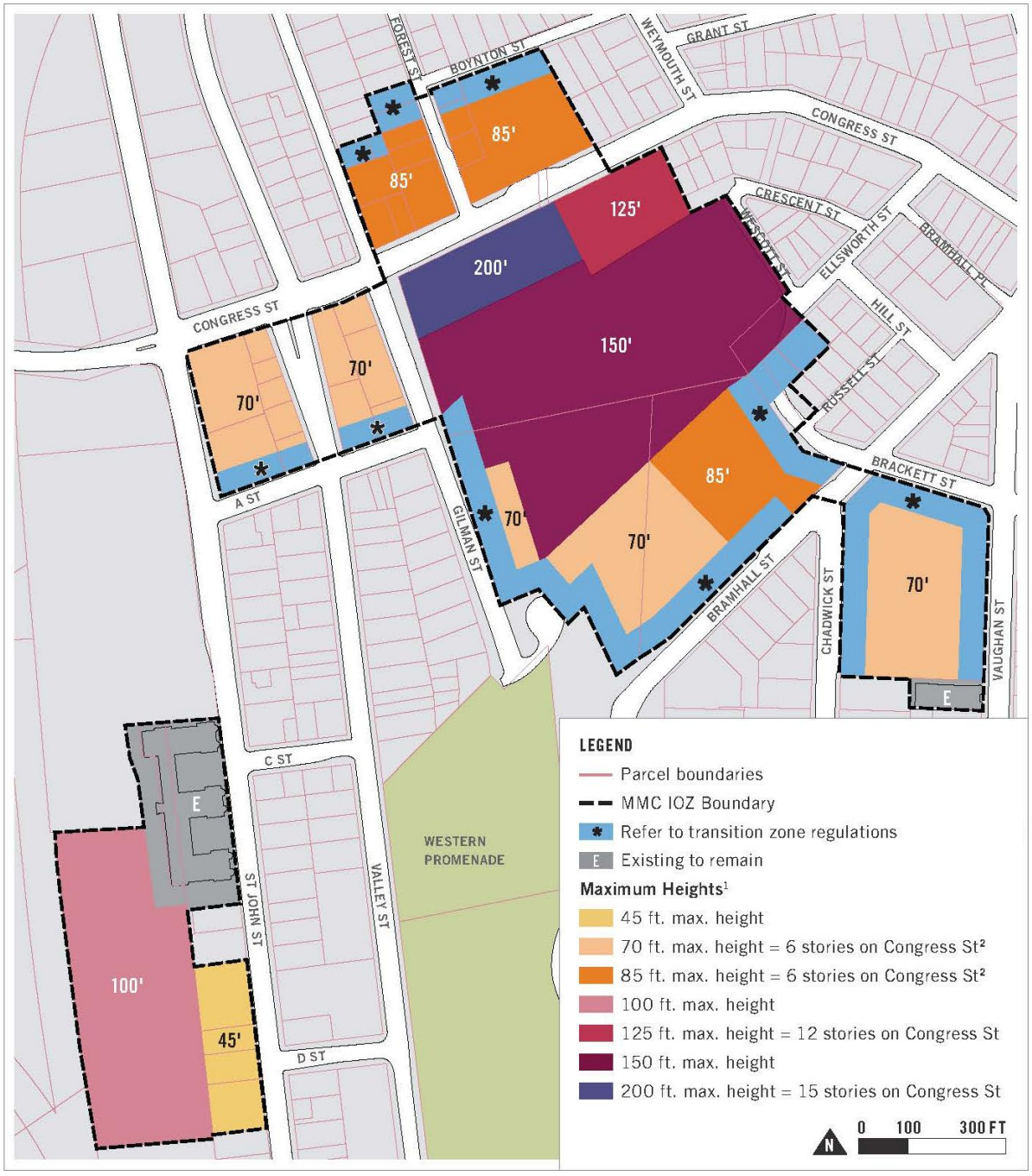
mid-, and long-term actions to allow for progressive implementation over time.

b. The TDM Plan shall be designed to provide transportation choice with the goal of reducing parking demand

TABLE 8-D: MMC IOZ DIMENSIONAL REQUIREMENTS

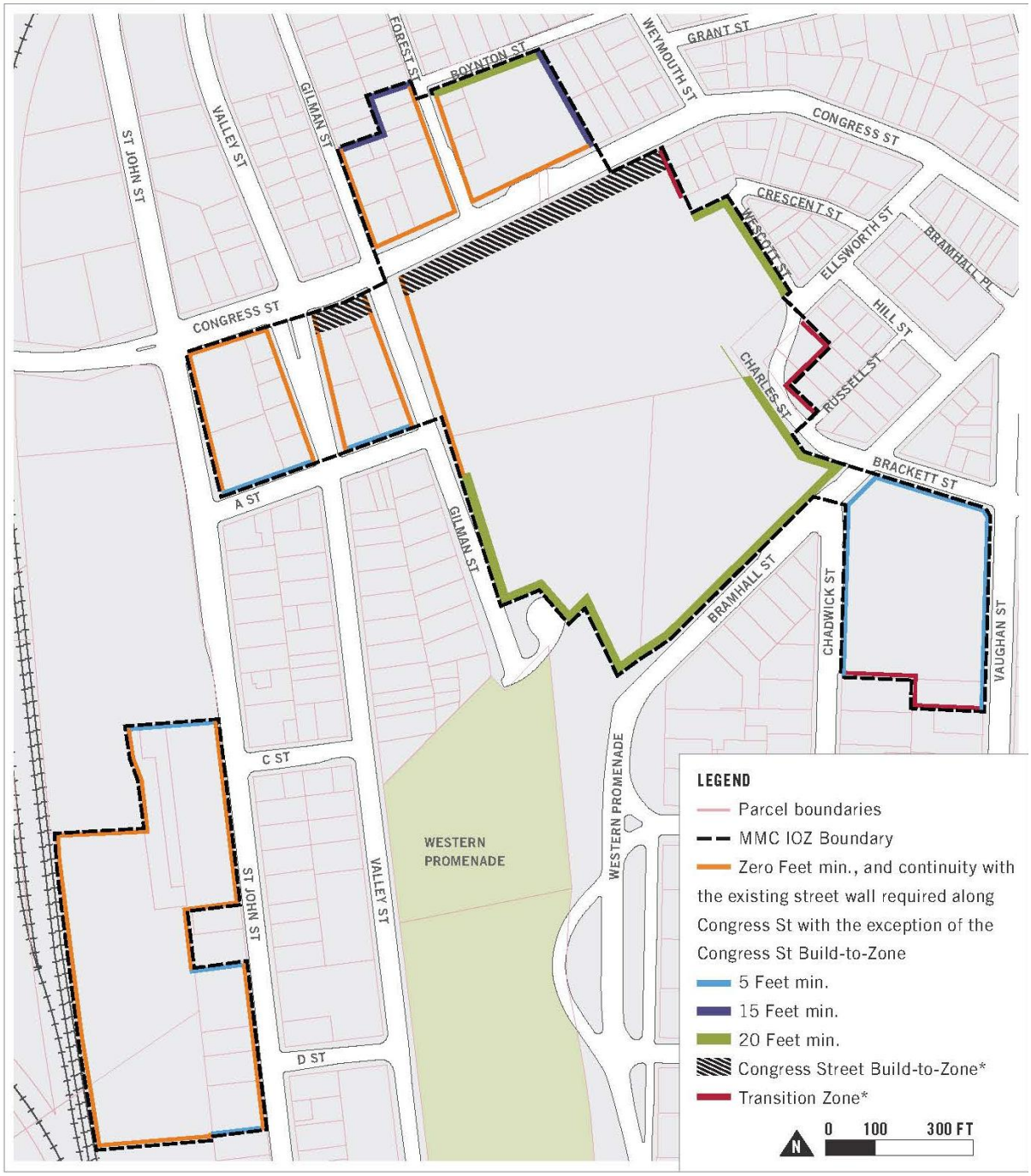
Building heights (max.)	Max. building heights for new buildings within the IOZ shall be governed by the Maximum Building Heights Map in Figure 8-D, or by the transition zones clause of this table for those buildings located in transition zones. Refer to IDP "Chapter 5. Design" for methodology on determining heights.
Building heights (min.)	Three stories, except in transition zones, where the minimum building height shall be two stories. Minimum building heights shall not apply to building awnings, associated kiosks, pavilions or similar building components.
Building length (max.)	Length of proposed parking garage at 222 St John St shall not exceed 500 feet as measured roughly parallel to St John St.
Building setbacks (min.)	Minimum building setbacks shall be governed by the Minimum Setbacks Map in Figure 8-E. Additional requirements are listed in the transition zones and Congress Street build-to zone sections of this table.
Congress Street build-to zone[1]	A build-to zone is identified for some properties that abut Congress Street. See Minimum Setbacks Map in Figure 8-E for the location of build-to zone. i. The Congress Street build-to zone extends between 0 to 40 feet from the right-of-way boundary. ii. Buildings located in these parcels must have a minimum of 70% of the façade facing Congress Street located within the build-to zone.
Transition zones	Transition zones are identified inside the IOZ boundary in areas where the IOZ abuts or is located across a public right-of-way from a residential zone or a historic-designated district. See Maximum Building Heights Map in Figure 8-D for location of transition zones. i. Transition zones shall extend 50 feet into the parcel from the parcel boundary. ii. Transition zones that abut a Residential zone with or without an intervening public right-of-way shall have a maximum height limit that matches the maximum height permitted within that Residential zone. iii. In areas where the IOZ abuts a residential zone without an intervening public right-of-way, minimum side and rear yard requirements of the abutting residential zone apply within the IOZ boundary, unless noted otherwise in Minimum Setbacks Map in Figure 8-E.

[1]A "build-to zone" is the area on the lot where all or a portion of the street-facing building facade must be located, measured as a minimum and max. yard (setback) range from the public right-of-way boundary.



Notes: 1. Minimum building heights also apply. Refer to Table 8-D.
2. For buildings with residential use above the ground floor, the following height maximums apply: 70 ft. maximum height = 7 stories, and 85 ft. maximum height = 8 stories.

FIGURE 8-D: MAXIMUM BUILDING HEIGHTS



* Refer to Table 8-D Dimensional Requirements

FIGURE 8-E: MINIMUM SETBACKS

and single-occupancy vehicle trips to and from MMC by employees and visitors.

b. The TDM Plan shall establish parking and trip reduction targets associated with the short-term (0-2 years), mid-term (2-5 years), and the long-term (5+ years), as well as a data collection plan.

2. *Parking.* Parking requirements in the IOZ shall be established at the time of site plan review based on a parking study that includes a campus-wide analysis of demand and supply. The parking demand study shall determine parking requirements and shall be sufficient to alleviate parking pressure on surrounding neighborhoods.

Parking studies developed by MMC shall integrate parking and trip reduction achievements and data contained in the TDM Plan.

H. Environment. Development proposed by MMC shall be designed to integrate with the surrounding context, including open space and pedestrian networks and infrastructure.

I. Mitigation measures. MMC shall mitigate site plan impacts to off-premise infrastructure in a manner proportionate to those impacts. Mitigation may include financial or in-kind contributions to existing or planned City projects focused on mitigating the impacts of MMC development. Mitigation contribution shall be determined based on the City's standard procedure in effect at the time of site plan review.

J. Neighborhood integration and engagement

1. For the purpose of keeping surrounding residential areas appraised of its future development plans, and to address any neighborhood issues related to the operations of the MMC Bramhall campus, MMC shall adhere to the ongoing community engagement principles identified in the approved Institutional Development Plan.

2. MMC shall conduct ongoing community engagement, including the formation of a Neighborhood Advisory Committee comprised of representatives of MMC, the Parkside neighborhood, the West End neighborhood, the Western Promenade Neighborhood Association, the St. John Valley neighborhood, the Libbytown neighborhood, and the City.

K. Construction management

1. At the time of site plan review, MMC shall submit a construction management plan substantially in accordance with those construction management principles identified in the approved Institutional Development Plan for review and approval by the Planning Authority.

2. The construction management plan shall include a construction schedule, as well as strategies for managing neighborhood communication and noise, air quality, traffic, and parking impacts associated with the construction as set forth on the construction management template developed by the City and attached and incorporated to the IDP as Appendix A.

L. Other requirements

1. *Helipad.* Proposed changes to MMC's helipads, including changes to preferred flight routes, shall be reviewed and

approved by the Planning Authority in accordance with the approved Institutional Development Plan.

2. *Snow ban parking.* When the City of Portland declares a snow parking ban, MMC shall make parking available to neighbors in a designated parking area on or near its campus upon the following condition: Due to the patterns of patient flow in the hospital, the hours of snow ban parking for registered vehicles during an announced City of Portland snow parking bans are 6:00 p.m. until 6:00 a.m. Vehicles that are not moved out of these parking areas by the applicable time each morning are subject to towing at the owner's expense.
3. *Healthy communities.* Recognizing that a stable residential and commercial environment is key to the health of any neighborhood, MMC commits to supporting its existing and future neighbors in the St. John Valley, Parkside, West End, Western Prom, and Libbytown neighborhoods. Accordingly, MMC shall implement and participate in the healthy communities programs as described below.
    a. Caring Community Grants. MMC shall develop an annual grant program with available funds of up to $30,000. Goals, priorities, eligibility requirements, program guidelines, and allocation approach will be developed by the MMC Neighborhood Advisory Committee, as described in Chapter 6 of the IDP approved on September 26, 2017. Neighborhood associations or other entities located or operating in the St. John Valley, Parkside, West End, Western Promenade, and Libbytown neighborhoods may apply for grant funding relating to the following initiatives:
        i. Neighborhood investment and Infrastructure: Focused on creating strong, safe, accessible and vibrant neighborhoods.
        ii. Quality of life: Focused on improving access to recreation, arts or cultural experiences in the neighborhoods.
        iii. Diversity and inclusion: Focused on fostering the building of relationships and understanding among diverse groups, including capacity building and outreach activities.
        iv. Public Safety: Focused on supporting public safety programs through training programs, equipment or other means in the neighborhoods.
        v. Environmental sustainability: Focused on preventing waste, increasing recycling or supporting other programs that work to improve the environment.
    b. Healthy Neighborhoods Program. MMC shall initiate and adopt a memorandum of understanding (MOU) by and between MMC, the City of Portland, and other community partners establishing a

Healthy Neighborhoods program. Such a program shall be designed to fund and execute housing and community improvement and development programs in St. John Valley and the other neighborhoods surrounding MMC's Bramhall Campus.

8.3.7 The Roux Institute at Northeastern University Overlay Zone Regulatory Framework

A. Applicability. All development proposed by the Roux Institute at Northeastern University ("Roux Institute") within the boundary of the Roux Institutional Overlay Zone (IOZ) shall be consistent with the approved Institutional Development Plan (IDP), consistent with the Comprehensive Plan, and meet applicable standards of the Land Use Code, unless such standards are superseded by the following regulatory framework. This regulatory framework shall govern future development by the Roux Institute within the IOZ unless amended by the Portland City Council upon formal application of the Roux Institute. The Roux Institutional Overlay Zone shall have the boundaries depicted below and shall include the approximately thirteen-acre property located at 1 Bean Pot Circle and identified as parcels 447-Aoo1 and A002 in the City's assessing records.

B. Phasing and monitoring

1. The Roux Institute campus will be developed in phases, as set forth in the IDP. The IDP will be updated on a regular basis to ensure that the data is current and that the document remains accurate.



FIGURE 8-F: ROUX INSTITUTIONAL OVERLAY ZONE BOUNDARY

Accordingly, monitoring reports will be filed every three years and shall include a summary of progress on IDP implementation and of acquisitions and divestment since the date of IDP approval. At the time of the submission of the monitoring report, any updates to the IDP shall be identified which may result from updated master planning, changes in baseline information, or changes in the adjacent neighborhood which affect the campus, to allow the IDP to remain current. Updates and minor amendments not described below shall be reviewed administratively by the Planning Authority.

2. At completion of each phase, the Roux Institute campus shall have the appearance of a complete and comprehensive design. Permanent and meaningful public space shall be

established in the first phase to ensure public benefit. Interim conditions shall be designed for a pleasant pedestrian experience through planting, lighting, wayfinding, graphics, artwork, or ornamental fencing to provide screening, buffers, and enhancement. Interim areas of the site which are not actively used for parking or construction staging will be appropriately landscaped or accommodate gathering on lawns or other aesthetically hardened spaces.

3. Minor amendments that change the approach to parking, transportation, neighborhood engagement or design shall be reviewed by the Planning Board for consistency with the objectives of the IDP. This review may occur simultaneously with the site plan review of a proposed project.
4. Major amendments shall be reviewed by the Planning Board and are required under the following circumstances:
    a. A change to the regulatory framework is required.
    b. The IDP is no longer representative of the institutional mission or approach to community as a result of redevelopment in the area or City upgrades to neighborhood planning (such as roadway changes, infrastructure upgrades, community design, lighting).
    c. A change in approach to parking, transportation, neighborhood engagement or design is inconsistent with the objectives of the IDP, resulting in a modification to the applicable objectives.
5. Review of major amendments may occur simultaneously with the site plan review of the proposed project.

C. Uses

1. The Roux Institute **c**ampus will encompass a variety of uses to support the mission of the Institute. Campus uses will include classrooms and laboratories, housing, faculty offices, dining areas, convening spaces, fitness centers, retail facilities, entrepreneurial spaces, light manufacturing, incubator space, research and design facilities, hotel, and office space. The mixture of uses is intended to support collaboration with private industry, other institutions, and community organizations. A range of rental housing options will provide on-site opportunities for students, faculty, staff, and their families, easing some of the housing pressure and traffic that might otherwise result from new residents attracted to Portland by the institute. Housing units not occupied by residents affiliated with the Roux Institute may be made available to the public to further assist in easing the housing pressure.
2. The Roux Institute campus will be designed to include uses that will welcome neighbors to the campus, including publicly available open space, waterfront access, recreational opportunities, restaurant, dining, small neighborhood grocery, and/or other limited retail options.
3. In addition to the uses permitted in the underlying zone, laboratory and research

facilities, low-impact industrial uses, and high-tech manufacturing shall also be permitted as a matter of right in all buildings that are located within the IOZ and on land owned or leased by the Roux Institute. On the pier residential uses are explicitly prohibited and any allowed use on the pier must be a functionally water-dependent use. Ground floor retail, restaurant, or comparable community-oriented uses that provide services to local residents, students, faculty and staff shall be expressly permitted whether ancillary to or supporting the educational institution, and shall be open and welcoming to the general public.

4. Within the boundary of the IOZ, hotels shall be limited as follows:
   a. No more than one hotel shall be located in the IOZ.
   b. The hotel shall contain no more than 130 rooms.
   c. The hotel shall be no more than eight stories in height, not including structured parking. There shall be no more than two levels of above grade structured parking beneath the first floor of the hotel. Nothing herein is intended to preclude the co-location of hotel use and structured parking on one or more levels of the hotel.

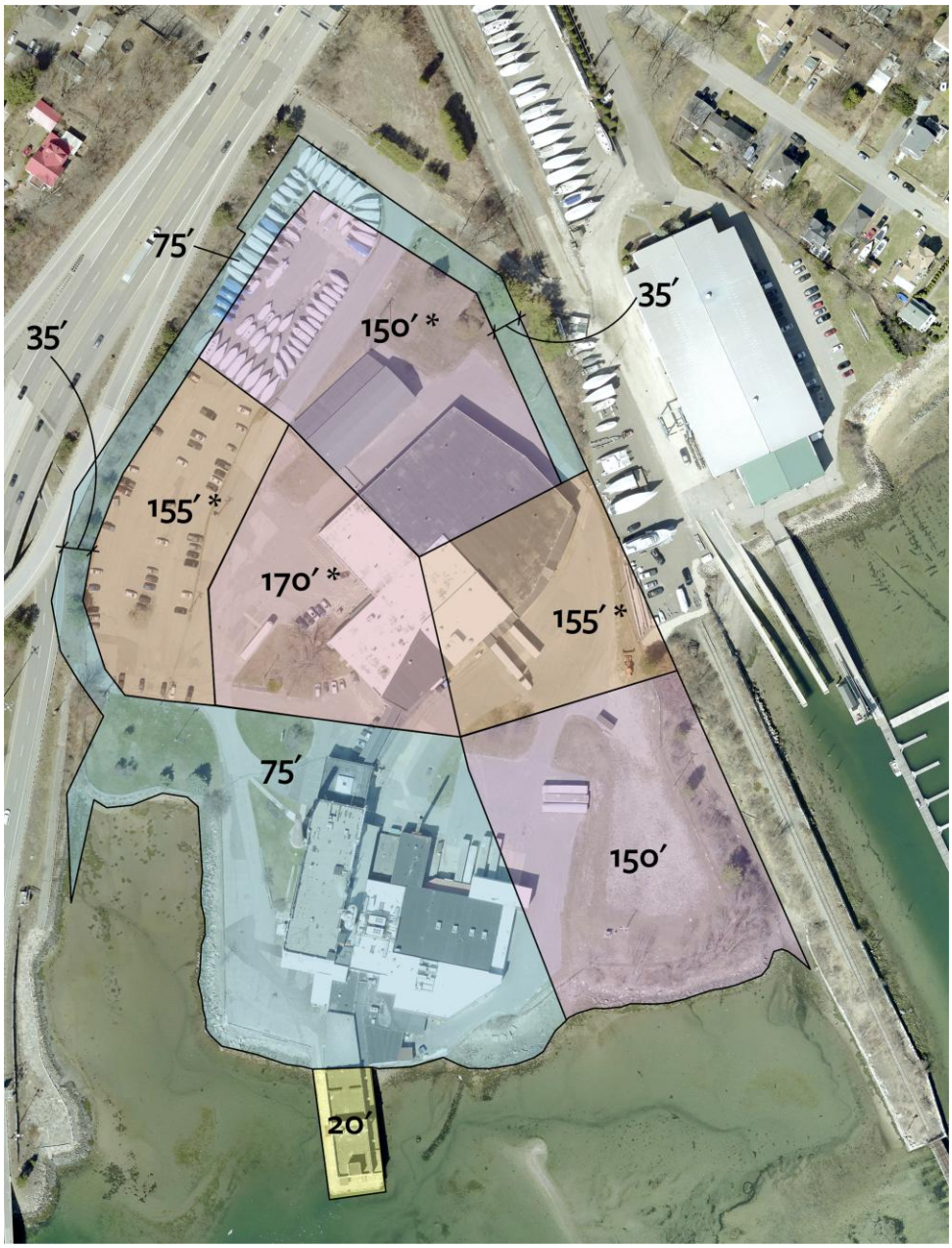
D. Dimensional requirements
   1. *Applicability.* All principal buildings and structures located within the IOZ and located on land owned or leased by the Roux Institute shall be subject to the dimensional requirements of the underlying zone, except where modified by the provisions of this section.
   2. *Rules of measurement*
      a. Publicly accessible corridor: A corridor accessible to the general public that is open to the sky or enclosed with a minimum width of 20 feet. Enclosed portions of publicly accessible corridors shall have a minimum height of 30 feet.
      b. Street wall: Within the Roux IOZ the term "street wall" shall mean a wall or portion of a wall that includes the principal entry to a building facing a street, public right-of-way, major pedestrian access routes, or open spaces. Orientation of the principal entry to a building shall be determined by the applicant.
   3. *Maximum building heights.* Maximum building heights for new principal buildings in the IOZ shall be governed by the Roux IOZ Height Map (Figure 8-G).
   4. *Minimum and maximum street wall heights.* New principal buildings in the IOZ shall rise to a minimum street wall height of 45 feet and may rise to a maximum street wall height of 105 feet.
   5. *Stepback requirements*. At a height not lower than the minimum street wall height or higher than the maximum street wall height, a stepback with a minimum depth of at least 10 feet shall be provided. Required stepbacks shall only apply to a building's street wall.
   6. *Building length requirements*
      a. For buildings with a length greater than 250 feet, a continuous, publicly accessible corridor that connects two

streets, public rights-of-way, major pedestrian or bicycle access routes, or open spaces shall be provided, with the precise location to be identified, defined, and reviewed under site plan review. Building length shall be measured at grade in a straight line between the outer corners of the designated street wall.

b. Publicly accessible corridors need not be linear and may have necessary grade changes.
c. Any building wall situated along a publicly accessible corridor shall be designed to provide sufficient architectural and graphic amenities to provide visual interest, transparency between interior activities and pedestrian activity, or active uses and relate the building, and its use to passersby.
d. Publicly accessible corridors shall:
    i. Include bicycle and pedestrian amenities such as benches and other seating;
    ii. Be illuminated to levels that are adequate but not excessive for the safety, comfort, and conveniences of occupants and users of the site, and
    iii. Provide access to the public during regular operating hours of the institute.
e. The Roux Institute may close off public access to a publicly accessible corridor during special events or when determined necessary by the institute for security or public safety purposes.

7. *Transitions and buffers*
    a. The campus is surrounded by existing buffers, with I-295 to the west, state-owned vacant parcels to the north, the rail corridor and marine business to the east, and Casco Bay to the south. In addition to the existing buffers, development shall further ease the transition to and from the campus.
    b. Public open space will ease transition from the smaller scale of Sherwood Street. A transition onto the campus will also be accomplished through thoughtful façade design at the pedestrian level. Potential nuisance features like dumpsters, air handlers, and parking will be appropriately screened. Buildings will avoid blank walls to respect the adjacent neighborhood and facilitate a sense of permeability and welcome.
    c. The shoreline transition area between the buildings and the water will serve as meaningful public open space. Building facades facing the water will be considered public-facing, with views designed for interest from the water and Eastern Promenade Trail.
    d. The transition area between the campus and I-295 contains a height limitation of 75 feet along the edge and between the highway and the B&M Cannery Building, preserving the historic view of the building from the highway and easing the transition to the greater allowable building heights in the center of campus.

e. The transition area along the edge of the campus adjacent to the rail corridor also contains a height limitation of 75 feet along the edge of the property closest to the residential neighborhood, further easing the transition to the greater allowable



1. *: Above height of 75 feet, no building floorplate shall exceed 35,000 square feet.
2. Above height of 50 feet, no two buildings shall be closer than 40 feet apart.
3. Building heights for buildings that span two or more height zones shall be measured by calculating the highest point (as defined in the Land Use Code) of that portion of the building within a particular height zone. If the roof is sloped, height is measured at the midpoint of that portion of the slope located within the particular height zone.
4. Functionally water-dependent structures on the pier are limited to 20 feet in height. Light poles on the pier are limited to 35 feet in height. On the pier height is measured from the top of the pier deck to the top of the roof of a functionally water-dependent structure or to the top of a light pole.

FIGURE 8-G: HEIGHT OVERLAY MAP

building heights at the center of campus, mitigating shadow impacts to adjacent properties.

E. Transportation

1. *Transportation demand management (TDM)*
   a. At the time of the first site plan review following IDP approval, the developer shall submit a campus-wide TDM Plan substantially in accordance with those TDM objectives and strategies identified in the approved IDP. The TDM Plan may be phased into short-, mid-, and long term actions to allow for progressive implementation over time.
   b. The TDM Plan shall be designed to provide transportation choice with the goal of reducing parking demand and single-occupancy vehicle trips to and from the Roux Institute campus and from the Roux Institute campus by students, faculty, staff, institutional partners, and visitors.
   c. The TDM Plan shall establish parking, mode share, and trip reduction targets associated with each phase of development, as well as a data collection plan.
   d. Annual monitoring reports will be submitted for the TDM Plan. TDM monitoring reports shall include a summary of progress towards targets established in the TDM Plan. If deficiencies are identified, they will be resolved in accordance with the site plan approval.
2. *Traffic movement permit (TMP)*
   a. Any development that will generate over 100 passenger car equivalents will trigger TMP review which will determine applicable mitigation for that development program. There are contributions anticipated to area-wide elements to support trip reduction targets, such as contribution to the development of shared use path infrastructure and support for additional transit service to the campus. The TMP review may consider an individual site plan or may cover more than one site plan. Each of the TMP submissions and review will continue to contemplate capacity for multimodal connections to continue to reduce automobile trips.
   b. Mode shares and trip reduction targets have been identified in the IDP and will be updated and modified with each TMP submission as necessary.
3. *Bicycle and pedestrian access and safety*
   a. A Transportation, Access, and Circulation Plan has been provided in the IDP. At the time of the first site plan review, the developer shall submit an updated Plan. Where possible, the bicycle and pedestrian access routes shall connect to established bicycle and/or pedestrian facilities. The developer shall look to establish new bicycle and pedestrian

bicycle and/or pedestrian facilities where feasible.

b. The site and building design shall not prohibit the enhancement of transit service to and from the site.

c. Bicycle, pedestrian, transit, and motorized vehicular facilities proposed to and from the site shall provide sufficient capacity and allow for safe connections for modes of transportation.

d. Sherwood Street shall be improved to accommodate bicycles and pedestrians within the existing right-of-way. Separate sidewalks and bicycle lanes shall be provided where feasible.

4. *Parking.* Parking requirements in the IOZ, including but not limited to parking ratios, shall be established at the time of site plan review for each phase of development based on a parking study that includes a campus-wide analysis of demand and supply. Parking studies shall integrate parking and trip reduction achievements and data contained in the TDM Plan. Parking requirements shall be determined in accordance with the requirements in the Land Use Code in effect at the time of site plan review.

5. *Circulation*

a. The campus shall contain a bike and pedestrian circulation network which includes a perimeter access loop, an internal system of pathways and a major campus "promenade" which will link campus developments, the upland, and the waterfront.

b. The perimeter access path for bicycle and pedestrians will serve to connect the campus to primary site entry points from the community and provide a continuous recreational loop. Where appropriate, the perimeter access path will be enhanced by wayfinding, lighting, landscaping, and safe crossings at vehicular intersections. Where possible, building facades will respond to the perimeter access path for views into the building and periodic activation to building entrances.

c. Internal campus circulation pathways will connect major open spaces, buildings entrances, and outdoor plazas to create a network of multiple pathways including the perimeter access path. Pathways will be located along or oriented toward facades that have active programs, architectural articulation, appropriately scaled entrances, and windows. Pathways will avoid traveling along stretches of undifferentiated or blank facades back doors or service areas. Pathways will be generally lower-velocity systems than the access loop. Where appropriate, the internal campus circulation pathways will be enhanced by wayfinding, lighting, landscaping, and safe crossings at vehicular intersections.

d. The campus promenade will serve as a major organizing feature



connecting the upland and the water and providing access to open spaces, allowing views of the principal campus of buildings, and connecting to the internal campus circulation pathways and perimeter access path. The promenade will be enhanced by lighting, wayfinding, landscape buffers, and open spaces. Viewsheds and topography along the promenade will emphasize the Roux Institute and Burnham & Morrill (B&M) Cannery Building, pier, and other principal buildings and spaces.

F. Environment

1. The IOZ shall contain a minimum of three acres of public open space designed to enhance waterfront access and provide bicycle/pedestrian network connectivity. This open space requirement shall be met at the completion of construction of the first site plan approval and shall be maintained at all phases of development. The three acres need not be contiguous and may be provided in new and/or different locations following completion of development phases. The public open space shall be meaningful space, functioning as recreation areas, social gathering spaces, or natural buffers consisting of a diverse mix of native woody and herbaceous vegetation, including a well-distributed mix of trees. The method of assuring public access to the public open space shall be determined at site plan review.
2. A Sustainability and Resilience Charter will be created by the Roux Institute for the campus. The charter shall contain sustainability goals related to development categories such as energy, water, transportation, equity, and resilience and may be revised over time in response to evolving technology and industry standards. The charter will require all development on the campus to utilize critical components of industry standard benchmarking systems such as LEED, SITES, WELL, ILFI, and Passive House. The charter will be submitted to the Planning Authority prior to submission of the first site plan application. Proposed site plans shall be consistent with the goals outlined in the charter.
3. Development shall utilize lighting designs required for safety and comfort and that minimize impact to the night sky in accordance with light pollution reduction standards in ANSI/ASHRAE/IESNA 90.1-2007 or its most current edition.
4. Development shall be carried out in such a way as to minimize the impacts of sea level rise, protecting infrastructure and site features by designing to a minimum of 2-feet above the Base Flood Elevation (BFE) as shown on the most current FEMA Flood Insurance Rate Map.
5. The shoreline edge and immediate adjacent upland shall be protected through shoreline armoring and vegetation to prevent erosion and enhance natural resource protection. Vegetation shall consist of a diverse mix of native woody and herbaceous vegetation. Work in coastal wetlands and

significant wildlife habitats (as defined by the Maine Department of Environmental Protection) will be minimized to the maximum extent practicable and shall comply with all applicable local, state and federal permitting requirements in effect at the time.

6. Design of exterior building envelopes will be in developed in compliance with the bird-friendly building and design requirements set forth in Article VII-A of Chapter 6 of the City of Portland Code of Ordinances, except that bird safe materials must be used for the entire façade of all buildings regardless of building height.

G. Mitigation measures

1. Site plan impacts to off-premise infrastructure shall be mitigated in a manner proportionate to those impacts. Mitigation may include financial or in-kind contributions to existing or planned City projects focused on mitigating the impacts of the development. Mitigation contribution shall be determined based on the City's standard procedure in effect at the time of site plan review.
2. Impacts to natural resources shall be mitigated in accordance with local, state and federal permitting standards in effect at the time.

H. Design. All buildings within the IOZ shall adhere to the design guidelines set forth in the IDP.

I. Neighborhood integration

1. *Neighborhood engagement*
   a. For the purposes of keeping surrounding residential areas apprised of its future development plans, and to address any neighborhood issues related to the operations of the Roux Institute campus, the Roux Institute shall adhere to the ongoing neighborhood engagement principles identified in the IDP.
   b. Ongoing community engagement shall be conducted, including the continuation of neighborhood forums and maintenance of the Roux Institute campus website.
   c. A Community Advisory Group shall be created for the purpose of sharing information on project development, planning, and seeking input. To the extent practicable, the group shall be comprised of representatives of interested groups such as the East Deering Neighborhood, East Deering Neighborhood Association, East Deering Neighborhood for Responsible Development, Front Street Area Neighborhood, a tenant representative from Portland Housing Authority's Washington Gardens and Front Street developments, recreation, parks and trails, including the Friends of Payson Park, from sustainability, rail, bicycle/pedestrian, public transit, Portland Harbor, Portland Public Schools, including a Presumpscot School parent, higher education, and the business community.
   d. A designated community contact shall be engaged to be the point of contact

for providing information to the neighborhood and receiving feedback.

2. *Construction management.* At the time of site plan review, Northeastern University shall submit a Construction Management Plan substantially in accordance with the construction management principles identified in the Institutional Development Plan for review and approval by the Planning Authority.

J. Historic preservation

1. *Historic preservation review.* The B&M Cannery Building has been designated as a local historic landmark. The area of designation includes the B&M Cannery Building, as well as the area of the former Codfish Building and pier. The Historic Preservation Board's review of activity within the site of the former Codfish Building and pier is limited to review of any activity that would require a Certificate of Appropriateness that is proposed on a newly constructed pier. A Certificate of Appropriateness will not be required for the demolition of the Codfish Building or construction of a new pier and related infrastructure, including future alterations to the pier structure.
2. *Required interpretive elements.* Northeastern University shall include interpretive element(s) on top of or within the surface of the new pier that convey the history and significance of the Codfish Building. Prior to construction of said elements, the University shall submit the proposal to the Historic Preservation Board for its review and approval. The interpretive elements shall be designed in a manner that does not interfere with the use and functionality of the pier as a marine passenger facility and for water access by the Roux Institute and the public.
3. *100-foot review exemption.* The B&M Cannery Building is exempt from Subsection 13.6.4(E)(2) for review of development within 100 feet of a landmark.

8.4 ISLAND TRANSFER STATION OVERLAY

8.4.1 Purpose

The purpose of the Island Transfer Station Overlay Zone is to establish a location for a transfer station for municipal solid waste and municipal public works activities. This zone shall be established through a conditional rezoning process in order to ensure the imposition of appropriate conditions for the protection of neighboring properties.

8.4.2 Permitted uses

A. Municipal solid waste facilities, including compactors and storage bins, provided that the compactor shall be located within a fully enclosed structure.
B. Recycling facilities, provided that all recycling areas shall be buffered and screened from neighboring properties.
C. Municipal garages, material storage, and parking for vehicles.
D. Maintenance of municipal vehicles and equipment.
E. Minor wind energy systems co-located with public industrial or utility facilities, subject to the applicable standards within Article 6.

8.4.3 Conditions

Requirements for setbacks and any operational limitations shall be established as part of the conditional rezoning process.

8.5 PEDESTRIAN ACTIVITIES DISTRICT (PAD) OVERLAY

8.5.1 Purpose and applicability

The purpose of the Pedestrian Activities District (PAD) Overlay is to ensure that key areas within the City, as identified on the PAD Overlay Zone map (Figure 8-H), are maintained as active, walkable, pedestrian-oriented activity centers. As such, the overlay requires that street-level frontages within those areas identified on the PAD Overlay Zone map should be occupied with active uses as identified in this section.

8.5.2 Use restrictions

A. Within the PAD Overlay Zone, a minimum of 75% of the street level frontage, measured as a percentage of total building length excluding areas of vehicular and pedestrian egress, and any mechanical or electrical equipment rooms servicing the building, shall consist of the uses specified below. Such uses shall occupy a minimum of 40 feet in depth, measured from the street facing façade of the building.

1. Bars
2. Cultural facilities
3. General services
4. Governmental uses
5. Hotels
6. Low-impact industrial, provided that only retail sales of products produced on site,

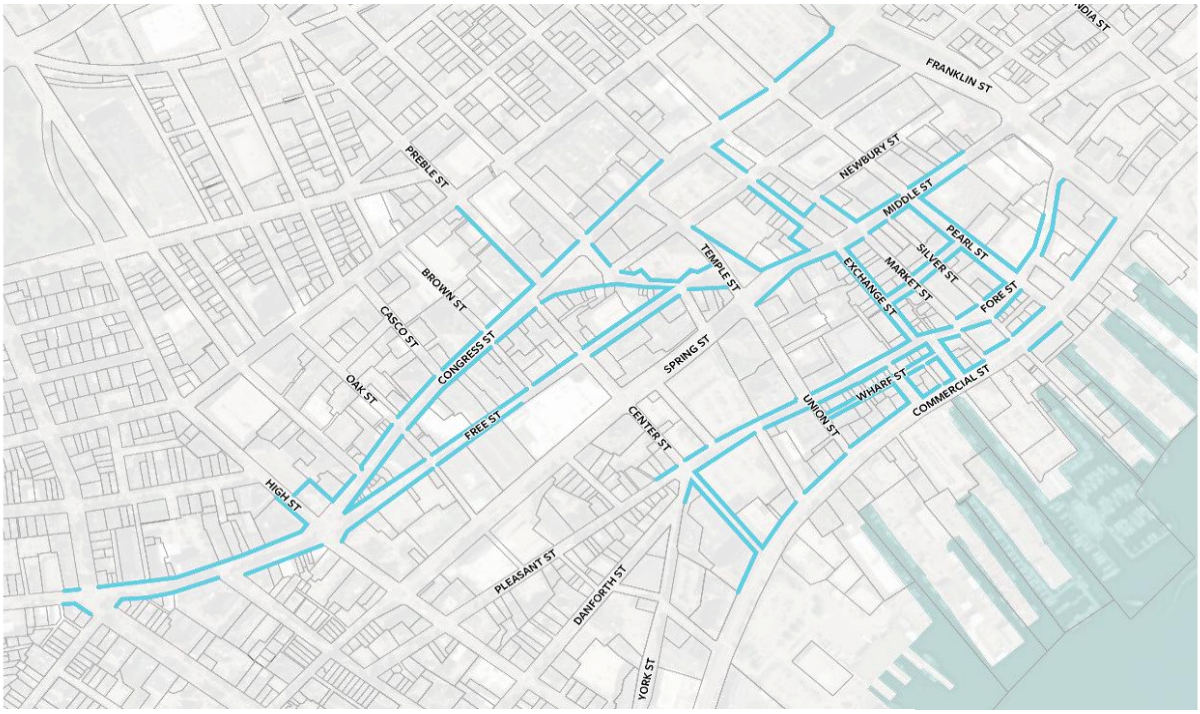


FIGURE 8-H: PEDESTRIAN ACTIVITIES DISTRICT (PAD) OVERLAY

or eating and drinking areas shall be located within the required active use area.

7. Restaurants, including food preparation areas visually oriented toward the street.
8. Retail
9. Specialty food services, provided that only retail sales of products produced on site, or eating and drinking areas shall be located within the required active use area.
10. Studios for artists and craftspeople.
11. Theaters and performance halls, provided that only ticket and refreshment sales, lobbies, lounges and entrances shall be located within the required active use area.
12. Other uses may be allowed, provided the applicant can demonstrate to the Building Authority that the proposed use is substantially similar to a use listed above and will generate pedestrian interest and activity.

B. First floor windows shall be transparent with uses visible from the public right-of-way.

C. For buildings that have frontage on more than one street located within the PAD overlay zone, the above requirements apply to each frontage. In no event shall any required active use area be used for storage or service entrances, including loading docks, dumpsters and compactors, except as provided in Subsection 8.5.4.

D. Buildings located within the areas identified on the PAD Overlay Zone map shall comply with the Vacant Commercial Properties Ordinance, as outlined in Chapter 6, Article XXX. of the City Code.

8.5.3 Conditional uses

Any use permitted in the B-3 zone may be authorized as a conditional use subject to the floor area and transparency requirements of Subsection 8.5.2, provided that the Planning Authority shall be substituted for the Board of Appeals as the reviewing authority. Such uses shall meet the general conditional use standards of Section 6.5.2, and the following conditions and standards:

A. The applicant shall prove by competent evidence (including but not limited to reliable documentation of advertising, real estate brokerage efforts, and other sales mechanisms) that the space has been actively marketed, and, in the case of new construction, available for permitted uses in the PAD Overlay Zone for a period of six months and that it has been unable to market the space for a permitted use in accordance with Subsection 8.5.2.

B. The Planning Authority may impose reasonable conditions concerning the design, appearance, use, and extent of use of the space along the street frontage to ensure maximum pedestrian compatibility and interest.

C. Notwithstanding the above, the Planning Authority may authorize a reduction in the percentage of required ground floor pedestrian-oriented uses where the physical limitations of an existing building so require. Any such reduction shall be the least necessary to provide relief and shall include mitigating design factors.

8.5.4 Exceptions

For buildings that have 40 feet or less of frontage

on a street within the PAD Overlay Zone, the ground floor area requirements for permitted uses under Subsection 8.5.2 shall be reduced to 50% of the frontage where required to accommodate a service entrance. For buildings that have frontage on more than one street located within a PAD Overlay Zone, only one such frontage shall be permitted to reduce the required active use area to 50% of the frontage.

8.6 UNIVERSITY OF SOUTHERN MAINE OVERLAY

8.6.1 Purpose

The intention of the University of Southern Maine Overlay Zone is to establish an overlay zone in which an existing university campus can be continued and reasonably expanded within defined boundaries, in addition to those uses permitted in the underlying zone or zones. The purpose of this section is to recognize the unique qualities of a university campus while at the same time protecting the value and integrity of established neighborhoods.

8.6.2 Location and applicability

The University of Southern Maine Overlay Zone is intended to encompass and define the University of Southern Maine campus west of Forest Avenue. Properties in the University of Southern Maine Overlay Zone shall continue to be governed by the regulations applicable to the underlying zone except as specifically modified by this section.

8.6.3 Permitted uses

A. In addition to the permitted uses allowed in the underlying zones and notwithstanding anything to the contrary in the use regulations for the underlying zones, post-secondary schools and university uses are permitted in the University of Southern Maine Overlay Zone, including, but not limited to:
   1. Classrooms.
   2. Laboratory and research facilities.
   3. Student unions.
   4. Dining halls.
   5. Bookstores.
   6. Auditoriums.
   7. Concert and lecture halls.
   8. Gymnasiums.
   9. Libraries.
   10. Outdoor use areas, such as “quads”, greens, parks, gardens, art installations, and other active and passive noncommercial recreation spaces.
   11. Faculty and student housing.
   12. Parking lots and garages.
   13. Community meeting spaces.
   14. Administrative and faculty offices.
   15. Transportation facilities.
   16. Maintenance facilities.
   17. Utility buildings.
   18. Student health services.
   19. Daycare facilities, nursery schools, and kindergartens.
   20. Other buildings, structures and uses customarily incidental to a university.
B. On lots fronting on Chamberlain Avenue and Exeter Street, university uses shall be limited to faculty housing, graduate student housing, faculty offices, and administrative offices.

8.6.4 Conditional uses

The following uses are permitted as provided in Section 6.5:

A. Minor wind energy systems, subject to the standards of subsection 6.4.41.

8.6.5 Dimensional requirements

University buildings and structures shall be subject to the dimensional requirements of the underlying zone, except as follows:

A. Minimum setbacks. Minimum setbacks shall be the same as in the underlying zone, except as shown on the University Campus Overlay Setback Map, incorporated herein by reference. Side and rear setbacks shall not be required between buildings on contiguous lots owned by the university on the condition that such contiguous lots shall be considered merged and shall not be separately conveyed unless required setbacks in the underlying zones are provided.

B. Maximum building height. Maximum building height shall be the same as in the underlying zone, except as shown on the University Campus Overlay Height Map, incorporated herein by reference.

C. Minimum building height. All new freestanding buildings in height zone B and height zone C must be built to a height of at least 35 feet or designed and constructed so that they can be expanded to 35 feet or higher. As used in this paragraph, the term "new freestanding building" means any building which is not an addition to or expansion of a building which existed on the date of enactment of the University of Southern Maine Overlay Zone. Minimum building height provisions shall not apply to maintenance facilities, utility buildings, information kiosks, additions to and/or relocations of designated historic structures, and transportation facilities, including bus shelters, parking attendant booths, and other similar structures.

D. Maximum impervious surface ratio. A maximum of 66% of the total land area within the University of Southern Maine Overlay Zone, exclusive of public streets, shall be impervious.

E. Maximum coverage by buildings. 40% of the total land area within the University of Southern Maine Overlay Zone, exclusive of public streets, shall be covered by building footprint.

8.6.6 Parking

The amount of parking required for any university building or building addition shall be determined by the Planning Board during site plan review, based on an analysis of campus-wide parking demand and supply, pursuant to a comprehensive university parking management plan, and treating all contiguous land (including land on opposite sides of the street) owned by the university as one lot. In determining the amount of parking required for any university building, the Planning Board may take into account factors such as:

A. The availability of off-campus parking and shuttle transportation to and from such off-campus facilities.

B. The ratio of commuter students to resident students.

C. The use of centrally located on-campus parking facilities so situated that students, faculty, staff and visitors arriving on campus can reasonably be expected to park in the central facilities and walk to their various on-campus destinations during the course of a school day.

D. Shared use of a single parking facility by two or more buildings when the peak parking demand period for such buildings do not

overlap.

E. Development and implementation of a parking management plan which discourages on-street parking. On-street parking shall not be used to satisfy the university's parking demand.
F. Development and implementation of programs designed to reduce the number of automobiles parking on campus, such as ride share programs and incentives for use of bicycles and public transportation.

8.6.7 Loading

The amount of loading area required for any university building shall be determined by the Planning Board during site plan review, based on a campus-wide analysis, treating all contiguous lots owned by the university as one lot. In determining the amount of loading space required for any university building, the Planning Board may take into account factors such as:

A. The use of centrally located on-campus loading facilities so situated that vehicles making deliveries can load and unload in the central facilities, provided no single location is overburdened with loading facilities.
B. Shared use of a single loading facility by two or more buildings.
C. Impacts of the loading area on adjacent uses outside the University of Southern Maine Overlay Zone.

8.6.8 Signage

Signs shall comply with the requirements of Article 19, except as those regulations are modified or augmented below:

A. Signs shall be designed in accordance with signage standards promulgated by the university, providing for a unified and ADA-compliant campus-wide system for identification, orientation, and regulatory signage.
B. Banners are allowed as follows:
    1. Generic banners containing the logo and colors of the university, used for decorative purposes.
    2. Banners used for advertising university events, which can be displayed for a maximum of four weeks prior to and one week following the event.

8.6.9 Design principles and standards

All development in the University of Southern Maine Overlay Zone is subject to the requirements contained within the City of Portland *Design Manual*.

8.7 WAYNFLETE SCHOOL OVERLAY

8.7.1 Purpose

The intent of this section is to establish a Waynflete School Overlay Zone which protects the value and integrity of established residential neighborhoods, establishes clearly defined boundaries beyond which residential conversions cannot occur and results in no net loss of dwelling units, while allowing Waynflete School, an existing private day school, to continue and reasonably augment its existing uses and programs, thereby maintaining compatible development at medium densities appropriate to the existing neighborhood patterns. As used in this section, the term "Waynflete School" includes any successor institution that operates as a private day school.

8.7.2 Location and applicability

The Waynflete School Overlay Zone, as shown on

the zoning map, is intended to encompass and define Waynflete School's principal campus on the Portland peninsula. Properties in the Waynflete School Overlay Zone shall continue to be governed by the regulations applicable to the underlying zone except as specifically modified by this section.

8.7.3 Subdistricts

The Waynflete School Overlay Zone consists of two subdistricts. Except where otherwise specified in this Section 8.7, all provisions of this Waynflete School Overlay Zone apply in both subdistricts. The subdistricts, as shown on the Waynflete School Overlay Zone subdistrict map, incorporated herein by reference, are as follows:

A. The Campus Core subdistrict defines the interior core of the campus and is intended to allow compact development of school uses, with specific space and bulk regulations designed to accommodate school uses.
B. The Campus Edge subdistrict is intended to preserve residential character along the streets bordering the campus by limiting the amount of residential space which can be converted to school uses, by maintaining a number of dwelling units within the subdistrict which equals the number of dwelling units existing in the subdistrict at the time of enactment of this Overlay Zone, and by encouraging mixed-use buildings along the street frontages. The space and bulk regulations of the RN-3 zone continue to apply within the Campus Edge subdistrict.

8.7.4 Permitted uses

In addition to the permitted uses allowed in the underlying zones and notwithstanding anything to the contrary in the use regulations for the underlying zones, the following uses are permitted in the Waynflete School Overlay Zone:

A. School uses. Elementary, middle and secondary school uses including, but not limited to, the following:
    1. Classrooms.
    2. Laboratory facilities.
    3. Dining halls.
    4. Auditoriums.
    5. Concert and lecture halls.
    6. Gymnasiums.
    7. Libraries.
    8. Outdoor use areas, such as "quads", greens, parks, gardens, art installations, and other active and passive recreation spaces.
    9. Parking lots and structures.
    10. Community meeting spaces.
    11. Administrative and faculty offices.
    12. Transportation facilities.
    13. Maintenance facilities.
    14. Utility buildings.
    15. Student health services.
    16. Bookstores.
    17. Accessory uses which are customarily incidental and subordinate to the location, function and operation of a private day school.
B. Residential uses. Faculty or staff housing, which shall be considered a residential use, and not a school use, for all purposes under this overlay zone.

8.7.5 Prohibited uses

A. Boarding schools.
B. Dormitories.

8.7.6 Residential conversions prohibited

A. Conversions of existing residential buildings within the Waynflete School Overlay zone shall be prohibited.
B. The existing houses at 11 Fletcher Street, 3 Storer Street, 305 Danforth Street, and 299 Danforth Street shall not be relocated from their locations existing as of January 20, 2010. This provision shall not apply to garages.
C. At no time shall the number of dwelling units within the Waynflete School Overlay Zone be reduced below four (the number existing at the time of enactment of this Overlay Zone).

8.7.7 Dimensional requirements

Buildings and structures in the Waynflete School Overlay Zone shall be subject to the applicable dimensional requirements of the underlying zones, except as follows:

A. Minimum setbacks shall be the same as in the underlying zone, except that side and rear setbacks shall not be required between buildings on contiguous lots owned or occupied by Waynflete School on the condition that such contiguous lots shall be considered merged and shall not be separately conveyed unless required yard dimensions in the underlying zones are provided.
B. Minimum street frontage shall be the same as in the underlying zone, except that all the land within the Waynflete School Overlay Zone owned or occupied by Waynflete School shall be considered a single lot for the purpose of complying with minimum street frontage.
C. Maximum coverage by buildings shall be the same as in the underlying zone, except that in the Campus Core subdistrict the maximum coverage by buildings shall be 40% and all the land within the Campus Core subdistrict owned or occupied by Waynflete School shall be considered a single lot for the purpose of calculating maximum coverage by buildings.

8.7.8 Parking

The amount of parking required for any change of use, new building, or building addition within the zone shall be determined during site plan review, based on an analysis of school-wide demand and supply, pursuant to a comprehensive school-wide Transportation Demand Management Plan (TDM), and treating all land owned by Waynflete School within the Waynflete School Overlay Zone as one lot. Any existing parking management or TDM plan approved as part of a previous approval shall remain in effect until revised or updated pursuant to this section. In determining the amount of parking required for any building within the Waynflete School Overlay Zone, the Planning Authority or the Planning Board may take into account factors such as:

A. The use of centrally located on-campus parking facilities so situated that students, faculty, staff and visitors arriving on campus can reasonably be expected to park in the central facilities and walk to their various on-campus destinations during the course of a school day.
B. Shared use of a single parking facility by two or more buildings when the peak parking demand periods for such buildings do not overlap.
C. Development and implementation of a parking management plan which discourages on-street parking.
D. Development and implementation of a TDM

plan subject to the review and approval of the Planning Authority or the Planning Board. The TDM plan shall employee elements such as public transit initiatives, parking cash-out, car sharing, car and van pooling incentives, provision of bicycle and pedestrian commuting accommodations, guaranteed ride home programs, employee surveys, newsletters, alternative transportation information sharing, and other such strategies that reduce single occupancy vehicle trips to and from Waynflete school. Waynflete School shall follow the standards and guidelines for developing a TDM plan found in the TDM section of the City of Portland *Technical Manual*.

8.7.9 Loading

The amount of loading area required for any building within the Waynflete School Overlay Zone shall be determined by the Planning Board during site plan review, based on a campus-wide analysis, treating all land owned by Waynflete School within the Waynflete School Overlay Zone as one lot. In determining the amount of loading space required for any building within the Waynflete School Overlay zone, the Planning Board may take into account factors such as:

A. The use of centrally located on-campus loading facilities so situated that vehicles making deliveries can load and unload in central facilities, provided no single location is overburdened with loading facilities.
B. Shared use of a single loading facility by two or more buildings.
C. Impacts of the loading area on adjacent uses outside the Waynflete School Overlay Zone.

8.7.10 Signage

Signs shall comply with the requirements of Article 19.

8.7.11 Restrictions

Notwithstanding the conditional use provisions for institutional uses within the RN-3 or RN-5 zones, Waynflete School cannot locate a school use listed in Subsection 8.7.4 on any lot in the RN-3 or RN-5 zones outside the boundaries of the Waynflete School Overlay Zone that was occupied by a residential use or structure on or after January 20, 2010. This restriction does not prevent Waynflete School from seeking a conditional use permit for a school use, where otherwise allowed by the zoning regulations, on lots outside the Waynflete School Overlay Zone that were not occupied by a residential use or structure on or after January 20, 2010.

Att. B

Article XXX. Vacant Commercial Properties

A)

B) SEC. 6-XXX. PURPOSE

The purpose of this article is to promote public welfare, economic development and vibrancy in the city by incentivizing occupancy in its street-level commercial spaces.

C) SEC. 6-XXX. APPLICABILITY

This article shall apply to all buildings in the city zoned for commercial use with storefronts on the ground level.

D) SEC. 6-XXX. DEFINITIONS

The following words, terms and phrases, when used in this ordinance, shall have the following meaning:

Vacant commercial property shall mean any commercial real property with buildings that have a visible storefront on the ground level that has not been used or occupied for a period of at least 90 consecutive days and is not undergoing construction, rehabilitation, renovation, or repair to make the building fit for occupancy.

Property owner shall mean a person or entity who alone or severally with others:

(a) Has legal or equitable interest to any commercial building or has care, charge, or control of any commercial building in any capacity including but not limited to agent, executor, administrator, trustee, or guardian of the estate of the holder of legal title;
(b) Is a tenant with a legal right to possess an entire commercial building;
(c) Is a mortgagee in possession of any commercial building;

(d) Is an agent, trustee, receiver, or other person appointed by the courts and vested with possession or control of any commercial property; or

(e) Is an officer or trustee of an association of unit owners of a condominium or cooperative which contains a vacant commercial property.

Temporary Art shall mean works of art for public viewing displayed inside windows or on exterior surfaces of vacant commercial properties which comply with the city's temporary public art guidelines.

E) SEC. 6-XXX. REGISTRATION REQUIRED

Not more than thirty (30) days after a commercial property becomes a vacant commercial property as defined in this article, the property owner shall register the vacancy with the city's housing and economic development department. The registration shall include the address and location of the vacant commercial property, the current permitted use for the property pursuant to the city's permit records and the city's land use code, the size and layout of the available space, the reason for the vacancy, the desired rent amount, the date when the vacant commercial property was last occupied and the contact information for the property owner or person with authority to remedy the property vacancy.

The city's housing and economic development department shall establish a registry of vacant commercial properties which shall include all of the above information about vacant commercial properties. The registry shall be publicly available on the city's website within ninety (90) days of the effective date of this article. The housing and economic development department shall update the status of the vacant commercial properties in the registry at least quarterly.

Sec. 6-XXX Registration Fee

Upon initial registration and by January 1st of each year thereafter, property owners shall pay the city a registration fee for each vacant commercial property in the amounts set

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forth below. A vacant commercial property shall not be considered registered unless and until this fee is paid in full.

f) $250.00 for properties have been vacant for more than 3 months and less than one year;
g) $1,000.00 for properties that have been vacant for at least one year but less than two years;
h) $2,000.00 for properties that have been vacant for at least two years but less than three years;
i) $3,500.00 for properties that have been vacant for at least three years but less than five years;
j) $5,000.00 for properties that have been vacant for at least five years but less than ten years; and
k) $7,500.00 for properties that have been vacant for at least ten years, plus an additional $1,000.00 for each year in excess of ten years.

Sec. 6-XXX. Waiver.

The housing and economic development director may grant a waiver of the registration fee upon written request from the property owner if the housing and economic director determines, in their sole discretion, that one of the following conditions is met:

a) At the time of registration of a vacant commercial property, a property owner installs temporary art in any exterior-facing window or upon other safe, visible exterior surfaces for the period of the vacancy; or

b) That special or extenuating circumstances exist that prevent the property from being used or occupied and failure to use or occupy a vacant commercial building does not violate the purpose or intent of this ordinance.

Any waiver granted under this section must be reduced to writing and set forth the grounds for the waiver. All waivers shall be available on the registry.

Any waiver granted under this section may be revoked by the director of housing and economic development in the event they

determine that either of the two above conditions is no longer met. In the event a waiver is revoked, the director of housing and economic development shall provide written notice to the property owner and the property owner shall have thirty (30) days from the date of that notice to pay the registration fee in full.

L) SEC. 6-XXX. ENFORCEMENT

M)

a) The director of housing and economic development or their designee shall have the primary responsibility for enforcement of this article.

b) Failure to register a vacant commercial property pursuant to this article shall be a civil violation subject to the general penalty provisions of section 1-5 of this Code.

c) The director of housing and economic development is authorized to institute, or cause to be instituted by the corporation counsel, in the name of the city, any and all actions, legal or equitable, that may be appropriate or necessary for the enforcement of the provisions of this article.

N) SEC. 6-XXX. SEVERABILITY

If any section, paragraph, sentence, word or phrase of this ordinance is for any reason held to be invalid or unenforceable by any court, such decision shall not affect the validity of the remaining provisions of this ordinance.

DRAFT

City of Portland | Housing and Econ. Development Dept.
Gregory P. Watson, AICP, Director

To: Housing and Economic Development Committee
Councilor Pious Ali, Chair

MEETING DATE
June 17, 2025

AGENDA ITEM
Commercial Vacancy Ordinance

PURPOSE
Staff are seeking recommendation from the Housing and Economic Development Committee (HEDC) regarding a commercial vacancy ordinance that will encourage economic vibrancy and promote the active uses of commercial spaces in downtown Portland.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT
This item supports the HEDC Commercial Vacancy Program included on its 2025 workplan.

BACKGROUND/ANALYSIS
Since the Spring of 2024, the HED Director and staff have participated in a working group focused on neighborhood vibrancy in the Arts District. At the August 2024 HEDC meeting, staff provided information and options that the City could undertake to disincentivize commercial vacancies and activate downtown Portland, including a commercial vacancy ordinance. Based on support from Committee members at that meeting, HED Director and staff presented a draft policy at the April 15, 2025 HEDC meeting, which was revisited at the May meeting. The draft vacancy ordinance presented today incorporates several amendments from Councilor Sykes that were shared at the May 20, 2025 HEDC meeting.

The ordinance will promote the use of vacant space, encourage communication and collaboration between owners of vacant property and seekers of commercial space, collect data to inform future programs, and result in increased collaboration with Portland's artist community to provide active utilization of vacant space with a preference for locally sourced art. The ordinance will be geographically limited to the City's Pedestrian Activities District

(PAD) Overlay Zone (see map, right), which ensures that key areas within the City are maintained as active, walkable, pedestrian-oriented activity centers.



FIGURE 8-H: PEDESTRIAN ACTIVITIES DISTRICT (PAD) OVERLAY

Complementary actions taken by other City committees include the approval on June 2nd by the City Council of an interest-free loan product developed by the Portland Development Corporation. This new loan product is designed to support investment in storefronts located in Downtown Portland. In addition, the City is investing in area improvements to increase safety and activate public spaces.

FISCAL IMPACT

There will be no impact to the General Fund. Staff envision that facilitating the installation of artwork into vacant windows will entail a cost of up to $25,000 which would either come from grant funding or the Portland TOD Downtown TIF, or a combination of both.

CONCLUSION

Recommendation:
1. Motion to recommend to the Planning Board and City Council approval of the commercial vacancy ordinance.

NEXT STEPS:

If the Committee supports the ordinance as drafted, the proposal will proceed to the Planning Board for review and a recommendation on a text amendment to add a reference to the Vacancy Ordinance in the PAD Overlay Section of the Land Use Code. Following the Planning Board's recommendation, both the text amendment and vacancy ordinance will then move to the full City Council for their consideration and approval.

PRIOR COMMITTEE REVIEW

August 20th, 2024
April 15th, 2025
May 20th, 2025

PREPARED BY

Gregory P. Watson
Director
Housing and Economic Development Department

ATTACHMENTS:

Attachment A - Draft Commercial Vacancy Ordinance

PC1

Carter Frank <cfrank@portlandmaine.gov>

Portland Commercial Vacancy Program Proposal

Benjamin Brennan <bbrennan207@gmail.com> Thu, Jul 3, 2025 at 12:29 PM
Reply-To: bbrennan207@gmail.com
To: planningboard@portlandmaine.gov

To Whom It May Concern,

I urge you to not put forward the Portland Commercial Vacancy Program for the following reasons:

- We want properties full and landlords are not purposefully keeping them vacant. Charging fees and requiring registration does not change the timeline or the ability to fill these spaces.
- The information requested within the registration is often confidential and/or does not reflect how commercial transactions work. Rent is just a portion of the negotiation process, but other factors like timing, tenant improvements, quality of tenant and length of commitment are just as important and cannot be predicted prior to finding the willing tenant.
- The City of Portland can help us keep storefronts full by endorsing the proposed Ambassador Program, which is already working well in Bangor and many cities across the country to keep cities clean, to help people in need find services, and to provide a sense of community and security to all who visit our downtowns.
- This ordinance does not reflect the reality of how commercial deals get done and how long it takes to come together.
- Overregulation could place downward pressure on the valuation of buildings downtown, which in turn could impact property taxes.

- The information requested within the registration is often confidential and/or does not reflect how commercial transactions work. Rent is just a portion of the negotiation process, but other factors like timing, tenant improvements, quality of tenant and length of commitment are just as important and cannot be predicted prior to finding the willing tenant.

Respectfully,

Ben Brennan
Portland City Resident

Carter Frank <cfrank@portlandmaine.gov>

Downtown Homlessness

John Doyon <John@malonecb.com>
Reply-To: john@malonecb.com
To: "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>

Thu, Jul 3, 2025 at 1:14 PM

Imposing penalties on landlords with vacant storefronts does solve the root cause of the vacancy issue. The genesis is inappropriate behavior allowed to persist along the Congress Street corridor and other areas of the city. Penalizing landlords is akin to taking an aspirin to resolve cancer.

John Doyon, CCIM
Partner/Broker

MALONE
COMMERCIAL BROKERS
CONNECTED, LOCAL, SAVVY.

5 Moulton Street, 3rd Fl
Portland, ME 04101
207-772-2422 Office
207-450-8003 Cell
www.malonecb.com

Carter Frank <cfrank@portlandmaine.gov>

Commercial Vacancy ordinance - opposed

Justin Lamontagne <justin@dunhamgroup.com> Thu, Jul 3, 2025 at 1:34 PM
Reply-To: justin@dunhamgroup.com
To: "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>

I believe this is a gross overstep by the city and a clear overreaction to the ills of one or two landlords along Congress St.

As a Portland resident and local business owner, the fact that time, money and energy is spent on creating policies like this is truly disappointing. We need real action and enforcement to clean up the Arts District, not more regulations and paperwork. The optics are terrible as Portland businesses struggle to stay open - this is remarkably tone deaf and not in line with the reality of the market.

Additionally, as a commercial real estate broker and Managing Partner at the Dunham Group, I strongly agree with MEREDA's points:

- This ordinance does not reflect the reality of how commercial deals get done and how long it takes to come together.
- Overregulation could place downward pressure on the valuation of buildings downtown, which in turn could impact property taxes.
- The information requested within the registration is often confidential and/or does not reflect how commercial transactions work. Rent is just a portion of the negotiation process, but other factors like timing, tenant improvements, quality of tenant and length of commitment are just as important and cannot be predicted prior to finding the willing tenant.

Please do not support this ordinance. Thank you for your work.

Justin

Justin Lamontagne, CCIM, SIOR

Managing Partner | Designated Broker

The Dunham Group

O 207.773.7100 | C 207.272.3013
justin@dunhamgroup.com | dunhamgroup.com

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2025 Southern Maine Industrial Market Survey

www.sior.com | www.ccim.com

Emails sent or received shall neither constitute acceptance of conducting transactions via electronic means nor shall create a binding contract in the absence of a fully signed written agreement.

PC 4

Carter Frank <cfrank@portlandmaine.gov>

penalize property owners when storefronts go vacant

Sherwood Properties <sherwoodpropertiesoffice@gmail.com> Thu, Jul 3, 2025 at 4:05 PM
Reply-To: sherwoodpropertiesoffice@gmail.com
To: planningboard@portlandmaine.gov

We WANT our properties full and are not purposefully keeping them vacant. Charging fees and requiring registration does not change the timeline or our ability to fill these spaces.

· The information requested within the registration is often confidential and/or does not reflect how commercial transactions work. Rent is just a portion of the negotiation process, but other factors like timing, tenant improvements, quality of tenant and length of commitment are just as important and cannot be predicted prior to finding the willing tenant.

· The City of Portland can help us keep our storefronts full by:

o Endorsing the proposed Ambassador Program, which is already working well in Bangor and many cities across the country to keep cities clean, to help people in need find services, and to provide a sense of community and security to all who visit our downtowns.

Thank you

James

Sherwood Properties
295 Brown St. Suite #1
Westbrook, ME 04092
W: 207-200-6886

385 Congress Street Master Development Plan Amendment
385 Congress Street | CBLs 027 D001001 & CBL 027 D002001
PL-003359-2025

Submitted to:	Portland Planning Board	**Prepared By:**	Zach Powell, Senior Planner
Public Hearing Date:	July 8, 2025	**Date:**	July 3, 2025

I. INTRODUCTION

385 Congress Street LLC has submitted an application for a Master Development Plan (MDP) amendment for the MDP (PL-001970-2022) approved by the Planning Board on August 9, 2022. The proposed amendment would:

- Remove the southwestern portion of the block currently under review for the construction of a music venue from the MDP boundary (PL-003179-2024)
- Remove the proposed public amenity deck that straddled the hotel and condominium parcels, and
- Increase the proposed heights of the proposed hotel & residential buildings from 150 to 250 feet.



Figure 1: Rendering of the proposed massings for Phase 1 (in purple) and Phase 2 (in yellow) of the proposed MDP amendment, with the area proposed to be removed shown in dark gray.

The current MDP's first workshop established pending proceeding status on June 14, 2022 and this application is therefore subject to the Land Use Code standards in effect as of that date (Attachment 1). The proposed amendment is classified as a major amendment under §14.14.3. of the Land Use Code given the changes to the MDP boundary and the site's proposed open space.

This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code, Master Development Plan Standards, Section 14.7. An approved Master Development Plan is valid for a period of six years, which may be extended and/or amended.

The Planning and Urban Development Department mailed 104 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the June 26 and 27, 2025 editions of the *Portland Press Herald*.

Applicant: Joe Dasco, Reger Dasco Properties
Anticipated Hotel Operator: Marieke Thormann and Robin Payne, The Fathom Companies
Representing Agent: Daniel Riley, Sebago Technics Inc.

II. PREVIOUS APPROVALS

A. 385 Congress Street Master Development Plan & Traffic Movement Permit

On August 9, 2022, the Planning Board approved the 385 Congress Street MDP to facilitate a four-phased development of three attached buildings that include a hotel with 156 rooms, 297 condominium units, seven retail units totaling ±11,560 square feet, a ±5,100 square foot restaurant, a passive recreation space (Amenity Deck) totaling ±19,040 square feet, and a parking structure with a total of 337 automobile spaces. Both of the existing structures on the project site (±3,914 square foot storage building & ±13,408 square foot parking structure) were proposed to be demolished to facilitate the development of the site.

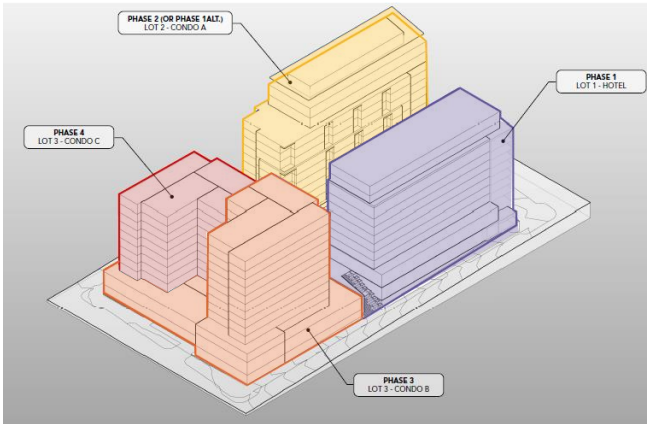


Figure 2: Phasing plan of 385 Congress Street MDP as approved on August 9, 2022.

Through §(b)(1)(e)(2) of the Design Manual, the Planning Board approved an expanded building setback beyond the maximum five-foot front setback permitted in the B-3 zone, permitting future buildings to be set back up to 22 feet along Congress Street, up to 16 feet on Cumberland Avenue, and up to six feet on Pearl Street to facilitate outdoor seating for retail uses and expanded sidewalk areas. Three waivers related to parking were granted to permit increased percentages of compact spaces, allow stacked parking spaces, and permit smaller aisle widths for the hotel valet parking area.

Along with the MDP, a Traffic Movement Permit (TMP) for all four phases was approved on February 14, 2023. Mitigation for the TMP required traffic monitoring of the hotel valet program for a period of three years, along with signal upgrades on Pearl Street at Congress Street and Cumberland Avenue. Given the proposed removal of the music venue site from the MDP, a separate TMP has been submitted for that project.

Additional information on the MDP approval can be found in the August 9, 2022 hearing materials and additional information on the TMP approval can be found in the February 14, 2023 hearing materials.



Figure 3: Rendering of proposed hotel on the southeastern corner of the MDP boundary.

B. Subdivision

On January 24, 2023, the Planning Board approved a subdivision application for the site, subdividing the original parcel that occupied the entire block into three parcels to facilitate the hotel site plan application discussed in the next subsection.

Additional information on this approval can be found in the January 24, 2023 hearing materials.

C. Site Plan (Hotel)

On February 14, 2023, the Planning Board approved major site plan application PL-002156-2022 for the construction of a mixed-use development including 179 hotel rooms, 9 condominium units, a ±4,630 square foot restaurant, and ±755 square feet of ground-floor retail on the southeastern corner of the site.

Additional information on this approval can be found in the February 14, 2023 hearing materials.

III. REQUIRED REVIEWS

Review	Applicable Standards
Master Development Plan (MDP)	Section 14.7
Previously Approved Waivers	**Applicable Standard**
Technical Standards - Sec. 14.1.2 – to construct structured parking on the portion of the site identified as Lots '2' and '3' where 96 of the total 267 spaces (±35%) will be compact parking spaces and construct structured parking on the portion of the site identified as 'Lot 1' that is 100% comprised of compact spaces.	Sec. 14.1.2 – Parking lots with greater than 10 spaces may be comprised of up to 20% compact parking spaces.
Technical Standards - Sec. 14.1.3 – to stripe parking spaces on the portion of the site identified as 'Lot 1' that have parallel valet parking spaces across the ends of double stacked, 90 degree compact spaces.	Sec. 14.1.3 – Parking lot layout shall conform to Figures I-28 thru I-32.
Technical Standards - Sec. 14.1.5 – to waive the minimum 24' drive aisle width in the garage on the portion of the site identified as 'Lot 1' to allow parallel valet parking spaces across the ends of double stacked, 90 degree compact spaces.	Sec. 14.1.5. – Vehicular access shall be provided by one or more aisles. Minimum widths of aisles are illustrated in Figures I-28 thru I-31.

IV. PROJECT DATA

Existing Zoning	B-3 (Downtown Business), Downtown Entertainment Overlay, PAD Overlay	
Existing Use	Off-Street Parking (Surface and Structured) (100 spaces)	
Proposed Use	Condominiums	342,050 SF (149 units) (was 297 units)
	Hotel	163,000 square feet (156 rooms) (no change in room count; was 69,300 SF)
	Retail & Restaurant	6,000 square feet (3 units) (was 11,560 SF & 7 units)
	Structured Parking	197,400 (457 spaces) (was 337 spaces & 120,400 SF)
Property Size	60,029 SF (1.37 acres)	

V. EXISTING CONDITIONS

The project site occupies the majority of a city block bounded to the north by Pearl Street, to the South by Myrtle Street, to the East by Congress Street, and to the West by a mid-block parcel boundary with property under common ownership proposed for the construction of a music hall.

The site currently serves as off-street parking (both surface and structured) for both daily and monthly use. The existing ±13,408 square foot parking structure is proposed to be demolished to facilitate the development of the site.

The site serves as a transitional area in a number of regards, including:

- Lots to the north with no building coverage (Top of the Old Port Parking & Lincoln Park) to lots to the south with high building coverage (City Hall, Press Hotel)
- Lower-density multi-family and smaller institutional uses from the west on Cumberland Avenue to medium-density commercial & institutional uses to the east on Congress Street
- Blocks to the west and south occupied by numerous lots to blocks to the east and north that are occupied by one lot (Central Fire Station, Top of the Old Port Parking, Lincoln Park)
- Smaller blocks and larger blocks with pedestrian access points to the south and southeast to larger blocks providing limited or no breaks for pedestrian access
- Downtown Neighborhood to Bayside Neighborhood
- Auto-centric uses & building design to the north and northeast to urban, pedestrian-centric uses to the west, south, and southeast

The subject block and immediate area are well-served by public transit. Approximately two blocks to the southwest is the METRO PULSE at Elm Street (Downtown Transportation Center), the hub for METRO where bus routes, #2, #4, #5, #7, and the Husky Line begin and end their routes. METRO bus routes #1, #7, #8, #9A, #9B and the Biddeford Saco Old Orchard Beach Transit 60 Green line can be accessed along Congress Street within one block of the site. South Portland Bus routes 21, 24A, and 24B can be accessed along Congress Street roughly two blocks southwest of the site. METRO bus route 8 is located along Cumberland Avenue less than one block from the site.

VI. RIGHT, TITLE & INTEREST

The owner of the property is 385 Congress, LLC. The owner and applicant for the construction of the hotel (The Fathom Companies) has entered into a Purchase and Sale Agreement (Document C) which serves as sufficient right-title-interest documentation for The Fathom Companies for the purpose of reviewing a master development plan application.

The submitted existing conditions survey submitted under the original Master Development Plan application (Plan 5) indicates the property has no existing easements.

VII. FINANCIAL & TECHNICAL CAPACITY

As part of the original Master Development Plan application, the applicant submitted a letter of financial capacity from their financial institution as documentation stating that the Applicant is in good standing (Document D).

VIII. MASTER DEVELOPMENT PLAN OBJECTIVES

A Master Development Plan (MDP) is a regulatory option, applied for at the discretion of the applicant, for sites with one acre or more in cumulative lot area that's designed as a cohesive and integral development program consisting of multiple buildings and associated site improvements built in phases over an extended timeframe (Section 14.7).

An approved MDP establishes parameters to be adhered to for the full development, including the supporting documentation for residential density, general types of uses, building coverage, open space plans, parking and circulation, and infrastructure systems such as stormwater management. MDPs may be developed concurrently with site plans and/or subdivisions, or independently. Approval does not constitute an authorization for development, but it does maintain the applicability of regulations in effect at the time of the approval for as long as the MDP approval remains valid. MDP submission requirements are deliberately

not as detailed as site plan and subdivision requirements to allow for some flexibility in the final buildout of a large, phased project. Site plan applications, and any other required approvals are required before any development on the site can proceed, as outlined by the City's Land Use Code.

As stated in Sections 14.3.2.B.- of the City's Land Use Code *a Master Development Plan approval, including an approval of waivers, establishes the general parameters for the development, including the general development program, massing, open space plan, and infrastructure plan. A Master Development Plan approval shall not be construed as final authorization of the development. Approval shall confer pending proceeding status upon the development in effect at the time of approval for as long as the Master Development Plan approval remains valid, including permissible extensions if granted. Subsequent site plan approvals shall be required.*

An MDP is intended to guide development over the life of a large-scale phased project, and should be viewed as a basic outline of the proposal which informs subsequent site plan applications. All Major site plan applications for each phase shall be in general conformance with the Master Development Plan.

IX. REVISED MASTER DEVELOPMENT PLAN

As submitted, the amended MDP would consist of two phases: the first proposing a 20-story building with 156-room hotel rooms, 9 condominium units, ±2,000 square feet of retail space, and 135 structured parking spaces; and the second proposing a 23-story building with 140 condominium units, ±4,000 square feet of retail space and 322 structured parking spaces. Significant changes from the current MDP include:

- Removing the western portion of the block from the MDP boundary, which now proposes the construction of a music hall
- Removal of the proposed second story amenity deck open space which will be occupied by private patios and exposed roof and/or vegetated areas with no access
- Increasing the proposed building heights from 150 to 250 feet (not including mechanical equipment)
- Increasing the number of proposed parking spaces from 337 to 457 spaces
- Establishing separate stormwater & sewer infrastructure for each lot on the block



Figure 4: Rendering of phases of proposed MDP amendment listing uses, building square footage, and number of proposed parking spaces.

Amendments to MDPs are classified as either minor or major in §14.14 of the Land Use Code as adopted on March 7, 2022 (Attachment 1). Changes exceeding the following list are classified as a major amendment:

A. Generally consistent with the approved plan.
B. Does not impact the layout of buildings and open space.
C. Does not propose new uses.
D. Does not increase building ground coverage, floor area ratio, or residential density.
E. Does not involve new waiver requests.
F. Does not affect any condition or requirement of the Planning Board.

The proposed changes to the MDP trigger major amendments due to the removal of western portion of the lot from the MDP boundary and consolidation of 140 dwelling units into one structure (Threshold A), eliminates the elevated amenity deck open space between the two towers (Threshold B), and an increase in the floor area ratio for both buildings (Threshold D).

As part of the MDP amendment application, the Applicant is requesting use of the 250-foot maximum height allowance for the block in the Height Map (Attachment 2) adopted on November 4, 2024. At the time of the MDP approval, the maximum height allowance for the block was 150 feet. While MDPs establish pending proceeding status for development at the time of the MDP approval, applicants may elect to utilize all or a portion of the most current code for the purpose of coming into greater conformity with current standards (Attachment 3). While the use of the current height map would be permitted as part of the MDP amendment, the MDP would also have to meet all current standards related to height as well. A discussion of the compliance with these standards is provided in the next section of this report.

VI. ZONING ANALYSIS

The site is encompassed by the B-3 Downtown Business Zone and Downtown Entertainment Overlay Zone. When approved, the site was located in the Pedestrian Activities District (PAD) encouragement area, but now the Congress Street frontage of the MDP is located within the PAD Overlay Zone.

The purpose statement for the B-3 zone includes the following relevant to the proposal:

- *Enhance and promote the orderly expansion of retail and service businesses downtown, satisfying the related needs of the city's resident, working and visitor populations;*
- *Encourage increased housing opportunity downtown for a diverse residential population;*
- *Support an active, walkable pedestrian environment through the encouragement of intensive mixed-use activities, through the enhancement and maintenance of public and private open space, and through the enlivenment and increased attractiveness of the street environment;*
- *Excellence in urban design;*

The purpose statement for the PAD Overlay is to ensure that key areas are maintained as active, walkable, pedestrian-oriented activity centers.

The zoning dimensional requirements are intentionally permissive in the B-3 zone and are intended to create dense, taller buildings that fill the site and maintain a street wall line. Regarding height for this block, there is a 90-foot maximum street wall height along Pearl Street, a 50-foot maximum street wall height along Congress and Myrtle Streets, and a maximum building height of 250 feet as detailed in the City's Height

Overlay map, included at the end of Article 7 in the City's Land Use Code. Compliance with B-3 dimensional standards is shown in the table below.

Table 7-C: B-3 Dimensional Standards		
Standard	Requirement	Proposed
Build-to zone	0-5 feet	0-22 feet (Waiver received for expanded setbacks in original MDP approval)
Build-to percentage (minimum)	100%	100%
Building length as a percentage of street frontage (minimum)	Lots greater than 50 feet in frontage: 60%	Complies. Longest length is 30 feet.
Blank wall area (maximum)	20 feet	Unclear. To be assessed during site plan reviews.
Structure height (maximum)	250 feet, with 90 foot maximum street wall height on Pearl Street (15 foot stepback) and 50 foot maximum on Congress and Myrtle Streets (15 foot stepback)	250 feet with street wall stepbacks from ground plane and at 50 feet

As submitted, and with expanded build-to-zone setbacks approved as part of the original MDP, the Master Development Plan is consistent with the B-3 dimensional standards and the Height Overlay Map. As part of the current Land Use Code, standards for towers (buildings or portions of building greater than 125 feet in height) were established in §7.5.3. Compliance with tower standards is shown in the table below.

§7.5.3.: Tower Dimensional Standards		
Standard	Requirement	Proposed
Stepback required	Not applicable since development meets exception described in §7.5.3(B)(1)(a).	Not applicable.
Tower floor plates (Maximum)	10,000 square feet	Lot 1 (Hotel): Complies. 9,622 square feet Lot 2 (Condominium): Complies. 9,671 square feet
Tower separation	All portions of buildings above 125 feet in height shall provide a minimum of 35 feet of setback from side and rear lot lines when abutting another tower.	Complies. As the second phase of development, the condominium tower will provide a 38-foot setback from the side setback with the hotel property.

As submitted, the Master Development Plan meets the tower dimensional standards of §7.5.3 of the Land Use Code.

Each future site plan and subdivision will be evaluated for conformance with zoning and site plan standards as well as undergoing design review under the B-3 Downtown Urban Design Guidelines which will include an advisory Historic Preservation review.

Downtown Urban Design Guidelines & Pedestrian Activities District (PAD) Overlay: The site is required to comply with the Downtown Urban Design Guidelines. This overlay zone, is intended to encourage ground floor uses that activate pedestrian spaces, creating a safe and vibrant pedestrian environment in Portland's downtown. Buildings located within the encouragement area are required to be designed and constructed to be reasonably capable of being converted to accommodate uses that are permitted in the PAD overlay zone, and all sidewalk areas and open space shall be designed to complement the general pattern of the downtown pedestrian environment.

§8.5.2 of the PAD Overlay requires that 75% of the street level frontage (excluding vehicular/pedestrian egress or mechanical /electrical equipment rooms) be occupied by active uses to a depth of 40 feet.

Overall, the illustrative floor plan for the hotel complies with this requirement, while the design of the condominium building does not comply. Staff have identified several potential design revisions, which may enable the condominium project to comply, including reconfiguration of the northern retail unit, mechanical equipment rooms, and storage areas. Additional review and revision will be required as part of the site plan review of the condominium building.

VII. STAFF REVIEW

A. Master Development Plan Review Standards Section 14.7

Section 14.7 of the City's Land Use Code establishes standards under which Master Development Plan applications must be reviewed. Per this section, Master Development Plans shall adhere to the following requirements:

Section 14.7.1. In general

a. *Designed to integrate with the surrounding context with respect to land use, architecture, open space and pedestrian networks, vehicular access and circulation, off-site public facilities and all other infrastructure.*

Staff Comment: The proposed uses of the site for multifamily housing, hotel, retail, and structured parking are similar & compatible with the surrounding area. Shadow studies have been submitted which confirm that the proposed design will not result in shadow impacts on adjacent open spaces (Ganley Plaza & Lincoln Park).

The surrounding area is a mixture of historic and new architecture and has been designated as a site with one of the tallest permitted heights to facilitate redevelopment of a site with significant surface parking.

A linear park has been proposed along Congress Street to reflect the surrounding street wall and neighboring urban open spaces.

The original MDP necessitated the submission of a Traffic Movement Permit (TMP), which was approved on February 9, 2023. Based on the changes to the MDP boundary and current TMP review for the adjacent

music hall, Consulting Traffic Engineer has confirmed with MaineDOT that a modification to the TMP will need to occur that aims to rewrite the permit to reflect changes in mitigation.

The Applicant has provided additional information on the valet operations for the hotel, given the change in the parking configuration (**Figure 5**). Guests would enter from Congress Street and drop off their cars interior to the site. Valets would then exit the site on Myrtle Street, drive around the block to enter on Congress Street to access parking via garage ramps.

Valets would return cars to guests by driving down the garage ramps, exit the garage from Myrtle Street, drive around the block to enter on Congress Street, where guests will then exit out onto Myrtle Street.

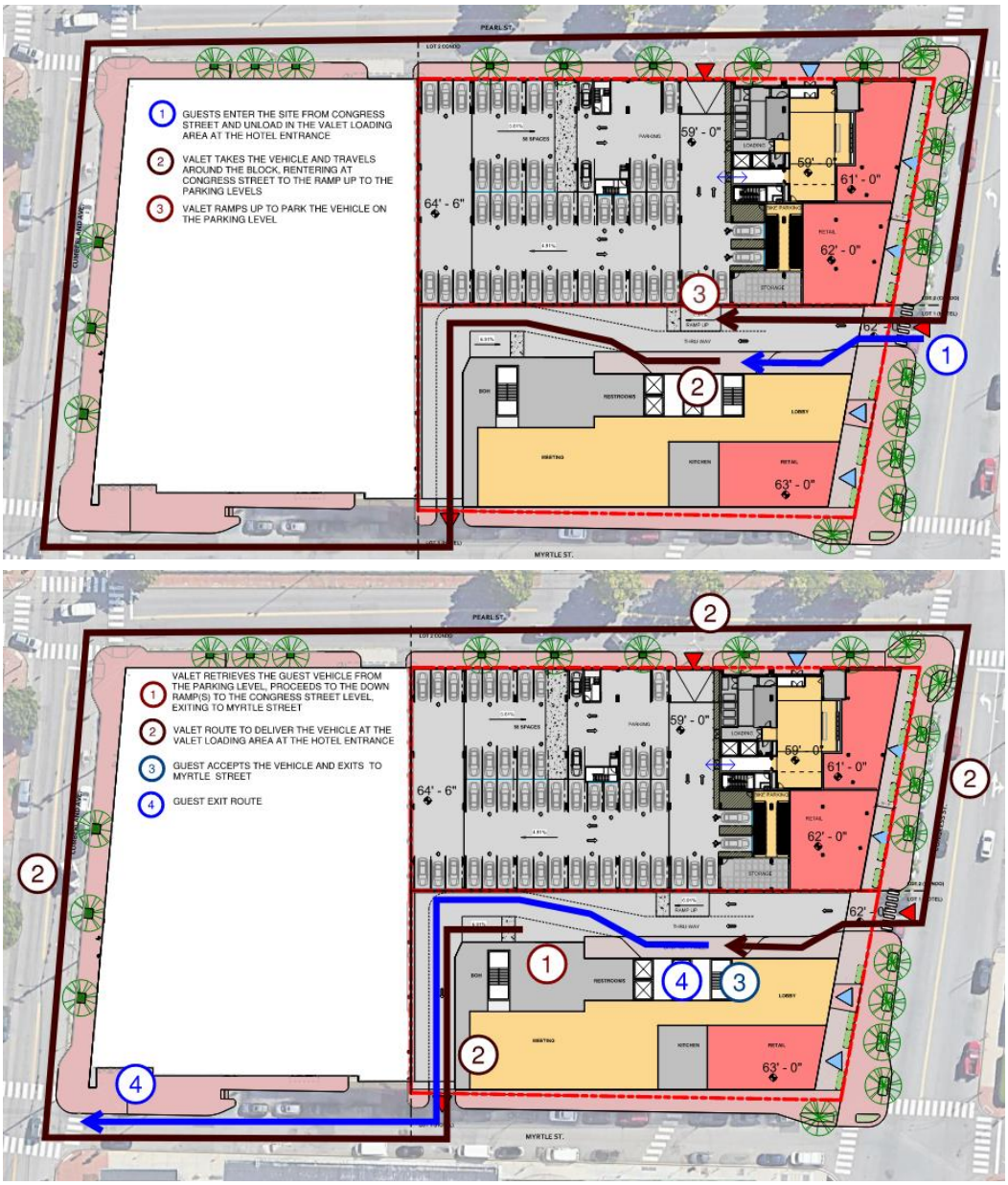


Figure 5: Diagrams showing drop-off (Top) and pickup valet operations (Bottom) for the illustrative hotel plans.

Overall, the proposed operations are similar to the plan approved for the original MDP, with the three-year monitoring conditions of the valet operations to remain as a component of the updated TMP.

In future site plan amendment/ site plan applications, City Staff encourage the implementation of shared parking facilities between the hotel and the condominium to minimize valet operations on Myrtle Street, Cumberland Avenue, and Pearl Street/eliminate the need for a curb cut on Myrtle Street. Opportunities to redesign the ramping for the hotel to minimize trips around the block to access the upper parking decks is also recommended by Staff. The subsequent site plan application for the hotel will be required to submit a waiver to Technical Manual §1.5.1. for driveway separation for the Myrtle Street.

The major site plan application for the condominium building will necessitate the submission of a parking demand study since the proposed parking (311) exceeds 110% of the required parking (159) for the proposed uses.

As compared to the original MDP, stormwater and sewer infrastructure is now proposed to be separate for each phase, with no easements between phases being required for sewer outfalls. The applicant's representing agent (Sebago Technics) has been coordinating stormwater and sewer improvements as part of the review of the music hall application for the MDP as well.

Each site will contain subsurface stormwater detention, with the detention tank for the hotel to be collocated with the linear park along Congress Street. Additional review and discussion of the profile, finishes, and programming of the linear park with the hotel's subsurface detention tank will need to be further reviewed as part of a future site plan amendment/ site plan application.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

b. Consistent with the objectives of this ordinance, consistent with the City's Comprehensive Plan, and consistent with City Council-approved master plans and facility plans for off-premise infrastructure.

Staff Comment: The submitted MDP is consistent with Council-approved master plans by:

- Proposing the construction of dense housing in Downtown and pedestrian enhancements such as curb extensions and expanded sidewalks to promote walkability and traffic calming (**Peninsula Transit Plan, 2009**)
- Providing infill development within a transit-oriented location with pedestrian-oriented streets to make walking more inviting, and connection to bus routes, bike networks, and other mobility options easier to access to other parts of the city. Providing residential density as well as employment and job density that can support and drive transit ridership as well as walk to work opportunities (**One Climate Future, 2021**)

The MDP aligns with the City's Comprehensive Plan by infilling an undeveloped site primarily used for automobile parking located at the heart of Portland's walkable downtown, proximate to some of the tallest structures in the city, with residential units, commercial uses, and pedestrian improvements that better reflect the downtown location.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

Natural features and open space

a. *Developed so as to locate buildings and improvements in a manner that considers existing topography, provides usable open space, preserves significant natural features as defined in Subsection 14.6.2, and preserves existing trees to the maximum extent possible.*

Staff Comment: The proposed development considers the existing topography by prioritizing street-level activation at the block corners while reinforcing Congress Street as the principal frontage for the MDP. Public open space has been proposed through a linear park along Congress Street, with private open space proposed on top of the podium level of the building, as well as private balconies for condominium units.

The property is currently entirely developed, with minimal landscaping around the perimeter and no significant natural features. The MDP contemplates eliminating all of the existing landscaping and proposing the planting of 15 trees, which would be an increase of 11 trees in the streetscape.

Based on the review of the hotel, tree plantings on Myrtle Street were deemed not to be viable by the Department of Public Works.

Staff is recommending that an existing condition for the MDP remain, which would require that existing street trees along Congress Street be reevaluated for preservation by the Applicant and the City Arborist as part of future site plan submissions.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

b. *Include provisions for the ownership and maintenance of usable open space as appropriate.*

Staff Comment: The applicant states that each lot would have separate maintenance and ownership for open space on the site at the ground level and on the podium level. Finalization of the design of these open spaces will occur during applicable site plan reviews, and the City will require that the applicant provide additional information regarding the long-term ownership and maintenance of open space as part of subsequent site plan applications.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

Historic Preservation

a. *Developed as so to conform with standards for designated landmarks or for properties within designated historic districts or historic landscape districts as found in Article 17.*

Staff Comment: Not applicable. The site is not a designated landmark or located within a historic district or historic landscape district.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be not applicable.

b. When proposed adjacent to or within one hundred (100) feet of designated landmark, historic district, or historic landscape, the master development plan shall be developed so as to be generally compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity of the proposed development.

Staff Comment: The site is located within 100 feet of the Congress Street Historic District, including 380 & 389 Congress Street with two locally designated landmarks (Central Fire Station & Portland City Hall). The massing proposes the use of a base | middle | top design that reflects the character of the Congress Street Historic District and City Hall. Contextual setbacks are proposed to align with City Hall and provide a visual connection to Ganley Plaza.

Subsequent major site plan application design reviews will ensure that more specific elements of the buildings (e.g., materiality) are compatible with the surrounding context.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

Infrastructure

a. Designed with sizing of street and other infrastructure systems to accommodate the overall service demand of the plan.

Staff Comment: The proposed development would be serviced by public water, sanitary sewer, power, natural gas and telecommunications. The hotel would have sewer service from Myrtle Street, with the remaining utility connections from Congress Street, while the condominium would have all connections from Pearl Street. As part of the application, a new 8-inch storm drain is proposed to run under Congress and Pearl Streets to support City efforts to separate the combined sewer on Pearl Street.

Regarding stormwater management, the applicant has provided details of proposed improvements for each phase to service the overall development. This concept is to be refined and designed with more detail as part of each individual phase. The proposal qualifies as a redevelopment under MaineDEP Chapter 500, and is required to treat 50% of impervious surface. Two subsurface storage and treatment systems are proposed, with one system serving the hotel phase and the second serving the condominium phase.

The submitted application materials state that more detailed utility plans will be submitted upon submission of each separate major site plan application.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

b. Designed to create a street grid pattern that reflects average city block sizes of the surrounding neighborhood.

Staff Comment: The MDP occupies half of a city block, which reflects neighboring sites that occupy the majority to all of city blocks.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

Design

a. Designed to create a cohesive identity through building scale, massing, and articulation; use of quality exterior materials and architectural detailing at pedestrian scale; consistency of design and materials for streetscape and pedestrian amenities; framing of outdoor open space and linkages; a clear conveyance of the function and significance of various buildings, entrances, and features; and to generally comply with design and development standards of the zone in which it is located.

Staff Comment: A Design Review was prepared by Urban Designer Sean King on July 2, 2025 detailing the compliance of the submitted application with the MDP design standards (Attachment 5). Based upon this review, it was determined that the MDP would create a cohesive identity through the inclusion of a podium design with ground-floor retail at the base and building stepbacks to achieve a consistent street wall and successfully integrate the proposed height of the hotel and condominium towers.

Materials and detailing have not been proposed as part of the application materials, and further review would occur as part of any future site plan.

City Staff requested additional information on the amenities proposed along Congress Street. Updated plans provide a linear park along the development's Congress Street frontage, similar to that which is provided along the Congress Street frontage of City Hall. This plan also distinguishes both pedestrian and vehicular zones through the use of different surface materials, and delineates public and private space. As detailed in the design memo, Staff consider this update to be successful and compliant with this MDP standard.

The inclusion of expanded sidewalks and ground-floor retail help to frame outdoor open spaces and linkages to open spaces both on and off-site. Staff are recommending requirements for continuity in materials, amenities and connectivity in the expanded sidewalks along Congress Street, which will be required to be considered by the applicant in future Site Plan applications. Under future site plan reviews, the Applicant should consider how street furniture, such as permanent outdoor seating, can be incorporated within the expanded sidewalk along Congress Street.

The function and significance of buildings, entrances and features has been demonstrated through the differing design of the hotel and condominium buildings, and differing projections/recesses for balconies that denote private open space, and which separate entrances along Congress Street and Pearl Street, respectively.

City Staff requested that the proposed building footprint, particularly at Congress & Pearl Streets, reinforce the street wall as originally proposed in the MDP, which the Applicant team has updated in their

materials. Additional diagrams have also been provided for the building to review compliance with tower standards.

As mentioned in the Zoning section, additional review and revision during site plan review will be required for the condominium building to meet the requirements of the PAD Overlay for the scale of pedestrian-oriented, active uses.

Through the submission of the waiver request for increased front setbacks and future staff review in subsequent site plan applications, the MDP meets the relevant MDP standards related to design. Additional design review against the B-3 design standards will be required in future site plan submittals.

VIII. PUBLIC COMMENT

As of the writing of this memorandum, no written public comments have been received.

IX. STAFF RECOMMENDATION

Subject to the proposed motions and condition of approval listed below, Planning Department Staff recommends that the Planning Board approve application PL-003359-2025 for a Master Development Plan Amendment at the subject property.

X. PROPOSED MOTIONS

A. MASTER DEVELOPMENT PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on July 8, 2025 application #PL-003359-2025 relevant to the Master Development Plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the Master Development Plan standards of the Land Use Code subject to the following conditions of approval:

ONGOING/MONITORING

1. The Design Standards outlined in the City's Urban Design Review Memo dated June 13, 2025 in addition to the B-3 Downtown Business Design Standards shall guide the site plan review of all the MDP phases. The approval of the MDP does not imply approval of individual building designs and the public realm details as presented, which shall be addressed in Site Plan application and review; and
2. The Applicant shall work with the City Arborist to evaluate the preservation of street trees along Congress Street.

PRIOR TO ISSUANCE OF A BUIDLING PERMIT

3. The Applicant shall coordinate with the Planning Authority and the City's Third-Party Traffic Engineer to modify the Traffic Movement Permit for the Master Development Plan, to account for changes in programming, and the removal of Lot 3 of the 385 Congress Street Subdivision from the TMP scope.

XI. PLANNING BOARD DECISION

On the basis of the findings, conclusions and recommendations contained in the Planning Board report for the public hearing on July 8, 2025 related to application PL-003359-2025 for 385 Congress Street, which is attached to the draft approval letter and incorporated therein, the Planning Board **[adopts/does not adopt]** the approval letter as drafted as the Planning Board's decision for application PL-003359-2025, and authorizes the Planning Board Chair to sign the approval letter as drafted.

XII. ATTACHMENTS

Staff Attachments

1. Land Use Code (as amended March 7, 2022)
2. City of Portland Height Map (as adopted November 4, 2024)
3. Master Development Plan Pending Proceeding Memo (June 30, 2023)
4. Master Development Plan Worksheet (June 13, 2025)
5. Design Review Memo (July 2, 2025)
6. Design Review Memo (June 13, 2025)
7. Draft Approval Letter

Applicant's Documents

A. Cover Letter and Description
B. Master Development Plan Amendment Background
C. Right, Title, and Interest
D. Financial and Technical Capacity
E. Master Development Plan Program Summary
F. Valet Operations Narrative
G. Master Development Plan Comment Response

Applicant's Plans

Plan 1. Plans 2025-04-23
Plan 2. MDP Site Plan 2025-06-26
Plan 3. Illustrative Plans 2025-06-26
Plan 4. Utility Plan 2025-06-28
Plan 5. Boundary Survey

CITY OF PORTLAND
LAND USE CODE

Att. 1



Amended 3/7/22

RECORD OF AMENDMENTS

Date	Section(s)	Order No.
11/3/20	Article 3 Definitions 18.2.3 Ensuring Workforce Housing	By Referendum
1/4/21	Article 3 Definitions Article 6 Table 6-C	146-20/21
2/22/21	Article 6 Table 6-C	163-20/21
3/15/21	18.3.2 Establishment of the Housing Trust Fund	178-20/21
3/15/21	Article 7 Table 7-E	180-20/21
7/19/21	Article 3 Definitions Article 6 Table 6-A Article 7 Table 7-B	303-20/21
3/7/22	Article 9 Table 9-C 9.1.7.A.1.a Height bonus applicability	153-21/22

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1 INTRODUCTORY PROVISIONS

1.1 TITLE

The title of this chapter of the City of Portland Code of Ordinances is the City of Portland Land Use Code and is referred to as the City of Portland Land Use Code or the Land Use Code.

1.2 ZONING MAP

The City of Portland zoning map is incorporated by reference.

1.3 PURPOSE

The intent of the Land Use Code is to protect the health, safety, and general welfare of the residents of Portland, consistent with the City's Comprehensive Plan, through standards that govern the orderly and compatible use of land, the form and mass of buildings, and the relationship of development to the public realm, Portland's open spaces, and the environment.

1.4 APPLICABILITY

No building or structure shall be erected, structurally altered, enlarged, repaired, moved, rebuilt, or used, and no land shall be sold, leased, conveyed, used, developed, or altered except in conformity with the provisions of this Land Use Code.

1.5 ENFORCEMENT

1.5.1 Enforcement

The Building Authority and/or a City of Portland Code Enforcement Officer is authorized to institute or cause to be instituted by the Corporation Counsel in the name of the City any and all actions, legal or equitable, that may be appropriate or necessary for the enforcement of the Land Use Code.

1.5.2 Violations

Any person being the owner or occupant of, having control of, or having the use of any building or premises or part thereof, who violates any of the provisions of this Land Use Code, shall be guilty of an offense and subject to the penalties and remedies provided in Chapter 1, Section 1-15 of the City of Portland Code of Ordinances and 30-A M.R.S. § 4452.

1.6 RELATIONSHIP WITH OTHER LAWS

1.6.1 Federal and state law

Where conditions, standards, or requirements imposed by any provision of this Land Use Code are found to be inconsistent with a provision listed in the law or regulations of the State of Maine or federal government, the more restrictive provision shall control.

1.6.2 City of Portland Land Use Code

If any provision of this Land Use Code contains an actual, implied, or apparent conflict with another provision of this code, the more restrictive provision shall control.

1.6.3 Fair Housing accommodation

The City of Portland may make reasonable modifications to the requirements of the Land Use Code to accommodate the needs of persons with disabilities as so defined in Title VII of the Civil Rights Act of 1968, as amended by the Fair Housing Amendments Act of 1988.

1.6.4 Comprehensive Plan

The Comprehensive Plan serves as the basic policy guide for this Land Use Code. Amendments to this Land Use Code shall be generally consistent with the current Comprehensive Plan.

1.6.5 Current versions and citations

All references to other regulations or manuals in this Land Use Code refer to the most current version and citation for those regulations or manuals, unless expressly indicated otherwise. When the referenced regulations or documents have been repealed and not replaced by other regulations or manuals, Land Use Code requirements for compliance are no longer in effect.

1.6.6 Private agreement

This Land Use Code does not nullify any private agreement or covenant. However, where this code is more restrictive than a private agreement or covenant, this code controls. The City does not enforce private agreements.

1.7 DELEGATION OF AUTHORITY

Whenever a provision requires the head of a department to perform an act or duty, that provision will be interpreted as authorizing the department head or officer to delegate that responsibility to others over whom he or she has authority.

1.8 RULES OF INTERPRETATION

1.8.1 Meaning of words and terms

All words and terms shall have the meanings shown in Article 3, unless otherwise expressly stated. For words or terms not specifically defined in this Land Use Code, they are interpreted by their common dictionary meaning or customary usage consistent with their context.

1.8.2 Graphics and illustrations

Graphics and illustrations are included to illustrate the intent of the text. In the case of a conflict between the text and any graphic or illustration, the text controls.

1.8.3 Lists and examples

Unless otherwise expressly indicated, lists of items or examples that use "including," "such as", or similar terms are intended to provide examples only, and shall not be construed as being limited to the items or examples listed.

1.8.4 Time

When a number of days is specified as a period from a certain day within which or after or before which an act is authorized or required to be completed, time is computed as the number of calendar days excluding the calendar day when the act is authorized or required to be completed. Business days shall be interpreted as days on which the City of Portland is open for business.

1.8.5 Obligatory terms and conjunctions

The terms in the text of the Land Use Code shall be interpreted in accordance with the following rules of construction:

A. The terms "must", "shall", or "will" are mandatory terms that express a requirement or impose an obligation.
B. The terms "must not", "shall not", "will not", and "may not" express a prohibition.
C. The term "should" expresses a recommendation or suggestion and does not express a requirement or imposition.

D. The term "may" is permissive and does not express a requirement or imposition.
E. The conjunction "and" indicates that all connected words or provisions apply.
F. The conjunction "or" indicates that the connected words or provisions may apply singly or in any combination.
G. The conjunction "either [...] or" indicates that the connected words or provisions apply singly, but not in combination.

1.8.6 Gender

Words denoting one gender apply to all genders.

1.8.7 Abbreviations

Building Authority. Either the Department of Permitting and Inspections, its director, or their designee.

Council. The Portland City Council.

Planning Authority. Either the Department of Planning and Urban Development, its director, or their designee.

Public Works Authority. Either the Department of Public Works, its director, or their designee.

1.9 SUCCESSIVE APPLICATIONS

Whenever any application, appeal, or other request filed pursuant to this Land Use Code has been finally denied on its merits, a second application, appeal or other request seeking essentially the same relief, whether or not in the same form or on the same theory, shall not be brought within one year of such denial unless, in the opinion of the authority or board before which it is brought, there has been a substantial change in circumstance or substantial new evidence is available.

1.10 AMENDMENTS

1.10.1 Authority

The City Council may amend this Land Use Code and the zoning map incorporated herein.

1.10.2 Procedure

A. An application for a text or zoning map amendment shall be filed with the Planning Authority. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The fee for text or zoning map amendment applications may be waived or reduced by the Planning Authority in the case of an application submitted by a governmental body or where an applicant can establish financial hardship. If a text or zoning map amendment application is withdrawn by an applicant prior to the submission of the advertisement copy to the newspaper to announce the public hearing, a refund of half of the amount of the application fee will be made to the applicant by the City provided that all costs incurred by the City have been paid in full by the applicant.
B. Once it is determined that the application is complete, the Planning Authority shall give a dated receipt to the applicant and, in the case of a map amendment, shall notify, by mail, all property owners within the limits of the proposed zoning map amendment and all property owners 500 feet beyond said area, except that for map amendments to a site located within industrial zone designations the notice range shall be 1,000 feet. The notice

hereunder shall include a brief description of the application, the address or location of the property involved, and contact information where additional information may be obtained. The cost of noticing shall be charged to the applicant.

C. A private applicant for a map amendment that would permit a development subject to major site plan review shall conduct neighborhood outreach according to the provisions for neighborhood meetings under Article 14.

D. The Planning Authority shall review the application against the standards of this article and make a recommendation to the Planning Board.

E. The Planning Board shall hold a public hearing in accordance with the provisions of Article 2 and make a recommendation to adopt, adopt with modifications, or not adopt the proposed map or text amendment, and forward the recommendation to the City Council.

F. The City Council shall review the proposed amendment and determine whether and how to amend the Land Use Code or zoning map.

1.10.3 Review fees

The applicant shall pay a fee to cover the professional and administrative costs for review and analysis associated with the amendment, including but not limited to planning, legal, engineering, or other services. The fee shall be based on the hours of review and processing time and the prevailing hourly rate for reimbursement of City costs. The City shall periodically invoice the applicant for such costs incurred by the City, which invoice shall be paid promptly by the applicant.

1.10.4 Review standards

Except as otherwise required by law, amendments to the City's Land Use Code shall be pursuant to and consistent with the Comprehensive Plan.

1.11 TRANSITION RULES

A permitted use established prior to the effective date of the Land Use Code that is now classified as a conditional use shall be deemed a lawful conditional use. Any subsequent addition, enlargement, or expansion of that use shall conform to the procedural and substantive requirements for conditional uses in Article 6. A permitted or conditional use established prior to the effective date of this Code that is now classified as a prohibited use shall be deemed a nonconforming use and is controlled by the provisions of Article 4.

2 ADMINISTRATION

2.1 PLANNING BOARD

2.1.1 Composition

There shall be a Planning Board of seven members. Members of the Planning Board shall be residents of the city and shall not be officers or employees of the City. Members shall serve without compensation.

2.1.2 Appointments

A. **Terms.** The members of the Planning Board shall be appointed by the City Council for terms of three years. Such members shall serve until their successors are duly appointed and qualified. Such terms shall be staggered so that the terms of not more than three members shall expire in any calendar year; providing, however, such service shall not extend to over 120 days after expiration of their term. Members may serve for three consecutive three-year terms.

B. **Vacancies.** Permanent vacancies on the Planning Board shall be filled by the City Council, in the same manner as other appointments hereunder, for the unexpired term of the former member.

2.1.3 Removal of members

Any member of the Planning Board may be removed for cause by the City Council at any time, provided, however, that before any such removal, such member shall be given an opportunity to be heard in their own defense at a public hearing.

2.1.4 Officers

A. **Chair.** The members of the Planning Board shall annually elect one of their number as chair to preside at all meetings and hearings and to fulfill the customary functions of that office. The chair may administer oaths.

B. **Vice chair.** The members of the Planning Board shall annually elect one of their number as vice chair. In the absence of the chair, the vice chair shall act as chair and shall have all the powers of the chair. The vice chair shall have such other powers and duties as may be provided by the rules of the Planning Board.

2.1.5 Committees

The chair of the Planning Board shall assign the members of the board to such regular and special committees as may be established by the board. Such committees shall have no final authority but shall assist the board in the conduct of its business by making recommendations to it concerning such specific items as may be assigned to them for study and report. The board shall adopt such rules as it shall deem appropriate to govern the organization and operation of its committees. Committee meetings deliberative in nature shall be open to the public in accordance with Title 1 M.R.S. § 401 et seq.

2.1.6 Quorum and necessary vote

As to any matter requiring a hearing, no business shall be transacted by the Planning Board without a quorum, consisting of four members, being present. The vote of at least four members shall be necessary to authorize any action by the board. If less than a quorum is present, the hearing may be adjourned for a period not exceeding three weeks at any one time. The Planning Authority shall notify

in writing all members of the date of the adjourned hearing and shall notify such other interested parties as may be directed in the vote of adjournment.

2.1.7 Conflicts

No member of the Planning Board shall participate in the hearing or disposition of any matter in which he or she has an interest. Any question of whether a member has a conflict of interest sufficient for a member to be recused shall be decided by a majority vote of the members present, except the member whose possible conflict is being examined. Where such vote results in a tie, the subject member shall be recused from the matter.

2.1.8 Meetings and procedures

A. **Meetings.** Regular meetings of the Planning Board shall be held at the call of the chair or as provided by rule of the board. Special meetings may be called by the chair or any four members of the Board or at the request of the City Council.

1. *Workshops.* Workshops of the Planning Board or any of its committees may be held at the call of the board or committee chair, as the case may be, for the presentation of information by the Director of the Department of Planning & Urban Development, their staff, an applicant, or others. These meetings will be open for public comment according to the rules of the Planning Board. Such meetings, unless open to the public as provided in Title 1 M.R.S. § 401 et seq. shall be informational only and shall not result in final decisions on any matter.
2. *Public hearings.* Public hearings shall be held as required by the various statutes, codes, and ordinances pursuant to which matters are brought before the Planning Board and shall be conducted in accordance with relevant state law, the Land Use Code, and the rules of the board.

B. **Notice.** The Planning Authority shall give notice of the time and place of public workshops and hearings, including a brief description of the application(s) to be considered, as follows:

1. *Site plan and subdivision.* Notice shall be given to the general public by publication in a newspaper of general circulation in the City of Portland at least two times, the date of the first publication to be at least 10 calendar days prior to the workshop or hearing. Notice shall also be sent by regular United States mail at least 10 calendar days in advance of the workshop or hearing date to the applicant, the owner(s) of the subject property, and all owners of property located within 500 feet of the subject property, except that for subdivisions within industrial zones the notice range shall be 1,000 feet.
2. *Land Use Code or zoning map amendment.* Notice of public hearing shall be publicly posted in the municipal office at least 13 days before the public hearing on such application. In addition, notice of said public hearing must be published at least two times in a newspaper of general circulation in the City of Portland. The date of the first publication must be at least 12 days prior to any public hearing and the date of the second publication must be at

least seven days prior to the public hearing. For map amendments, notice shall be sent by regular United States mail to at least 13 calendar days in advance of any workshop or hearing date to all property owners within the area proposed for rezoning and all property owners 500 feet beyond said area, except that rezoning to industrial zone designations the notice range shall be 1,000 feet.

3. *Contract or conditional zoning.* Notice of public hearing shall be posted in the City Clerk's office at least 13 days prior to the public hearing and shall be published in a newspaper of general circulation within the city at least two times, the date of the first publication to be at least seven days prior to the hearing. Notice shall also be sent to the owners of all property abutting the property to be rezoned at their last known address. This notice shall contain a copy of the proposed conditions and restrictions, with a map indicating the property to be rezoned.

The cost of noticing shall be charged to the applicant.

C. **Procedures.** The Planning Board shall adopt its own rules for the conduct of its business not inconsistent with the statutes of the state and this article. Such rules shall be filed with the Planning Authority and with the City Clerk. Any and all rule changes shall be placed on a City Council public agenda as a communication requiring a public hearing. Any rule may be vetoed, in whole or in part, by order of the Council within 45 days of the date of filing with the City Clerk. No rules change shall take effect until that time period has elapsed. If a part of a rule is vetoed, the remainder shall continue in effect. Any rule so adopted, which is not required by the statutes of the state or by this article, may be waived by the chair upon good cause being shown. Except as otherwise provided in Subsection 2.1.8(A)(1), all meetings, hearings, and deliberations of the Planning Board and its committees shall be open to the public in accordance with Title 1 M.R.S. § 401 et seq. Testimony at any hearing may be required by the Planning Board to be given under oath.

D. **Keeping of records.** The Director of the Department of Planning & Urban Development shall designate a member of their staff who shall attend all Planning Board proceedings. The staff shall provide for the keeping of minutes of the proceedings of the Board, showing the vote of each member on every question, or their absence or failure to vote, and shall maintain the permanent records and decisions of all Board meetings, hearings, and proceedings and all correspondence of the Board, as required by statute. Such records shall be public records open to inspection during working hours upon reasonable notice.

2.1.9 Record and decisions

A. **Record.** The minutes of the staff, and the transcript if one is made, and all exhibits, papers, applications, and requests filed in any proceeding before the Planning Board and the decision of the Board shall constitute the record.

B. **Decision.** Every final decision of the Planning Board and every recommendation of the Planning Board to the City Council shall include written findings of fact, and shall specify the reason or reasons for such decision or

recommendation. The Planning Authority shall mail notice of any decision of the Planning Board to the applicant.

2.1.10 Jurisdiction and authority

In addition to the jurisdiction conferred on it by other provisions of state law and the ordinances of the City and in accordance therewith, the Planning Board shall have the following jurisdiction and authority:

A. To prepare and recommend a Comprehensive Plan to the City Council.
B. To prepare and recommend to the City Council changes in and amendments to the Comprehensive Plan.
C. To aid and assist the City Council and departments and agencies of the City in implementing general plans and in planning, developing, and completing specific projects.
D. To hear, review, and approve, conditionally approve, or deny master development plans and major site plans.
E. To hear, review, and approve, conditionally approve, or deny applications for subdivision approval.
F. To hear, review, and approve or deny applications for conditional uses listed in Article 6.
G. To hear, review, and offer its recommendations to the City Council on applications for amendments to, or revisions of, this Land Use Code.
H. To review and offer its recommendations to the City Council on certain public projects.
I. To review and approve, conditionally approve, or disapprove site plans for regulated projects in shoreland areas.
J. To prepare and offer its recommendations to the City Council with regard to the City's annual Capital Improvement Program.
K. Upon reasonable request, to make its special knowledge and expertise available to any official, department, board, or agency of the city, county, state, or federal governments to aid them in the performance of their respective duties relating to the planning and development of the city and its region, including request from the City Council to review proposed developments in which the developer does not have the right, title, or interest in all the property necessary for the proposed development because some or all of that property is owned by the City.
L. To make such investigations, maps and reports, and recommendations in connection therewith, relating to the planning and development of the city as seem desirable.
M. To employ or contract with such experts and other assistants as may be necessary or convenient to carry out its duties hereunder and to pay for their services and for such other expenses as may be necessary and proper, provided, however, that such expenditures shall not exceed such funds as may be appropriated for such purposes by the City Council.
N. To hear, review, and offer its recommendations to the City Council on petitions for street vacations and discontinuances.
O. To hear, review, and decide appeals where it is alleged there is an error in any decision, requirement, or determination made by the Planning Authority.
P. To approve, following a public hearing and at the recommendation of the Public Works Authority and the Planning Authority, *Technical*

Manual and *Design Manual* standards, provided that such standards shall be additional to and consistent with the provisions of this Land Use Code, necessary and reasonable, and in accordance with sound engineering and urban design practice.

2.1.11 Administrative appeals

A. **Application procedures.** An appeal may be taken to the Planning Board by any person affected by a final decision of the Planning Authority except as provided elsewhere in this Land Use Code. Such appeal shall be taken within 30 days of the action complained of by filing with the Planning Authority an application for appeal specifying the grounds thereof. The application shall be in such form as specified by the Planning Authority. A payment of a nonrefundable filing fee, as established by the City Council to cover administrative costs and costs of hearing, shall accompany each application. The Planning Authority shall forthwith transmit to the Planning Board all of the papers constituting the record upon which the action appealed from was taken.

B. **Public hearing.** A public hearing shall be set, advertised and conducted by the Planning Board in accordance with the provisions of this article.

C. **Action**. Within 30 days following the close of the public hearing, the Planning Board shall render a decision on the appeal in the manner and form specified in the provisions of this article and the statutes of the state. The failure of the board to act within 30 days shall be deemed a denial of the appeal unless mutually extended in writing by the appellant and the board. Within five days of such decision or failure to act notice thereof shall be mailed to each party.

D. **Conditions and limitations.** Any right granted by the reviewing board on appeal shall be subject to the same conditions and limitations as if secured without the necessity of an appeal.

2.1.12 Planning Board appeals

An appeal from any final decision of the Planning Board as to any matter over which it has final authority may be taken by any party or by any authorized officer or agent of the City to the superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure. No appeal shall lie concerning any matter as to which the power of the Board is limited to the making of a recommendation.

2.2 HISTORIC PRESERVATION BOARD

2.2.1 Composition

The Historic Preservation Board shall consist of seven voting members who shall serve without compensation. Members shall not be officers or employees of the City. Members shall have demonstrated interest, knowledge, ability, experience, or expertise in restoration, rehabilitation, or neighborhood conservation or revitalization and shall be residents of the city.

2.2.2 Appointments

A. **Terms.** Members shall be appointed by the Council for terms of three years. Appointments shall be staggered so that the terms of not more than three members expire in any calendar year. Members may serve for three consecutive three-year terms.

B. **Vacancies.** Vacancies on the Historic Preservation Board shall be filled within 60 days. However, every member shall continue in office after expiration of the term until a

successor has been appointed. Vacancies on the Historic Preservation Board shall be filled for the unexpired term of the former member.

2.2.3 Removal of members

Members may be removed for cause by the Council. Cause shall include, but is not limited to, the failure to attend meetings without good cause. Any member proposed to be removed shall be given written notice and an opportunity to be heard prior to final action.

2.2.4 Officers

A. **Election and terms.** Officers of the Historic Preservation Board shall consist of a chair and vice chair. Officers shall be elected by the Historic Preservation Board and shall serve a term of one year and shall be eligible for re-election.

B. **Chair.** The chair shall preside at all meetings and hearings and fulfill the customary functions of that office.

C. **Vice chair.** In the absence of the chair, the vice chair shall act as chair and shall have all the powers of the chair. The vice chair shall have such other powers and duties as may be provided by the rules of the Historic Preservation Board.

2.2.5 Conflicts

No member of the Historic Preservation Board shall participate in the hearing or disposition of any matter in which he or she has an interest.

2.2.6 Meetings and procedures

A. **Meetings.** Regular meetings of the Historic Preservation Board shall be held no less frequently than monthly. Special meetings may be called by the chair or any four members or at the request of the chair of the Planning Board.

B. **Notice.** The Planning Authority shall give notice of the time and place of Historic Preservation Board public workshops and hearings, including a brief description of the application(s) to be considered, as follows:

1. *Landmark or district nomination.* Notice shall be given to the general public by publication in a newspaper of general circulation in the City of Portland at least two times, the date of the first publication to be at least 10 calendar days prior to the workshop or hearing. Notice shall be sent by regular United States mail at least 10 calendar days in advance of the workshop or hearing date to the applicant and to the owner(s) of the subject property or properties.
2. *Certificate of Appropriateness review.* Notice shall be given to all property owners within 100 feet of the property at least seven days prior to the date of the workshop or public hearing.
3. *Major site plan review.* For alteration or new construction that is classified as a major site plan under Article 14, notice shall be given to all property owners within 500 feet of the property at least seven days prior to the date of the workshop or hearing.

The cost of noticing shall be charged to the applicant.

C. **Procedures.** The Historic Preservation Board may adopt procedural rules for the conduct of its business not inconsistent with this article, including the creation of a subcommittee

structure to enhance efficiency in consideration of Historic Preservation Board business. Such rules shall be filed with the Planning Authority and with the City Clerk. All such rules shall be subject to veto, in whole or in part, by the Council within 45 days of such filing. The initial rules shall take effect when filed, subject to veto as provided above. Amendments to the rules shall take effect upon expiration of said veto period. Any rule may be waived by the chair upon good cause being shown.

2.2.7 Record and decisions

A. The Director of the Department of Planning & Urban Development or their designated staff representative shall attend all Historic Preservation Board meetings. The staff shall provide for the keeping of tape recordings or minutes of the proceedings of the Historic Preservation Board, showing the vote of each member on every question or their absence or failure to vote, and shall maintain the records and decisions of all meetings, hearings, and proceedings and all correspondence of the Historic Preservation Board. Copies of permanent records shall be filed with the City Clerk. Staff shall publish and distribute copies of the records, reports, and decisions of the Historic Preservation Board to Historic Preservation Board members and to others upon approval of the Historic Preservation Board.

B. No final action shall be taken by the Historic Preservation Board which could in any manner deprive or restrict the owner of a property in its use, alteration, maintenance, disposition, or demolition until such owner either has knowledge of the proceeding or is sent notice offering opportunity to be heard. This paragraph shall not affect the interim protection provisions of Section 17.6.

C. Every recommendation or recommended decision of the Historic Preservation Board shall include written findings of fact and shall specify the reason or reasons for such action.

D. Staff shall mail notice of any final determination or recommendation of the Historic Preservation Board to the applicant and property owner(s).

2.2.8 Responsibilities

The Historic Preservation Board shall have the following responsibilities:

A. To conduct or administer an ongoing survey to identify historically, culturally, architecturally, and archaeologically significant areas, sites, structures, and objects.

B. To review all areas, sites, structures, and objects listed in the National Register of Historic Places, including the boundaries of areas so listed, and make recommendations to the Planning Board and City Council for the designation of those areas, sites, structures, and objects as local landmarks or districts.

C. To investigate and recommend to the Planning Board and City Council the designation of areas, sites, structures, and objects not listed in the National Register of Historic Places as local landmarks and districts and to make recommendations to the Planning Board concerning sites, structures, and objects that have contributing significance or are intrusions within nominated or designated districts.

D. To keep and make available to the public a register of all areas, sites, structures, and

objects that have been designated as landmarks or districts, including all information required as part of each designation.

E. Upon request, to advise and assist owners of landmarks and property, sites, structures, or objects within districts on physical and financial aspects of preservation, renovation, rehabilitation, and reuse and for procedures for inclusion on other registers of significant areas, sites, structures, and objects, including the National Register of Historic Places.

F. To recommend to the Planning Board the nomination of areas, sites, structures, and objects to the National Register of Historic Places or to any State of Maine Register of Historic Places that may be established.

G. To participate in the Certified Local Government Program of the National Historic Preservation Act Amendments of 1980 and the Maine Historic Preservation Commission, and carry out any responsibilities delegated to it under that program, including review and comment on any National Register nominations submitted to the Historic Preservation Board.

H. To seek funding for which the City of Portland is eligible through the Certified Local Government Program to assist in local preservation projects, including projects undertaken by local non-profit organizations.

I. To, upon request by the City Council, participate in any review of federal actions or undertakings pursuant to Section 106 of the National Historic Preservation Act, attend informational and educational programs sponsored by the Maine Historic Preservation Commission, and prepare an annual report of the activities of the Historic Preservation Board.

J. To inform and educate the citizens of Portland concerning the cultural, historic, architectural, and archeological heritage of the city by publishing appropriate maps, newsletters, brochures, and pamphlets and by sponsoring programs and seminars.

K. To hold meetings and public hearings to review applications for Certificates of Appropriateness affecting proposed or designated landmarks and districts and to recommend approval or disapproval of Certificates of Appropriateness.

L. To provide testimony to the Board of Appeals in connection with any application for a Certificate of Economic Hardship.

M. To develop design guidelines affecting landmarks or districts for review and approval by the Planning Board.

N. To advise the Planning Board as to recommendations on any preservation or conservation easements that the City of Portland may have or be offered as a gift or otherwise.

O. To advise the Planning Board as to the administration of such gifts, grants, and money as may be appropriated for the purposes of this article upon authorization and approval by the City Council.

P. To provide comment, as appropriate, to the Planning Board and/or City Council on matters pertaining to historic preservation in Portland.

Q. To confer recognition upon the owners of landmarks or properties, sites, structures, or objects within districts by means of certificates, plaques, or markers.

R. To assist the Planning Board in the development of a preservation component in the Comprehensive Plan of the City of Portland.

S. To periodically review the Land Use Code and to make recommendations to the Planning Board concerning any amendments appropriate for the protection and continued use of landmarks or properties, sites, structures, or objects within districts.

2.2.9 Administrative appeals

A. **Application procedures.** An appeal may be taken to the Historic Preservation Board by any person affected by a decision of the Planning Authority relative to Article 17. Such appeal shall be taken within 30 days of the action complained of by filing with the Planning Authority an application for appeal specifying the grounds thereof. The application shall be in such form as specified by the Planning Authority. A payment of a nonrefundable filing fee, as established by the City Council to cover administrative costs and costs of hearing, shall accompany the application. The Planning Authority shall forthwith transmit to the Historic Preservation Board all of the papers constituting the record upon which the action appealed from was taken.

B. **Public hearing.** A public hearing shall be set, advertised, and conducted by the Historic Preservation Board in accordance with the provisions of this article.

C. **Action.** Within 30 days following the close of the public hearing, the Historic Preservation Board shall render a decision on the appeal in the manner and form specified in the provisions of this article and the statutes of the state. The failure of the board to act within 30 days shall be deemed a denial of the appeal unless mutually extended in writing by the appellant and the Board. Within five days of such decision or failure to act notice thereof shall be mailed to each party.

D. **Conditions and limitations.** Any right granted by the board on appeal shall be subject to the same conditions and limitations as if secured without the necessity of an appeal.

2.2.10 Historic Preservation Board appeal

A. **Historic Preservation Board decision.** An appeal from any final decision of the Historic Preservation Board as to any matter over which it has final authority may be taken by any party or by any authorized officer or agent of the City to the Planning Board, adhering to the requirements of Subsection 2.1.11 of this article.

B. The Planning Board shall deny the appeal unless it finds that the action of the Historic Preservation board was arbitrary or capricious or was not based on substantial evidence. Review by the Planning Board under this subsection is intended to be appellate in nature. Except where the Planning Board determines that injustice would result, the Planning Board shall determine the appeal without considering any facts or arguments which were not presented to the Historic Preservation Board. Where the Planning Board finds it necessary to consider such new evidence in order to do substantial justice, it shall remand the matter to the Historic Preservation Board for further consideration, unless it determines that the resulting delay is likely to result in undue hardship to the applicant.

C. **Planning Board decision. T**he Planning Board's decision on an appeal from a decision of the Historic Preservation Board shall be final with respect to the application or matter initially

presented to the Historic Preservation Board. An appeal from any final decision of the Planning Board as to any matter over which it has final authority may be taken by any party or by any authorized officer or agent of the city to the superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure. No appeal shall lie concerning any matter as to which the power of the board is limited to the making of a recommendation.

2.3 ZONING BOARD OF APPEALS

2.3.1 Composition

There shall be a Board of Appeals of seven members. Members of the Board shall be residents of the city and shall not be officers or employees of the City or any of its agencies or departments. Members shall serve without compensation.

2.3.2 Appointments

A. **Terms.** The members of the Board of Appeals shall be appointed by the City Council for terms of three years. Terms shall be staggered so that the terms of no more than three members shall expire in any calendar year. Such members shall serve until their successors are duly elected and qualified provided, however, that such service shall not extend to over 120 days after expiration of their term. Members may serve for three consecutive three-year terms.

B. **Vacancies.** Permanent vacancies on the Board of Appeals shall be filled by the City Council, in the same manner as other appointments under this article, for the unexpired term of a former member whose place has become vacant.

2.3.3 Removal of members

Any member of the Board of Appeals may be removed for cause by the City Council at any time, provided, however, that before any such removal, such member shall be given an opportunity to be heard in their own defense at a public hearing.

2.3.4 Officers

A. **Chair.** The members of the Board of Appeals shall annually elect one of their number as chair to preside at all meetings and hearings and to fulfill the customary functions of that office. In the absence of the chair, the secretary shall act as chair and shall have all the powers of the chair.

B. **Secretary.** The members of the Board of Appeals shall annually elect one of their number as secretary. The secretary shall fulfill the duties provided by statute and this article and have such other duties as may be provided by the rules of the board.

C. **Pro tempore officers.** In the absence of both the chair and the secretary, the board shall elect a chair pro tempore from among its number and the chair pro tempore shall have all the powers of the chair during the chair's and the secretary's absence. In the absence of the secretary, or when the secretary is serving as chair, the board shall elect a secretary pro tempore from among its number and the secretary pro tempore shall have all the powers of the secretary during the secretary's absence or service as chair.

2.3.5 Quorum and necessary vote

No business shall be transacted by the Board of Appeals without a quorum, consisting of four members, being present. The concurring vote of at

least four members of the board shall be necessary to grant any request or application or to sustain any appeal. Any matter that receives fewer than four votes shall be deemed to have been denied.

2.3.6 Conflicts

No member of the Board of Appeals shall participate in the hearing or disposition of any matter in which he or she has an interest. Any question of whether a member has a conflict of interest sufficient to disqualify him or her shall be decided by a majority vote of the members, except the member who is being challenged. Where such a vote results in a tie, the challenged member shall be deemed disqualified.

2.3.7 Meetings and procedures

A. **Staff.** The Building Authority or their designee shall serve as staff to the Board of Appeals.

B. **Meetings.** Regular meetings of the Board of Appeals shall be held at the call of the chair or as provided by the rules of the board. Special meetings shall be called by the chair at the request of any two members of the board or at the request of the City Council. All meetings and hearings of the board shall be open to the public. For all matters properly brought before the Board of Appeals, the board shall select a reasonable time and place for a public hearing following the submission of the subject application.

C. **Notice.** The Building Authority shall give notice of public hearings in the form and manner and to the persons herein specified. The notice shall include the time and place of such hearing, a description of the contents of the matter to be heard and the address or location of the property involved. Where notice by mail is required, it shall be mailed at least seven days in advance of the hearing date by regular United States mail. Notices shall be given to each of the following as specified:

1. In all cases, to the petitioner.
2. In all cases, to all residents of the city by publication in a newspaper of general circulation in the city at least once, not more than 30 nor less than five days before the date of the hearing, and by mail to the applicant.
3. In the case of hearings relating to zoning appeals, a variance, or a conditional use, to the Planning Board and City Council by reasonable means.
4. In the case of hearings relating to a variance request from the provisions of Article 11, the application and all supporting information supplied by the applicant shall be forwarded to the State of Maine Commission of the Department of Environmental Protection at least 20 days prior to action by the board.
5. In the case of hearings related to a variance or conditional use, by mail to the owners of all the property within 500 feet of such parcel or tract.
6. In the case of hearings related to all other appeals, by mail to the owners of property directly abutting, and directly across a street or alley from the subject property.

For purposes of this subsection, the owners of property shall be considered to be the parties listed by the Assessor's Department as those against whom taxes are assessed. Failure of any property owner to receive a notice of public hearing shall not necessitate another hearing and shall not invalidate any action of the board.

The cost of noticing shall be charged to the applicant.

D. **Procedures.** The Board of Appeals shall adopt its own rules of procedure for the conduct of its business not inconsistent with the statutes of the state and this article. Such rules shall be filed with the City Clerk. Any rule so adopted which relates solely to the conduct of hearings, and which is not required by the statutes of the state or by this article, may be waived by the board upon good cause being shown.

1. *Conduct of hearings.*
   a. Any person may appear and testify at a public hearing, either in person or by a duly authorized agent or attorney, and may submit documentary evidence, provided, however, that the Board shall exclude irrelevant, immaterial and unduly repetitious evidence.
   b. The applicant and any abutter or similar person with standing shall in addition have the right to present witnesses on their own behalf and offer rebuttal evidence, to cross examine all witnesses testifying in opposition to their position through the chair, and to examine and introduce any documents produced at the hearing.
2. All other matters pertaining to the conduct of hearings shall be governed by the provisions of the relevant state statutes, this article, and the rules promulgated by the Board of Appeals.

2.3.8 Records and decisions

A. **Record.** The recording of testimony, if any, and all exhibits, papers, applications, and requests filed in any proceeding before the Board of Appeals and the decision of the board shall constitute the record.

B. **Decision.** Every decision of the Board of Appeals shall include findings of the fact, shall refer to the evidence in the record and the exhibits, plans or specifications upon which such decision is based, shall specify the reason or reasons for such decision, and shall contain a conclusion or statement separate from the findings of fact setting forth the specific relief granted or denying relief. The Building Authority shall hand deliver or mail a copy of the decision to the applicant, the Planning Board, and City Council within seven days of such decision, and shall also file the decision with the City Clerk.

2.3.9 Jurisdiction and authority

The Board of Appeals shall have the following jurisdiction and authority:

A. To hear and decide appeals from the granting or denial of any permit required by Chapter 6, Article II or Chapter 10 of the City of Portland Code of Ordinances.

B. To hear and decide appeals from any decision or order made by the Building Authority pursuant to the provisions of this chapter, except that decisions relating to enforcement of the Shoreland Zone provisions of this chapter may not be appealed to the Board of Appeals and may only be appealed directly to Superior Court in accordance with M.R. Civ. P. 80B and 30-A M.R.S. §§ 2691 & 4483.

C. To review interpretations of the Zoning Administrator or their designee, except that decisions on such interpretations shall be advisory only and shall not be appealable.

D. To hear and grant or deny applications for variances from the terms of this Land Use Code, including but not limited to terms related to use; dwelling unit conversion; space and bulk, such as lot size, density, and setbacks; parking; loading; and signs.

E. To hear and grant or deny applications for conditional uses, as specified in Article 6.

2.3.10 Administrative appeals

A. **Application procedures.** Application for any appeal to the board shall be submitted to the Building Authority. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The application shall be in such form as prescribed by the Building Authority.

B. **Public hearing.** A public hearing shall be set, advertised and conducted by the Board of Appeals in accordance with Subsection 2.3.7.

C. **Standard of review.** The standard of review for appeals pursuant to Subsections 2.3.9(A), (B), and (C) shall be de novo. The appellant shall bear the burden of proof.

D. **Conditions and limitations on rights granted by appeal.** Any right granted by the Board of Appeals on appeal shall be subject to the same conditions and limitations as if secured without the necessity of an appeal.

2.3.11 Variances

A. **Application procedures**

1. Application for a variance shall be submitted to the Building Authority. A payment of a nonrefundable application fee, as established from time to time by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The application shall be in such form as prescribed by the Building Authority.
2. A public hearing shall be set, advertised, and conducted by the Board of Appeals in accordance with Subsection 2.3.7.
3. All decisions by the board shall be rendered in a manner and form not inconsistent with the statutes of this state.

B. **Undue hardship variance.** An undue hardship variance may be granted by the board only where strict application of the ordinance, or a provision thereof, to the petitioner and his or her property would cause undue hardship. The words "undue hardship" as used in this subsection mean the following:

1. The land in question cannot yield a reasonable return unless a variance is granted.
2. The need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood.
3. The granting of a variance will not alter the essential character of the locality.
4. The hardship is not the result of action taken by the applicant or prior owner.

C. **Disability variance**

1. *By the Board of Appeals.* Notwithstanding the provisions of subsection (B) above, the

board may grant a variance to an owner of a residential dwelling for the purpose of making that dwelling accessible to a person with a disability who resides in or regularly uses the dwelling. The board shall restrict any variance granted under this subsection solely to the installation of equipment or the construction of structures necessary for access to or egress from the dwelling by the person with the disability. The board may impose conditions on the variance, including limiting the variance to the duration of the disability or to the time that the person with the disability lives in the dwelling. The term "structures necessary for access to or egress from the dwelling" shall include railing, wall, or roof systems necessary for the safety or effectiveness of the structure. For the purpose of this subsection, a disability has the same meaning as a physical or mental disability under 5 M.R.S. § 4553.

2. *By the Building Authority.* Notwithstanding the provisions of subsections (B) and (C(1)) above, the Building Authority may issue a permit to the owner of a dwelling for the purpose of making a dwelling accessible to a person with a disability who resides in or regularly uses the dwelling. If the permit requires a variance, the permit is deemed to include that variance solely for the installation of equipment or the construction of structures necessary for access to or egress from the dwelling for the person with a disability.

D. **Practical difficulty variance.** Notwithstanding the provisions of subsections (B) and (C) above, the Board of Appeals may grant a variance from the dimensional standards of this Land Use Code that relate to lot area, lot coverage, frontage, and setback requirements when strict application of these standards would both preclude a permitted use of the property and result in significant economic injury to the applicant. Significant economic injury shall mean that the value of the property if the variance were denied would be substantially lower than its value if the variance were granted. To satisfy this standard, the applicant need not prove that denial of the variance would mean the practical loss of all beneficial use of the land. In granting a practical difficulty variance, all of the following conditions must be found to exist:

1. The need for a variance is due to the unique circumstances of the property, and not to the general conditions in the neighborhood.
2. The granting of the variance will not produce an undesirable change in the character of the neighborhood and will not have an unreasonably detrimental effect on either the use or fair market value of abutting properties.
3. The practical difficulty is not the result of action taken by the applicant or a prior owner.
4. No other feasible alternative is available to the applicant, except a variance.
5. The granting of a variance will not have an unreasonably adverse effect on the natural environment.
6. The property is not located, in whole or in part, within a shoreland area, as defined in 38 M.R.S. § 435, nor within a Shoreland

Zone or flood hazard area, as defined in this Land Use Code.

E. Specified variances prohibited

1. No use permitted in medium- and high-density residential zones shall be permitted in low-density residential zones. No use permitted in mixed-use or office zones shall be permitted in any residential zone. No use permitted in industrial and airport zones shall be permitted in any mixed-use, office, or residential zone. No use permitted in residential zones shall be permitted in any industrial or airport zone. The general use categories are listed below:
   a. Low-density residential: IR-1, IR-2, IR-3, R-1, R-2, R-3.
   b. Medium- and high-density residential: R-4, R-5/R-5a, R-6/R-6a.
   c. Mixed-Use/Office: B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, B-4, B-5/B-5b, B-6, B-7, I-B, R-P, O-P.
   d. Industrial: I-L/I-Lb, I-M/I-Ma/I-Mb, I-H/I-Hb, A-B.
2. A variance may only be granted with respect to the generally applicable space and bulk requirements of the zone in which the property is located and not from any provision that allows a deviation from those requirements.
3. No variance shall be granted which would permit the creation of a lot or parcel that cannot be developed in compliance with the zoning, subdivision, and other regulations applicable thereto.
4. No variance shall be granted which would result in a use or development of the lot or parcel in question which would not be in harmony with the general purpose and intent of this Land Use Code or the Comprehensive Plan; which would be materially detrimental to the public welfare or materially injurious to the enjoyment, use, or development of property or improvement permitted in the vicinity; or which would materially impair an adequate supply of light and air to properties and improvements in the vicinity, substantially increase congestion in the public streets, increase the danger of flood or fire, or endanger the public safety.
5. No variance shall be granted which would be greater than the minimum variance necessary to relieve the undue hardship or the hardship of the applicant.
6. No variance shall be granted from the minimum lot sizes set forth in Subsection 4.3.1 for lots in the IR-1 and IR-2 zones.
7. No variance shall be granted from the requirements in Subsection 6.4.1.

F. Conditions on variances; variances less than requested. Reasonable conditions and safeguards relating to construction, character, location, landscaping, screening, and other matters may be imposed upon the premises benefited by a variance as considered necessary to prevent injurious effects upon other property and improvements in the vicinity or upon public facilities and services. Such conditions shall be expressly set forth in the resolution granting the variance and in the notice informing the applicant thereof. Violation of such conditions and safeguards shall be a violation of this article. A variance less than or different from that requested may be granted when the record supports the

applicant's right to some relief but not to the relief requested.

G. **Limitations on variances.** No variance permitting the erection or alteration of a building shall be valid for a period longer than two years, unless a building permit for such erection or alteration is issued and construction is actually begun within that period and is thereafter diligently pursued to completion. No variance relating to the establishment or maintenance of a use not involving a building or structure shall be valid for a period longer than two years, unless an occupancy permit is issued and a use commenced within such period.

H. **Recording of variances.** No variance shall be valid unless, within 90 days of final approval of the variance, a certificate describing the variance has been recorded by the applicant for the variance in the registry of deeds as required by 30 M.R.S. § 4353(5).

2.3.12 Violations

In addition to any other remedies available, the Board of Appeals after notice and hearing may revoke any variance or other relief granted under this section when the provisions of this chapter or the conditions under which the relief was granted have not been complied with.

2.3.13 Appeals

An appeal from any final decision of the Board of Appeals may be taken by any aggrieved party to the superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure and 30-A M.R.S. §§ 2691 & 4483., except as otherwise specifically provided in this article.

3 DEFINITIONS

Accessory dwelling unit. A dwelling unit subordinate in size to the principal residential structure(s) on a lot and located either within the principal residential structure(s) or in an accessory structure.

Adult business establishment. Any business, including but not limited to any bookstore, newsstand, novelty store, nightclub, bar, cabaret, amusement arcade, or theater, which:

A. Keeps for public patronage or permits or allows the operation of any adult amusement device as defined in Chapter 4 of the City of Portland Code of Ordinances; or
B. Customarily, meaning more often than an average of one calendar week during any calendar month of operation, exhibits motion pictures or displays any other visual representation described or advertised as being "X rated" or "for adults only," or which customarily excludes persons from any portion of the premises by reason of immaturity of age by the use of such, or similar, phrases; or
C. Is adjudged to be in violation of 17 M.R.S. §§ 2911, 2912.

Affordable housing. Housing for which the percentage of income a household is charged in rent and other housing expenses or must pay in monthly mortgage payments (including condominium/HOA fees, mortgage insurance, other insurance and real estate taxes), does not exceed 30% of a household's income, or other amount established in City regulations that does not vary significantly from this amount.

After-hours entertainment license. Any of the music, dancing, and special entertainment licenses required or authorized by Chapter 4, Article III of the City of Portland Code of Ordinances.

Agriculture. The practice of farming, including the cultivation of the soil for the growing of crops and rearing of animals to provide food and other products. Agriculture may include nurseries, greenhouses, and truck gardens, provided that there is no sale of products not produced on the premises.

Airport restricted access areas. Runways, taxiways, and other areas of the Jetport accessible to aircraft, whether access is restricted by the Federal Aviation Administration or not.

Alley. Any way designed primarily for vehicular and pedestrian or utility access to the back or side of premises otherwise abutting on a street, except driveways unless officially designated otherwise.

Animal-related services. Establishments principally for the training or boarding of animals. Such uses shall not include veterinary services.

Approval. An affirmative decision on an application, including an approval with conditions.

Appurtenance. A device or structure not designed for human occupancy and attached to the exterior of a building.

Auto service station. A business selling gasoline, diesel, or propane fuel, providing services specific to electric vehicles, or providing motor vehicle repairs including, but not limited to, tune-ups, engine repair,

brake work, muffler replacement, tire repair, or similar activities. Such businesses may also include car-washes and/or vacuums.

Back office use. An office-related use with minimal public visitation and minimal direct service to the general public, primarily to provide support services to larger organizations such as educational institutions, social service agencies, or business headquarters.

Bar. Any establishment required to be licensed to sell alcoholic beverages for on-premises consumption, which is not regularly used for the purpose of providing full-course meals, as defined in Title 28-A of the Maine Revised Statutes, on the premises.

Bed and breakfast. A building that contains between two and nine guest rooms; is used to provide or offer overnight accommodations for transient guests; has an owner, manager, or operator living in the building as a permanent resident; does not provide cooking facilities in any of the guest rooms; and does not provide meals other than breakfast, which shall be offered only to overnight guests.

Blasting operations. The use of explosives for purposes of breaking up and removing soil, rock, and ledge, related to construction and development of real estate within the city.

Building. A roofed and walled structure built for permanent use.

Building, accessory. A detached roofed and walled structure that is incidental and subordinate in area and extent, and/or use to the principal building(s) on the property. A lot may have more than one accessory building.

Building addition. Any increase to footprint, floor area, or volume of an existing building.

Building alteration. A change or rearrangement in the structural supports, exterior appearance, or removing from or otherwise affecting the exterior appearance of a building.

Buildings, attached. Two or more independent buildings that share at least one common party wall but have full building separation and independent principal entries; not free-standing. Attached buildings may or may not have common ownership.

Building, principal. The main roofed and walled structure on a lot having the predominant area, extent, and/or use. A lot may have more than one principal building. When a garage is attached to the principal building in a substantial manner as by an enclosed area with roof or common wall, it shall be considered as a part of the principal building.

Clinics. Any establishment where patients are examined and treated by one or more health care providers, such as, but not limited to, physicians, dentists, psychologists, or social workers. Clinics may include laboratory services and facilities for ambulatory or outpatient surgical procedures.

Coastal wetland. All tidal and subtidal lands; all lands with vegetation present that is tolerant of salt water and that occurs primarily in a salt water or estuarine habitat; and/or any swamp, marsh, bog, beach, flat, or other contiguous low land that is

subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes.

Commercial vessel. Any watercraft used principally in a business or trade, including common carriers of passenger or freight, whether for governmental, nonprofit, or emergency purposes, but not including pleasure craft used principally for recreational purposes.

Common areas. Portions of a lodging house which are available for use by all residents of the lodging house. Common areas shall include, but are not limited to, one or more of the following: kitchens, living rooms, recreation rooms, improved basements, and finished porches. Bathrooms, stairways, hallways, and storage areas shall not be counted as common areas.

Communication studio. A commercial or public communication facility, including radio and television broadcasting and receiving stations and studios.

Community hall. A building or portion of a building used for social, recreational, artistic, civic, or educational community functions. Such a facility would be open to the public for such functions, which, for example, could include but not be limited to performances, dance, exhibitions, cultural exchange, training programs and workshops, neighborhood meetings, or gatherings. As part of these functions and activities, it shall be permissible to serve food, subject to other applicable codes and ordinances.

Condominium. Any interest in real estate created pursuant to the Unit Ownership Act, 33 M.R.S. § 560 et seq., or its equivalent, as it may from time to time be amended.

Congregate care facility. A residential development intended to facilitate aging in place that includes individual dwelling units with support services which provide assistance to residents. The population of a congregate care facility shall consist of persons 55 years of age or older and their spouses. A congregate care facility may also accommodate the needs of persons with disabilities and their spouses that are younger than 55 years of age, provided the majority of the residents are 55 years of age or older. Services to be provided shall include the following:

A. Transportation for essential support activities.
B. Provision of at least one meal per day.
C. Programmed social activities which are facilitated by staff.
D. Provision of personal care services including, but not limited to, housekeeping, laundry, and minimal health monitoring.
E. Installation of emergency call buttons or systems in each unit.

Correctional pre-release facility. A facility housing up to 12 persons, plus staff, serving a primary clientele of persons in correctional pre-release programs.

Drive-through. A facility which provides a service directly to a motor vehicle occupant and where the customer drives a motor vehicle onto the premises and to a window or mechanical device through or by which the customer is served with or without

exiting the vehicle. Drive-throughs do not include major or minor auto service stations.

Drive-through features. Features associated with drive-throughs including but not limited to designated travel or stacking lanes, intercom systems, menu boards, service windows, kiosks, mechanical devices, etc.

Dwelling unit. One or more rooms forming a single unit for habitation by one family, including food preparation, living, sanitary, and sleeping facilities.

Dwelling, multi-family. A building or portion thereof containing three or more dwelling units.

Dwelling, single-family. A single building containing one dwelling unit.

Dwelling, two-family. A single building containing two dwelling units.

Earth-moving activity. Any removal or placement, excavation, filling, stockpiling, or grading of soil, earth, loam, sand, gravel, rock, and other mineral deposits.

Easement. A right, privilege, or liberty which one has in land owned by another for some special and definite purpose.

Emergency operations. Operations conducted for the public health, safety, or general welfare, such as protection of resources from immediate destruction or loss, law enforcement, and operations to rescue human beings and livestock from the threat of destruction or injury.

Emergency shelter. A facility providing temporary overnight shelter to homeless individuals in a dormitory-style or per-bed arrangement.

Entrance, principal. The main point of access for pedestrians into a building. A building may have more than one principal entrance.

Esplanade. That portion of a street which is located between the curbline and the edge of the sidewalk closest to the street.

Essential services. The construction, alteration, or maintenance of gas, electrical, or communication facilities; steam, fuel, electric power, or water transmission or distribution lines, towers and related equipment; telephone cables or lines, poles, and related equipment; gas, oil, water, slurry, or other similar pipelines; municipal sewage lines, collection, or supply systems; and associated storage tanks. Such systems may include towers, poles, wires, mains, drains, pipes, conduits, cables, fire alarms and police call boxes, traffic signals, hydrants, and similar accessories, but shall not include service drops or buildings which are necessary for the furnishing of such services.

Explosives. Any material or container containing a chemical compound or mixture that is commonly used or intended for the purpose of producing an explosion and that contains any oxidizing and combustible materials or other ingredients in such proportions, quantities, or packaging that an ignition by fire, by friction, by compound or mixture may cause such a sudden generation of highly heated gasses that the resultant gaseous pressures are capable of producing destructive effects on contiguous objects, but shall not mean the

components for handloading rifle, pistol and shotgun ammunition, or fireworks.

Family. One or more individuals related by blood, marriage, civil union, adoption, or guardianship and/or up to eight unrelated individuals living together in a dwelling unit as a single nonprofit housekeeping unit.

Fill. Soil, earth, loam, sand, gravel, rock and other mineral deposits.

Filling. The placement of soil, earth, loam, sand, gravel, rock and other mineral deposits. Filling shall include stockpiling.

Fixture, fully shielded. A light fixture or luminous tube constructed and mounted such that all light emitted by the fixture or tube, either directly from the lamp, tube, or a diffusing element, or indirectly by reflection or refraction from any part of the light fixture, is projected below the horizontal. If the lamp or tube, any reflective surface, or lens cover (clear or prismatic) is visible when viewed from above or directly from the side, from any angle around the fixture or tube, the fixture or tube is not fully shielded.

Flag. A fabric sheet of square, rectangular, or triangular shape having no enclosing or supporting framework that is typically mounted on a pole.

Foundation. The supporting substructure of a building or other structure, excluding wooden sills and post supports, but including basements, slabs, frost walls, or other base consisting of concrete, block, brick, or similar material.

Freshwater wetland. Freshwater swamps, marshes, bogs, and/or similar areas which are both:

A. Of ten or more contiguous acres or of less than ten contiguous acres and adjacent to a surface water body except for any river, stream or brook such that, in a natural state, the combined surface area is in excess of ten acres or of less than ten acres that is depicted on the Shoreland Zoning map.
B. Inundated or saturated by surface or ground water at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils.

Freshwater wetlands may contain small stream channels or inclusions of land that do not conform to the criteria of this definition.

General office. An office for the conducting or managing of a business or the practice of a profession, including that of a licensed health care provider, so long as such office does not include laboratory services and facilities for ambulatory surgical procedures.

General services. Establishment primarily engaged in rendering services to persons or business on a fee basis, including but not limited to banks, health clubs, laundries, employment services, management services, personnel services, or maintenance services.

Handicapped family unit. A dwelling unit which provides living facilities for handicapped persons. A handicapped family unit may also provide counseling and support services. Staff members may also be included in the population.

Helistop. An area used for the landing of helicopters at any location other than an airport. Such area shall include a landing area or pad, and may include parking required for access to the landing area or pad, a loading and unloading area for emergency vehicles, and other related facilities other than maintenance and repair facilities.

Hospital. An institution providing health services, primarily on an inpatient basis, and medical or surgical care of the sick or injured, including as an integral part of the institution such related facilities as laboratories, outpatient departments, training facilities, central service facilities, and staff offices.

Hostel. An overnight lodging facility for transient guests that provides sleeping rooms and common spaces for cooking. A hostel shall not be used as an emergency shelter.

Hotel. A building used for more or less temporary occupancy of individuals who are lodged with or without meals.

Impervious surface. Area covered with low-permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability.

Industrial, high-impact. Industrial activity involving the manufacturing, packaging, assembly, or distribution of finished products from either raw materials or previously prepared material which are generally incompatible with residential, commercial, and lower-impact industrial uses and sensitive natural areas due to their high generation of traffic, noise levels, emissions, lighting, and odors.

Industrial, low-impact. Industrial activity involving the manufacturing, packaging, assembly, or distribution of finished products from previously prepared material, including but not limited to the following: artist studios, bakeries; breweries; distilleries; bottling; coffee roasters; commercial kitchens; pharmaceuticals; machine shops; watchmakers; makers of precision instruments, musical instruments, toys and sporting goods, pottery and ceramics using only previously pulverized clay, wood products, jewelry; assembly of electrical components; canteen services; tool and die shops; plant and tree nurseries; and the packaging of foods. Low-impact industrial uses do not include the processing of raw materials or salvaging operations. Low-impact industrial uses are generally compatible, due to their size and nature of impact, with residential, commercial and other low impact industrial uses.

Intermediate care facility. A facility which provides, on a regular basis, health-related care and services for more than 13 individuals who do not require the degree of care and treatment which a hospital or extended care facility is designed to provide but who, because of their mental or physical condition, require such care and services above the level of room and board. Said facility must be licensed as a board care, residential care facility or equivalent pursuant to the regulations promulgated by the State of Maine Department of Health and Human Services.

Kitchen facilities. Facilities used for the preparation of meals, including refrigerators and devices used for the cooking and preparation of food.

Lodging house. A house, building or portion thereof containing two or more rooming units, as well as common areas, and providing such units to individuals on not less than a monthly basis for compensation.

Long-term or extended care facility. An institution or a distinct part of an institution that is licensed or approved to provide full-time convalescent or chronic care, or health care under medical supervision for 24 or more consecutive hours, to nine or more individuals who, by reason of advanced age, illness, or infirmity are unable to care for themselves, and who are not related to the governing authority by marriage, blood, or adoption.

Lot. A parcel or area of land that is designated as an individual unit for use, development, or ownership that is either: a) a parcel or area of land that is separately described in a deed or on a plan recorded in the Cumberland County Registry of Deeds; b) a contiguous combination of such lots under common ownership and designated as one unit for development; or c) a newly established parcel meeting all the dimensional requirements of the zone in which it is located.

Lot of record. A nonconforming parcel or area of land that: a) is separately described in a deed or on a plan recorded in the Cumberland County Registry of Deeds as of the date designated in the relevant provision of this chapter and b) conformed to the requirements of this chapter as of the date designated in the relevant provision of this chapter.

Low-income household. A household having an income not exceeding 80% of median income for area of residence as set forth in regulations promulgated from time to time by the United States Department of Housing and Urban Development pursuant to 42 U.S.C. sections 1437 et seq.

Low-income housing unit for rent. A dwelling unit for which:

A. The rent is affordable to a household earning 80% or less of Area Median Income (AMI) as defined by the United States Department of Housing and Urban Development (HUD).
B. The unit is rented to a household earning 80% or less of AMI.
C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

Low-income housing unit for sale. A dwelling unit for which:

A. The sale price is affordable to a household earning 100% or less of Area Median Income (AMI).
B. The unit is sold to a household earning 100% or less of AMI.
C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for future sales for the applicable length of time in this ordinance.

Manufactured housing. A structural unit or units designed for residential occupancy and constructed in a manufacturing facility and then transported by the use of its own chassis or placement on an independent chassis to a building site. The term includes any type of building which is constructed at

a manufacturing facility and then transported to a building site where it is utilized for housing and may be purchased or sold by a dealer in the interim. For purposes of this article, two types of manufactured housing are included. They are:

A. Those units constructed after June 15, 1976, which the manufacturer certifies are constructed in compliance with the standards required by the United States Government Department of Housing and Urban Development, as such standards are from time to time revised or amended, meaning structures, transportable in one or more sections, which in the traveling mode are 14 body feet or more in width and are 750 or more square feet, and which are built on a permanent chassis and designed to be used as dwellings, with or without permanent foundations, when connected to the required utilities, including the plumbing, heating, air conditioning, and electrical systems contained therein. This term also includes any structure which meets all the requirements of this subparagraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the Secretary of the United States Department of Housing and Urban Development and complies with the standards established under the National Manufactured Housing Construction and Safety Standards Act of 1974, United States Code, Title 42, Section 5401 et seq.; and

B. Those units constructed after June 15, 1976, which the manufacturer certifies are constructed in compliance with the state's Manufactured Housing Act and regulations, meaning structures, transportable in one or more sections, which are not constructed on a permanent chassis and are designed to be used as dwellings on foundations when connected to required utilities, including the plumbing, heating, air conditioning, or electrical systems contained therein.

Any unit which does not fall within the definitions of this section and which is legally sited within the city on December 18, 1989, may be relocated to any location in the city in which manufactured housing is allowed.

Manufactured housing park. A parcel of land under unified ownership approved by the Planning Board under 30-A M.R.S. § 4358 for the placement of single-component manufactured housing.

Marijuana cultivation facility. A cultivation facility required to be licensed pursuant to 28-B M.R.S. § 201 or any other facility engaged primarily in the business of planting, propagation, growing, harvesting, drying, curing, grading, trimming, or other processing of marijuana, including mature marijuana plants, immature marijuana plants, seedlings, and marijuana seeds, for use or sale.

Marijuana manufacturing facility. A manufacturing facility required to be licensed pursuant to 22 M.R.S. § 2423-F or 28-B M.R.S. § 201.

Marijuana product. As defined by 22 M.R.S. § 2422 or 28-B M.R.S. § 102.

Marijuana retail store. A retail establishment licensed to sell marijuana, marijuana products, immature marijuana plants, and seedlings to adult use or medical marijuana customers. A marijuana retail store is only authorized as a principal use, and is not permitted as an accessory use. A marijuana

retail store may not exceed a maximum gross floor area of 2,000 square feet. A marijuana retail store shall not include a registered dispensary.

Marijuana testing facility. A facility licensed to develop, research and test marijuana, marijuana products and other substances as defined by 22 M.R.S. § 2422 or 28-B M.R.S. § 102.

Marina. A commercial operation providing floats, slips, and piers intended primarily for berthing of noncommercial vessels and the provision of related services such as supplies, fuel, equipment and repairs, which may be provided both to tenants and non-tenants.

Military personnel berthing. A building, or portion thereof, which is primarily used as, and intended for, temporary living quarters for military personnel.

Moderate-income household. A household having an income not exceeding 120% of median income for area of residence as set forth in regulations promulgated from time to time by the United Sates Department of Housing and Urban Development pursuant to 42 U.S.C. sections 1437 et seq.

Multi-family development. The construction or creation of three or more dwelling units on any parcel of land or the addition of two or more dwelling units cumulatively within a three-year period.

Multiplex. A residential development consisting of three or more horizontally or vertically attached dwelling units, or a series of such attached dwelling units, and the construction of at least one building.

Neighborhood center. A building or portion of a building used for recreational, artistic, social, educational, health, culture, or similar activities and services, usually owned and operated by a public or nonprofit group or agency. As part of these functions and activities, it shall be permissible to serve food, subject to other applicable codes and ordinances.

Non-commercial vessel berthing. The use of berthing space for berthing of watercraft other than commercial vessels. Berthing space used in the following manner shall not be included in the calculation of the number of linear feet under this use category:

A. Space used principally for sale or repair of vessels.
B. Commercial vessel tenant space used by a noncommercial vessel for a period not exceeding ten consecutive days while the primary commercial vessel tenant is conducting its business or trade.

Normal high-water line (non-tidal waters). That line which is apparent from visible markings, changes in the character of soils due to prolonged action of the water or changes in vegetation, and which distinguishes between predominantly aquatic and predominantly terrestrial land. Areas contiguous with rivers that support non-forested wetland vegetation and hydric soils and that are at the same or lower elevation as the water level of the river during the period of normal high-water are considered part of the river.

Office park. Separate office buildings planned, constructed, or managed on an integrated coordinated basis.

Off-peninsula. All land located north of I-295.

On-peninsula. All land located south of I-295.

Open space. Any park and any other area outside of a building open to the public.

Owner. Any person that has any interest, legal or beneficial, in any parcel or lot.

Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high-water line or within a wetland, temporary. Structures which remain in or over the water for less than seven months in any period of 12 consecutive months.

Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high-water line or within a wetland, permanent. Structures which remain in or over the water for seven months or more in any period of 12 consecutive months.

Place of assembly. A building or portion of a building used as a community hall, neighborhood center, private club, or fraternal organization, or place of religious assembly. This definition shall not include buildings or portions of buildings used as a community hall, neighborhood center, private and fraternal organization, or place of religious assembly where 15 or fewer people, not including the permanent residents of a single-family dwelling, assemble.

Place of religious assembly. A building or portion of a building used for religious worship or instruction including, but not limited to, churches, synagogues, masjids, mosques, and other places of worship.

Planned residential unit development (PRUD). A residential subdivision consisting of attached or detached dwellings intended for separate ownership and land to be owned and used in common, with open spaces, recreational areas, access ways, and buildings which are designed, built, and managed in accordance with a unified development plan.

Planned unit development (PUD). A development consisting of either detached or attached single-family dwelling units and commercial or other uses, on substantially-sized properties of greater than 20 acres and designed to be compatible with the surrounding built and natural environment.

Plant canopy. As defined by 28-B M.R.S. § 102.

Preschool facility. Facility which provides a regular program of care and protection for children generally younger than those attending elementary school, which may also encompass daycare facilities.

Private club or non-profit social and recreational facility. A private club or nonprofit social and recreational facility is open exclusively to members and to their bona fide guests accompanying them, in order to promote fellowship, social living, proper recreation, civic responsibility, neighborhood responsibility, community welfare, or other endeavors. It shall be permissible to serve food and meals on such premises provided adequate dining room space and kitchen facility are available and are provided within all regulations of this Land Use Code and other applicable codes and ordinances.

Recent flood plain soils. Recent flood plain soils include the following soil series as described and identified by the National Cooperative Soil Survey: Alluvial. Charles, Cornish, Fryeburg, Hadley, Limerick, Lovewell, Medomak, Ondawa, Podunk, Rumney, Saco, Suncook, and Winooski.

Recreation and amusement centers. Facilities equipped for the conduct of sports or indoor leisure time recreation activities, including games of skill or games of chance licensed either by the City of Portland or by the State of Maine. Such facilities may limit admission either to members or to persons paying an entrance fee.

Registered dispensary. A registered medical marijuana dispensary as defined by 22 M.R.S. § 2422.

Registered patient. As defined by 22 M.R.S. § 2422.

Repair services. Establishments primarily engaged in rendering services related to the maintenance or repair of goods. In industrial zones only, repair services shall include motor vehicle repair services.

Restaurant. Any food service establishment with indoor seating capacity for ten or more patrons.

Retail. Any shop or store offering goods or merchandise to the general public for direct consumption and not for resale, or food service establishment with indoor seating capacity for nine or fewer patrons. Retail shall not include gasoline, diesel, or propane fuel sales.

Roadway. That portion of a street between the regularly established curblines, or that part of a street or alley devoted to vehicular traffic.

Rooming unit. One or more rooms forming a single unit used, or intended to be used, for living and sleeping purposes by an individual or a family, but not designed for food preparation. In a suite of rooms, each room that provides sleeping accommodations shall be counted as one rooming unit for the purpose of this chapter.

Self-storage facility. A fully enclosed building with individual, secured units (accessed with or without supervision) used for the exclusive purpose of storage of non-hazardous business or personal materials.

Sexually explicit. The display or depiction of sex organs during actual or simulated sexual intercourse or sexual acts as defined in 17 A M.R.S. § 251.

Sheltered care group home. A facility which, in addition to providing food and shelter to a defined population of up to 12 individuals, provides guidance or counseling services as a primary function of the facility.

Shore frontage. The length of a lot bordering on a water body or wetland measured in a straight line between the intersections of the lot lines with the shoreline.

Sidewalk. That portion of a street not included in the roadway, and devoted in whole or part to pedestrian traffic.

Site. All contiguous land under the same ownership or control, whether proposed for development or not, except where development is limited to a lot or lots within a subdivision.

Small-scale marijuana caregiver. A registered caregiver who sells or dispenses marijuana to no more than five individual registered patients in any one calendar month; does not process or manufacture marijuana using chemicals or solvents; and cultivates no more than: 1) 250 square feet of plant canopy where located in a single-family dwelling or commercial space; or 2) 125 square feet of plant canopy where located in a dwelling unit within a two-family or multi-family building.

Solar access. Space open to the sun and clear of overhangs or shade, including orientation of buildings and lots to the sun, so as to permit the use of active and/or passive solar energy systems on individual properties.

Solar energy system. A complete assembly consisting of one or more solar collectors and associated mounting hardware or equipment, intended to provide for the collection, storage, and distribution of solar energy for heating or cooling, electricity generation, or solar/thermal hot water systems. Solar energy systems shall include the following:

A. Accessory solar energy system. A system as defined above where power generation is incidental to a principal use, which may take the form of either a building integrated or roof-mounted solar array of any size, or a ground-mounted array occupying less than 1,000 square feet of air-space over ground area.

B. Minor solar energy system. A system as defined above where power generation is considered a principal use, which may take the form of either a building- or roof-mounted solar array of any size, or a ground-mounted system occupying between 1,000 and 9,999 square feet of ground area.

C. Major solar energy system. A system as defined above where power generation is considered a principal use, which may take the form of either a building or roof-mounted solar array of any size, or a ground-mounted system occupying greater than 10,000 square feet of ground area.

Solar energy system, building-integrated. A solar energy system that is an integral part of a principal or accessory building and include, but are not limited to, photovoltaic or hot water systems that are contained within roofing materials, windows, walls, skylights and awnings.

Solar energy system, ground-mounted. Also known as free-standing solar energy systems, a solar energy system that is structurally mounted to the ground. The panels may be stationary or revolving and of any size.

Solar energy system, roof-mounted. A solar energy system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames which can be tilted toward the south at an optimal angle.

Sounds, impulse. Sound events characterized by brief excursions of sound pressure, each with a duration of less than 1 second.

Sounds, tonal. Sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time.

Special needs independent dwelling unit. A dwelling unit developed and managed by a nonprofit organization for habitation by persons with special social, physical or mental needs beyond strictly economic needs. Such persons shall be provided required levels of supervision, care and/or counseling services appropriate to their special needs, and the services shall be provided by either the sponsoring nonprofit agency or through another entity with which the agency has entered into a contractual arrangement.

Sports complex. One or more facilities located on the same parcel of land where athletic events are held and with a combined seating capacity of at least 6,000 seats.

Stockpiling. Any placement or creation of piles or loads of soil, loam, sand, gravel, rock, or other mineral deposits upon a site for the purpose of storage, warehousing, or reserving for future use.

Stormwater retention area. A pond or basin used for the permanent storage of stormwater runoff.

Stormwater detention area. A storage area for the temporary storage of stormwater runoff which does not contain water during non-storm conditions.

Stream. A free-flowing body of water from the outlet of the confluence of two perennial streams as depicted on the most recent edition of a United States Geological Survey 7.5-minute series topographic map, or if not available, a 15-minute series topographic map, to the point where the body of water becomes a river or flows to another water body or wetland within a shoreland area, or any stream designated within a Stream Protection Zone.

Street. A public way established by or maintained under public authority, or a way dedicated to the use of the public and appearing on the official map of the city.

Street line. The line of demarcation between private property and a street.

Street, cul-de-sac or dead end. A street with only one outlet.

Structure. Anything constructed or erected of more than one member having a permanent or semi-permanent location on another structure or in or on the ground, including without limitation buildings, fences, gazebos, signs, antennas, satellite sending or receiving dishes, and swimming pools. Stockpiles shall be considered structures for the purposes of dimensional requirements.

Studios for artists and craftspeople. A facility for the production of arts and crafts products such as paintings, sculpture, or other arts, or the practice of arts such as music or dance, or the production of custom, hand-crafted, or limited production of products such as furniture, wood, clay, and metal products, publications, and similar low-impact arts and crafts activities.

Subdivider. Any individual, firm, association, syndicate, partnership, corporation, trust, or any other legal entity commencing proceedings under these regulations to effect a subdivision of land hereunder for himself, herself, or for another.

Subdivision. As defined in 30 A M.R.S. § 4401 and 4402.

Tasting room. A facility for the sampling of beer, wine, spirits, other alcoholic or non-alcoholic beverages, or food.

Telecommunication tower. Radio masts or tower structures built primarily to hold telecommunication antennas.

Tenant. Any occupant in lawful possession of a rental unit, whether by lease, sublease, or otherwise.

Theater or performance hall. Any establishment devoted to showing motion pictures, or for dramatic, musical, or live performances.

Transient guest. A person who occupies a facility offering accommodations on an overnight basis for compensation and whose actual occupancy is limited to no more than 15 days out of any 60-day period.

Tributary stream. A channel between defined banks created by the action of surface water, which is characterized by the lack of terrestrial vegetation or by the presence of a bed, devoid of topsoil, containing waterborne deposits or exposed soil, parent material or bedrock; and which is connected hydrologically with other water bodies. Tributary stream does not include rills or gullies forming because of accelerated erosion in disturbed soils where the natural vegetation cover has been removed by human activity.

Upland edge of a wetland. The boundary between upland and wetland. For purposes of a coastal wetland, this boundary is the line formed by the landward limits of the salt tolerant vegetation and/or the highest annual tide level, including all areas affected by tidal action. For purposes of a freshwater wetland, the upland edge is formed where the soils are not saturated for a duration sufficient to support wetland vegetation, or where the soils support the growth of wetland vegetation but such vegetation is dominated by woody stems that are six meters or taller.

Use. The purpose for which land or structures thereon is designed, arranged, or intended to be occupied, or for which it is occupied, maintained, rented, or leased.

Utility substation. Any sewage or water pumping station, electric power substation, transformer station, telephone equipment enclosures, or other similar structures owned or operated by a utility.

Vegetation. All live trees, shrubs, ground cover, and other plants including, without limitation, trees both over and under four inches in diameter, measured at four and one-half feet above ground level.

Very low-income household. A household having an income not exceeding 50% of median income for area of residence as set forth in regulations promulgated from time to time by the United States Department of Housing and Urban Development pursuant to 42 U.S.C. section 1437 et seq.

Warehousing, storage, and distribution. The storage of goods, wares, and merchandise in a warehouse from which distribution occurs. May include wholesale use, but not retail or direct sales to consumers.

Watercourse. Any natural or artificial stream, river, creek, ditch, channel, swale, canal, conduit, culvert, drain, waterway, gully, ravine, or wash in which water flows in a definite direction or course, either continuously or intermittently, or which has a definite channel, bed, and banks, and includes any area adjacent thereto subject to inundation by reason of overflow or floodwater.

Water-dependent uses. Those uses that require, for their primary purpose, location on submerged lands or that require direct access to, or location in, coastal or inland waters and which cannot be located away from these waters.

Wetlands (outside of shoreland zones). Those areas which have two or more of the following:

A. A water table at or near the surface during the growing season;
B. Very poorly drained soils, including Sebago mucky peat; or
C. Obligate wetland vegetation.

Very poorly drained soils and obligate wetland vegetation shall be as defined and illustrated in the United States Department of Interior, Fish and Wildlife Service publication of Wetland Plants of the State of Maine (1986).

Wind energy system. A wind energy generator and all associated facilities.

Wind energy system, useful life. The period for which the system has been designed by the manufacturer to operate in a safe manner, including the period during which new parts and refurbishment allow it to continue operating safely.

Wholesale. Sale for resale, not for direct consumption.

Workforce housing unit for rent. A dwelling unit for which:

A. The rent is affordable to a household earning 80% or less than of AMI.
B. The unit is rented to a household earning 80% or less of AMI.
C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

Workforce housing unit for sale. A dwelling unit for which:

A. The purchase price is affordable to a household earning 80% or less of AMI.
B. The unit is sold to a household earning 80% or less of AMI.
C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

4 NONCONFORMING USES, STRUCTURES, & LOTS

4.1 CONTINUATION

Any building, structure, lots, or use, that was legally existing at the time of its creation and made nonconforming by the provisions of this Land Use Code or any amendment thereto may be continued although such building, structure, lot, or use does not conform with the provisions of this Land Use Code.

4.2 NONCONFORMING USES

4.2.1 Increase in nonconforming use

A. A structure whose use is wholly nonconforming shall not be altered so as to increase the cubical content or the extent of nonconformity, except as provided for in (C), below.

B. A nonconforming use on premises outside of a building shall not be extended or allowed to occupy additional land area.

C. No alterations, modifications, or additions shall be made so as to increase the cubical content or the degree of nonconforming use, nor shall a nonconforming use be extended to any other part of a structure, unless such extension of a nonconforming use is solely for the purpose of bringing the use into compliance with health or safety codes, or to correct a condition which is determined by the Board of Appeals to constitute a health or safety problem. In either case, the expansion shall be limited to the minimum necessary to accomplish that purpose.

D. Except as expressly provided herein, any alteration, modification, or addition permitted under this subsection shall be in compliance with all other applicable sections of this Land Use Code. Nothing within this subsection shall be construed to permit an increase in the number of units in a building which is nonconforming as to the number of dwelling units or will become nonconforming as a result of such alteration, modification, or addition.

4.2.2 Change of nonconforming use

When a nonconforming use has been changed to a permitted use, it shall not thereafter be changed back to any non-permitted use. For purposes of this subsection, a use shall be deemed to have been so changed when an existing nonconforming use is terminated and a permitted use is commenced and continued for a period of seven days. Any change of use in violation of this article shall be deemed to be an abandonment of the lawfully existing nonconforming use. A lawful nonconforming use shall not be changed to any use other than a use permitted in the zone in which the use is located or to any use other than a nonconforming use of a more restricted zone, as set forth in the following schedule, provided that in no such case shall any structural alterations be made in any building except those required by law, ordinance, or other regulations:

A. In a mixed-use zone, from any use permitted in an industrial zone to any use permitted in a mixed-use zone.

B. In a B-1/B-1b zone, from any use permitted in a B-3 zone to any use permitted in a B-2 zone.

C. In a residential zone, from any use permitted in a B-2 zone to any use permitted in a B-1/B-1b zone.

D. In a residential zone, from any use permitted in any other residential zone to any use permitted in a more restrictive residence zone. For the purpose of this subsection, an R-6 zone shall be

deemed the least restrictive and an R-1 zone shall be deemed the most restrictive, with the intervening zones restricted in order of zone number.

4.2.3 Discontinuance of use of land

A nonconforming use of land where no buildings or only incidental or accessory buildings are employed together with such use shall not be changed to any other nonconforming use, and if such use is discontinued for a period of 90 days, it shall not be reestablished.

4.2.4 Discontinuance of use of property

If a legally nonconforming nonresidential use is discontinued for a period of 12 months or if a legally nonconforming residential use is discontinued for a period of 24 months, such discontinuance shall constitute an abandonment of the use and the property shall not thereafter be occupied or used except in conformity with the provisions of this article. A nonconforming use of land which is incidental or accessory to such nonconforming use shall be considered as being discontinued at the same time as the nonconforming use of the structure. In cases of foreclosure or similar situations involving a legally nonconforming use, the Planning Authority shall be authorized to extend the aforementioned period up to an additional five years provided that the extension is for good cause and the minimum length considered necessary to resume the legally nonconforming use of the structure. If the Planning Authority extends the period for resuming the nonconforming use, any associated existing nonconformities of structures and land shall also be extended. For buildings in the Shoreland Zone, state regulations may also govern and provide for a shorter period of time for nonconforming properties.

4.3 NONCONFORMING LOTS

4.3.1 Lots of record

A. A lot of record that has been held in separate and distinct ownership from adjoining lots as of the relevant date below shall be considered a buildable lot if it meets the following minimum standards:

1. A lot of record as of June 5, 1957 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5a, or R-6 zones provided that: a) the applicable setback dimensions can be met; b) the lot has a minimum street frontage of 40 feet or the applicable street frontage of the zone, whichever is less; and c) the lot has a minimum lot size of 5,000 square feet or the applicable minimum lot size of the zone, whichever is less.
2. A lot of record as of June 5, 1984 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5a, or R-6 zones provided that the applicable setback dimensions can be met.
3. A lot of record as of July 15, 1985 may be considered a buildable lot in the IR-1 and IR-2 zones, provided that the applicable setback dimensions can be met and provided further that a lot in the IR-1 zone has a minimum lot area of 10,000 square feet and a lot in the IR-2 zone has a minimum lot area of 6,500 square feet unless the lot is served by both public sewer and public water, in which case the lot has a minimum area of 5,000 square feet.

B. A lot of record that has been held in common ownership with any adjoining lot(s) at any point after the relevant date below shall be considered a buildable lot only if: 1) none of the lot(s) are in the Shoreland Zone; 2) any existing structure meets, or will be modified to meet, the applicable setback dimensions; and 3) it meets the following minimum standards:

1. A lot of record as of June 5, 1957 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5A, or R-6 zones provided that: a) the applicable setback dimensions can be met; b) the lot has a minimum street frontage of 40 feet or the applicable street frontage of the zone, whichever is less; and c) the lot has a minimum lot size of 5,000 square feet or the applicable minimum lot size of the zone, whichever is less.
2. A lot of record as of June 5, 1984 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5A, or R-6 zones provided that the applicable setback dimensions can be met.
3. So long as the setbacks are met, any nonconformities of structures and buildings, existing prior to June 5, 1957, on developed lots of record shall be considered lawfully existing nonconformities.

4.4 NONCONFORMING BUILDINGS/STRUCTURES

4.4.1 Restoration or reconstruction

A. A lawful nonconforming nonresidential structure may be maintained, repaired, or reconstructed in kind within a one-year period or within a two-year period for a lawful nonconforming residential structure, but no alterations, modifications, or additions shall be made to it, except as provided in Subsections 4.4.2 and 4.4.3.

B. A nonconforming structure damaged by fire, explosion, flood, riot, act of the public enemy, accident of any kind, decay, or otherwise may be maintained, repaired, reconstructed, restored or rebuilt only where:

1. The restoration or reconstruction is of a building which is lawfully nonconforming only as to lot area, setbacks, or any other dimensional requirements.
2. Where the restoration or reconstruction will occur entirely within the existing footprint and previous shell of the building and where no alterations, modifications, or additions will be made except as provided in this article and as permitted in Subsections 4.4.2 and 4.4.3.
3. Restoration or reconstruction is commenced within one year for a nonconforming nonresidential structure, or two years for a nonconforming residential structure, of the initial damage where such damage is sudden and accidental and is diligently pursued to completion without expiration of permits. For buildings in the Shoreland Zone, state regulations may also govern and provide for a shorter period for restoration or reconstruction of nonconforming structures.
4. Restoration or reconstruction necessitated by decay must be commenced within one year of the demolition of the building and diligently pursued to completion without expiration of permits.

5. Any reconstruction, under this provision, in the R-6 zone on a lot with 10,000 square feet or less, other than the exact restoration of a previously existing building on the site, shall comply with the applicable standards contained within the City of Portland *Design Manual*.

4.4.2 Alteration or modification

Alteration or modification may be made to a building which is lawfully nonconforming as to any dimensional requirement where the proposed changes in existing exterior walls and/or roofs would be within the space occupied by the existing shell of the building, and would not create any new nonconformity nor increase any existing nonconformity, except as provided elsewhere in this article and as permitted under Subsection 4.4.3. This subsection shall not apply to buildings located within the Shoreland Zone and existing on June 15, 1992, which are nonconforming only as to setbacks from wetlands, tributary streams, or other water bodies, which shall be regulated in accordance with Subsection 4.4.5.

4.4.3 Building extensions

Existing principal buildings which are lawfully nonconforming as to dimensional requirements may be enlarged subject to the following provisions:

A. No modification to an existing nonconforming building shall increase any existing nonconformity of a lot, use, or structure, except as provided in (D) below.

B. No modification to an existing nonconforming building shall create new noncompliance with any provision of this Land Use Code.

C. Existing buildings that are lawfully nonconforming as to required minimum setbacks may be vertically or horizontally expanded provided that the area of expansion meets all current dimensional requirements, except as provided in (D) below.

D. A vertical expansion above a portion of a building that is lawfully nonconforming as to minimum setbacks may be permitted a one-time increase of one additional story provided that:

1. No portion of the expansion horizontally extends beyond the nonconforming portion of the first story of the structure.
2. Any portion of a vertical expansion above the permitted one additional story shall meet the required minimum setback.

4.4.4 Enclosure of porches in required setbacks

Any open porch existing with a roof over the same on June 5, 1957, and encroaching upon any setback required by this chapter may be enclosed if the major portion of the enclosure is of glass.

4.4.5 Expansions in the Shoreland Zone

A nonconforming structure may be added to or expanded if such addition or expansion does not increase the nonconformity of the structure and is in accordance with the following provisions:

A. After January 1, 1989, if any portion of a structure is less than the required setback from the normal high water line of a water body or tributary stream or the upland edge of a wetland that portion of the structure shall not be expanded, as measured in floor area or volume, by 30% or more, during the lifetime of the structure. If a replacement structure conforms with the requirements of this subsection, and is less than the required setback from a water body, tributary stream, or

wetland, the replacement structure may not be expanded if the original structure existing on January 1, 1989 had been expanded by 30% in floor area and volume since that date.

B. Whenever a new, enlarged, or replacement foundation is constructed under a nonconforming structure, the structure and new foundation must be placed such that the setback requirement is met to the greatest practical extent as determined by Building Authority, basing its decision the criteria specified in (C) below. If the completed foundation does not extend beyond the exterior dimensions of the structure, except for expansion in conformity with (A) above, and the foundation does not cause the structure to be elevated by more than three additional feet as measured from the uphill side of the structure (from original ground level to the bottom of the first floor sill), it shall not be considered to be an expansion of the structure.

C. A nonconforming structure may be relocated within the boundaries of the parcel on which the structure is located, provided that the site of the relocation conforms to all setback requirements to the greatest practical extent as determined by the Building Authority, and provided that the applicant demonstrates that the present subsurface sewage disposal system meets the requirements of state law, the State of Maine Subsurface Wastewater Disposal Rules, or that a new system can be installed in compliance with state law, such rules, and all applicable chapters of the City of Portland Code of Ordinances. In no event shall a structure be relocated in a manner that causes the structure to be more nonconforming. In determining whether the building relocation meets the setback requirements to the greatest practical extent, the Building Authority shall consider the size of the lot, the slope of the land, the potential for soil erosion, the location of other structures on the property and on adjacent properties, the location of septic system and other on site soils suitable for septic systems, and the type and amount of vegetation to be removed to accomplish the relocation. When it is necessary to remove vegetation within the water or wetland setback are in order to relocate a structure, the Building Authority shall require replanting of native vegetation to compensate for the destroyed vegetation. In addition, the area from which the relocated structure was removed must be replanted with vegetation. Replanting shall be required as follows:

1. Trees removed in order to relocate a structure must be replanted with at least one native tree, three feet in height, for every tree removed. If more than five trees are planted, no one species of tree shall make up more than 50% of the number of trees planted. Replaced trees must be planted no further from the water or wetland than the trees that were removed.
2. Other woody and herbaceous vegetation and ground cover that are removed or destroyed in order to relocate a structure must be re-established within the setback area. The vegetation and/or ground cover must consist of similar native vegetation and/or ground cover that was disturbed, destroyed or removed.
3. Where feasible, when a structure is relocated on a parcel the original location

of the structure shall be replanted with vegetation which may consist of grasses, shrubs, trees, or a combination thereof.

D. Buildings in existence on January 1, 1989, and located in the Shoreland Zone may be expanded once during the lifetime of the structure up to 25 feet toward a freshwater wetland or tributary stream, provided that a minimum setback of 40 feet is maintained and that the existing floor area or volume is not increased by more than 30%, and shall not create any undue environmental impact or flood-prone condition.

4.4.6 Nonconformity as to number of dwelling units

A. **Purpose.** The purpose of this provision is to establish a process whereby certain dwellings which contain more dwelling units than the number permitted by the applicable provisions of the Land Use Code may be recognized as legal, nonconforming uses.

B. **Application.** Application for validation of such nonconforming dwelling units shall be on a form provided by the Building Authority, and will be accompanied by:

1. An application fee as established by the City Council to cover administrative costs.
2. A plan, drawn to scale, which shows the location of the building(s) on the lot, parking, easements, dumpsters, fencing, public ways, and any other significant feature.
3. A floor plan for each unit in the dwelling, whether or not it is the subject of the application.

C. **Eligibility.** In order for a nonconforming dwelling unit to be validated by administrative action of the Building Authority as authorized herein, the Building Authority must find, based on competent evidence, supported by public records, that:

1. The nonconforming dwelling units were either in existence April 1, 2005, or the structure in which they are located was originally designed to accommodate more than the number of such units presently in use.
2. The applicant neither constructed nor established the nonconforming dwelling units.
3. The nonconforming dwelling units comply with or can be made to comply with current standards of Chapter 10 of the City of Portland Code of Ordinances, including the National Fire Protection Association Life Safety Code and the National Fire Protection Association 1: Fire Prevention Code, as amended.
4. Each of the nonconforming dwelling units complies with, or can be made to comply with, provisions of the Chapter 6 of the City of Portland Code of Ordinances, as amended, including, but not limited to, the minimum standards for space and occupancy, the minimum plumbing standards, and the minimum ventilation standards.
5. The structure containing the nonconforming dwelling units is located in the R-3, R-4, R-5/R-5a, R-6/R-6a, R-7, B-1/B-1b, B-2/B-2b/B-2c, or IS-FBC zones.

In the absence of legally competent evidence, supported by records (such as, but not limited to, Assessor's records, purchase and sale agreements, affidavits, deeds, mortgages, as

well as reliable secondary sources), that the conditions of (C)(1), (2), (3), (4), or (5) above can be met, the Building Authority may not approve the application, but shall advise the applicant that the matter may be appealed to the Board of Appeals.

D. **Notice to abutters**. Upon receipt of a completed application, the Building Authority will provide the owners of abutting properties and the owners of property situated within 300 feet of the structure notice of the application, along with a notice that they may object to the Building Authority's acting on the application and require the applicant to appeal to the Board of Appeals. The notice shall advise the abutters and owners of property within 300 feet that any objection must be submitted in writing to the Building Authority within 10 days of the date of the notice sent to them. The failure of any property owner to receive the notice described above shall not invalidate any action by the Building Authority. The Building Authority shall promptly notify the applicant of receipt of the objection, that the Building Authority is without authority to proceed, and advise the applicant that, within 30 days from receipt of the letter, an application may be filed to have the matter reviewed by the Board of Appeals as a conditional use.

E. **Approval of application.** The Building Authority may approve the application, provided that the evidence presented satisfies all of the requirements of this subsection and provided that no abutter nor person entitled to notice has requested that the application be referred to the Board of Appeals, instead of the Building Authority. Upon approval of the application, final inspection by the Building Authority certifying the units as in compliance with all applicable codes, and receipt of an inspection fee as established by the City Council for each nonconforming dwelling unit which has been recognized as a lawful, nonconforming use, the Building Authority will issue a certificate of occupancy.

F. **Disapproval of application.** In the event the application is not approved by the Building Authority or in the event of a timely objection filed by a person qualified herein to file such an objection, the applicant, within 30 days from the decision of the Building Authority or objection, may appeal the matter to the Board of Appeals as a conditional use.

G. **Action by Board of Appeals.** The Board of Appeals shall treat applications filed under this subsection as an application for a conditional use, applying the standards applicable to conditional uses under Section 6.5 as well as the requirements of this subsection.

H. **Dimensional and parking requirements**.In making decisions under this subsection, neither the Building Authority nor the Board of Appeals shall apply the dimensional or parking requirements which would otherwise apply in the zones where the nonconforming dwelling units are situated.

I. **Exclusions.** The provisions of this subsection shall not apply to rooming units, but shall apply to efficiency apartments under Chapter 6 of the City of Portland Code of Ordinances. The Board of Appeals is without jurisdiction to grant any relief (including, but not limited to, variances) which would recognize the particular dwelling units which are the subject of this subsection as legal, nonconforming uses,

except in strict compliance with each requirement of this subsection.

J. **Prior judicial and administrative action.** Decisions of any court or administrative body, including but not limited to, the Building Authority, the Planning Board, or the Board of Appeals, made prior to the effective date of this subsection and which addressed the number of nonconforming dwelling units in a particular structure, will not bar relief under this subsection.



5 ZONES

5.1 ESTABLISHMENT OF ZONES

In order to carry out the provisions of this Land Use Code, the City of Portland shall be divided into the zones in Table 5-A.

5.2 ZONING MAP

5.2.1 Zoning map adopted

The zones in Table 5-A are shown upon a map filed in the Department of Planning and Urban Development. Such zoning map, with amendments, is hereby adopted as the official zoning map of the City of Portland and as part of this Land Use Code.

5.2.2 Zone boundaries when uncertain

Where uncertainty exists with respect to the boundaries of the various zones, as shown on the zoning map, the following rules shall apply:

A. Unless otherwise indicated, zone boundary lines are the center lines of streets, alleys, parkways, waterways, or rights-of-way of public utilities and railroads or such lines extended.

B. Unless otherwise shown, lines within blocks less than 200 feet wide are median lines between their sides, and lines within blocks 200 feet or more wide are 100 feet distant from the less restricted side of the block.

C. The depictions of the Shoreland Zone and Stream Protection Zone on the zoning map are illustrative of the general location of such zones. The actual boundaries of these zones shall be determined by measurement of the distance indicated on the map and in this Land Use Code from the normal high-water line of the water body or the upland edge of wetlands. Where such measurement is not the same as the location of the boundary of the zoning

TABLE 5-A: ZONES

Residential	R-1, R-2, R-3, R-4, R-5, R-5a, R-6, R-6a
Island	IR-1, IR-2, IR-3
	I-B Island Business
Mixed-Use	B-1, B-1b Neighborhood Business
	B-2, B-2b, and B-2c Community Business
	B-3, B-3b, and B-3c Downtown Business
	B-4 Commercial Corridor
	B-5 and B-5b Urban Commercial
	B-6 Eastern Waterfront
	B-7 Mixed Development
Office	O-P Office Park
	R-P Residence Professional
Industrial & Airport	I-L and I-Lb Low-Impact
	I-M, I-Ma, and I-Mb Moderate Impact
	I-H and I-Hb High Impact
	A-B Airport Business
Open Space	R-OS Recreation and Open Space
Waterfront	EWPZ Eastern Waterfront Port
	WCZ Waterfront Central
	WPDZ Waterfront Port Development
Overlay Zones	Compact Urban Residential (R-7)
	Downtown Entertainment Overlay
	Fort Sumner Park Height Overlay
	Helistop Overlay
	Institutional Overlay (IOZ)
	Munjoy Hill Neighborhood Conservation
	Island Transfer Station Overlay
	Pedestrian Activities District Overlay
	Stream Protection Overlay
	University of Southern Maine Overlay
	Waynflete School Overlay
Form-Based	IS-FBC India Street Form-Based Code
Other	Shoreland
	Floodplain Management
	RPZ Resource Protection

map, the measurement shall control, unless the zoning map indicates that the zone boundary shall follow an existing property line.

5.2.3 Extension of zone lines

Where a zone boundary line divides a lot in single or joint ownership of record at the time such line is established, the provisions of this Land Use Code for the less restricted portion of such lot shall extend not more than 30 feet into the more restricted portion, provided that the lot has at least 20 feet of street frontage in the less restrictive zone when taken together with adjacent premises which are under the same or equivalent ownership or control. If such boundary line divides a business or industrial zone from a residential zone, no frontage on a street other than the principal business street in the less restrictive zone may be taken into consideration in connection with the right herein granted. This subsection shall not apply to differing dimensional requirements, including height, within a zoning district.

5.3 CONDITIONAL OR CONTRACT ZONING

5.3.1 Authority and purpose

Pursuant to 30-A M.R.S.§ 4352(8), conditional or contract zoning is hereby authorized for rezoning of property where, for reasons such as the unusual nature or unique location of the development proposed, the City Council finds it necessary or appropriate to impose, by agreement with the property owner or otherwise, certain conditions or restrictions in order to ensure that the rezoning is consistent with the City's Comprehensive Plan. Conditional or contract zoning shall be limited to where a rezoning is requested by the owner of the property to be rezoned. The conditional or contract zoning must be consistent with the Comprehensive Plan, and rezoned areas must be consistent with the existing and permitted uses within the original zone. Nothing in this section shall authorize either an agreement to change or retain a zone or a rezoning which is inconsistent with the City's Comprehensive Plan.

5.3.2 In the I-H zone

A conditional or contract rezoning shall only be approved in the I-H or I-Hb zones if, after public hearing and opportunity for public comment, the reviewing body finds that the applicant has carried the burden of proof to show that the proposed development meets the following standards:

A. The proposed development is consistent with the Comprehensive Plan.
B. The proposed development is consistent with the purposes of the underlying zone.
C. The proposed development is designed and operated so that it will prevent undue adverse environmental impacts, substantial diminution of the value or utility of neighboring structures, or significant hazards to the health or safety of neighboring residents by controlling noise levels, emissions, traffic, lighting, odors, and any other potential negative impacts of the proposal.
D. All plans must include complete information of processes, materials, or methods of storage to be used by the development and shall specify how hazardous impacts to neighboring properties will be prevented.



5.3.3 Hearing

The Planning Board shall conduct a public hearing in accordance with Section 2.1.8 prior to any property being rezoned under this section.

5.3.4 Conditions and restrictions

Conditions and restrictions imposed under the authority of this section shall relate only to the physical development and operation of the property and may include, by way of example:

A. Limitations on the number and types of uses permitted.
B. Restrictions on the scale and density of development.
C. Specifications for the design and layout of buildings and other improvements.
D. Schedules for commencement and completion of construction.
E. Performance guarantees securing completion and maintenance of improvements, and guarantees against defects.
F. Preservation of open space and buffers, and protection of natural areas and historic sites.
G. Contributions toward the provision of municipal services required by the development.
H. Provisions for enforcement and remedies for breach of any condition or restriction.

5.3.5 Amendments

Except as expressly modified in any contract or conditional rezoning agreement, the use and occupancy of any property within the City of Portland used or occupied pursuant to a contract or conditional rezoning agreement otherwise shall be governed by and comply with the provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

5.3.6 Enforcement

Notwithstanding language in any contract or conditional zoning to the contrary, any violation of a conditional or contract zone shall be enforced pursuant to 30-A M.R.S. § 4452, as may be amended from time to time, or in any other manner available by law. No alleged violation of a contract or conditional rezoning may be prosecuted until the City has delivered written notice of the alleged violation(s) to the owner or operator of the property that is subject to the contract or conditional rezoning and given the owner or operator an opportunity to cure the violation(s) within 30 days of receipt of the notice. In addition, if such an enforcement action should result in a finding that the terms of the conditional or contract zone have been violated, then the City may act to modify or rescind the conditional or contract zone and to rezone the property.

5.4 BASE ZONE PURPOSE STATEMENTS

Base zone purpose statements shall be as established in Tables 5-B to 5-G.



TABLE 5-B: RESIDENTIAL ZONE PURPOSE STATEMENTS

R-1	To provide for lower density residential development characterized by single-family homes on individual lots in outlying areas of the city and along traffic corridors with limited additional traffic capacity.
R-2	To provide for low-density residential development characterized by single-family homes on individual lots in outlying areas of the city and along traffic corridors with limited additional traffic capacity.
R-3	To provide for medium-density residential development characterized by single-family homes on individual lots and also to provide for planned residential unit developments on substantially sized parcels.
R-4	To preserve the unique character of the Western Promenade area of the city by controlling residential conversions and by allowing the continued mix of single-family, two-family, and low-rise multi-family dwellings and other compatible development at medium densities.
R-5	To provide appropriate areas of the city for medium-density residential development characterized by single-family, two-family and low-intensity multifamily dwellings on individual lots; to ensure the stability of established medium-density neighborhoods by controlling residential conversions; and to provide for planned residential unit development on substantially-sized parcels.
R-5a	To provide for moderate-density residential development in off-peninsula locations that can provide a unique residential living experience with a high degree of natural site amenities; and to provide areas of the city in the general proximity of the peninsula that have the capability for adequate municipal services, including traffic corridors with adequate traffic capacity, that can appropriately accommodate a more intensive use of land than other lower-density zoned land and be compatible with surrounding neighborhoods; and to increase affordable housing opportunities in off-peninsula locations by providing a moderate-density zone.
R-6	To set aside areas on the peninsula for housing characterized primarily by multi-family dwellings at a high density providing a wide range of housing for differing types of households; to conserve the existing housing stock and residential character of neighborhoods by controlling the scale and external impacts of professional offices and other nonresidential uses; and to encourage new housing development consistent with the compact lot development pattern typically found on the peninsula.
R-6a	To encourage neighborhood livability with higher density multi-family housing on large parcels located off the peninsula along major public transportation routes, near service areas, and in redevelopment (underutilized) or infill areas.

TABLE 5-C: ISLAND ZONE PURPOSE STATEMENTS

IR-1	To provide for low-intensity residential, recreational, and rural uses in the less developed areas of the islands in order to preserve the rustic character of the islands, to protect groundwater resources and natural and scenic areas, and to permit only appropriate low-intensity development in areas lacking adequate public facilities and services.
IR-2	To protect the character of existing developed residential neighborhoods on the islands and to allow infill where there are adequate public services. Expansion or extension of an existing IR-2 zone should be strictly limited, generally focused toward areas adjacent to existing village IR-2 areas, and restricted by such factors as adequacy of access, whether adequate water will be available for private use and for fire protection, and whether soils in the area are adequate for subsurface water disposal or whether public sewers are available. IR-2 rezoning on substantially sized parcels should not be considered for those sites that should be more appropriately zoned otherwise.
IR-3	To allow for a planned unit development in a manner compatible with both the natural and built environment, which provides for adequate circulation and waterfront access, adequate water supply for private use and fire protection, and safe and clean disposal of solid and septic wastes. The following guidelines shall be considered, among others, in establishing an IR-3 zone: A. An IR-3 zone should have a minimum land area of 20 acres. B. A site for an IR-3 zone should be able to accommodate higher density development by providing buffers from surrounding areas on a substantially-sized parcel for which natural amenities are capable of being conserved in a development plan for the site. C. IR-3 zones should not be established unless issues of municipal services, including infrastructure, education, and police and fire services and other municipal services can be appropriately and adequately addressed. D. The differences in scale and intensity of uses between existing development and the IR-3 zone, and the cumulative impact on the overall density of the island, should be mitigated by appropriate open space and buffer areas. E. The development plan should have the capability of meeting the development review standards of the zone.
I-B	To provide limited areas on the islands for retail and service establishments that primarily serve the needs of the local island market area.



TABLE 5-D: MIXED-USE ZONE PURPOSE STATEMENTS

B-1	To provide limited areas for the location of small-scale commercial establishments intended to serve a local market. Uses that are complimentary, quiet, and generally do not disturb the comfort and enjoyment of the adjoining neighborhood environment are encouraged, and should be designed for the pedestrian scale and to provide convenient access for nearby residents and workers to walk in to purchase goods and services. Buildings and uses shall be designed with attractive storefronts or similar features, with windows and doors convenient to a public sidewalk. This zone encourages mixed-use buildings, such as commercial first floor with residential uses above or combined retail/office uses in a multi-story structure. The zone also provides the opportunity for high residential density. Suitable locations for this zone may include street intersections and arterial streets with existing or proposed traditional neighborhood retail and service uses.
B-1b	To provide appropriate opportunities for the establishment of small-scale ground floor commercial uses to serve a local market, while supporting mixed-use buildings with residential uses above ground floor commercial space and on the ground floor where the principal street frontage is maintained for active commercial uses. The zone also provides the opportunity for mixed use and high residential density. Suitable locations for this zone may include street intersections, arterial streets, and sites with existing or traditional neighborhood retail and service uses.
B-2	To provide appropriate locations for the development and operation of community centers offering a mixture of commercial uses, housing, and services serving the adjoining neighborhoods and the larger community. The variety, sites, and intensity of the permitted commercial uses in the B-2 zone are intended to be greater than those permitted in the B-1/B-1b zones. The zone provides a broad range of goods and services with a mixture of large and small buildings, such as grocery stores, shops and services located in major shopping centers and along arterial streets. Such establishments should be readily accessible by automobile, by pedestrians and by bicycle. Development in the B-2 zone should relate to the surrounding neighborhoods by design, orientation, and circulation patterns. The zone should provide locations for moderate to high-density housing in urban neighborhoods along arterials.
B-2b	To provide neighborhood and community retail, business and service establishments that are oriented to and built close to the street. The B-2b zone is appropriate in areas where a more compact urban development pattern exists or where a neighborhood-compatible commercial district is established which exhibits a pedestrian scale and character. Such locations may include the peninsula and other arterials and intersections with an existing urban or neighborhood-oriented building pattern. The B-2b should provide locations for moderate to high-density housing in urban neighborhoods along arterials.
B-2c	To protect and enhance the quiet enjoyment of adjoining residential neighborhoods from the impacts of businesses that serve liquor and from other uses that are incompatible with adjoining neighborhoods due to noise.
B-3 & B-3b	To maintain and enhance the role of the downtown as the business and commercial center of the region; to enhance and promote the orderly expansion of retail and service businesses downtown, satisfying the related needs of the city's resident, working, and visitor populations; to encourage increased housing opportunity downtown for a diverse residential population; to enhance the pedestrian environment through the encouragement of intensive mixed-use activities, through the enhancement and maintenance of public and private open space, and through the enlivenment and increased attractiveness of the street environment; to encourage excellence in urban design; to preserve and capitalize on the unique character and historic fabric of the downtown through the encouragement of reuse of significant existing structures; to provide opportunity for an enhanced presence and integration of the arts and cultural activities; to reinforce the role of the downtown as a meeting place for community residents and visitors alike from all walks of life and all socio- economic groups; to provide adequate parking and transportation facilities which promote accessibility, enhance and encourage development opportunity, and enhance and protect the pedestrian environment; In the Pedestrian Activities District (PAD) Overlay Zone, to create continuity of pedestrian-oriented uses along streets where such uses predominate and along streets which, over time, will establish and maintain a strong retail and pedestrian-oriented use pattern; and to provide for the relocation of residents who are displaced by development.

TABLE 5-D (CONT.): MIXED-USE ZONE PURPOSE STATEMENTS

B-3c	In addition to the purpose of the B-3 and B-3b zone, to promote the safety, quiet enjoyment, and general welfare of citizens residing in a dense urban neighborhood by decreasing the conflicts between residential uses and loud late-night activities. The B-3c zone recognizes that the business uses appropriate in this zone are constrained by the proximity of multi-unit elderly housing.
B-4	To provide appropriate locations in the city for the development and operation of businesses catering primarily to highway-oriented trade along major arterials (uses which have market areas which are primarily dependent on the regional highway network or serve a regional or larger market), as well as to provide appropriate locations for large-scale commercial uses that require larger land areas to accommodate their operations.
B-5 & B-5b	To provide areas of the peninsula near the downtown where a mixture of uses, including marine, industrial, commercial, and residential, is encouraged. The B- 5 and B-5b zones are characterized by larger underdeveloped lots with great potential for denser, clustered, urban mixed-use development and more efficient reuse of existing land and buildings. It is anticipated that the dense, mixed-uses of the B-5 and B-5b zones will rely on a shared infrastructure system, including service alleys, parking lots, public transportation facilities, stormwater management, and driveways.
B-6	To establish a zoning district for the upland portion of the Eastern Waterfront area. The B-6 zone encourages this district to acquire a distinctly urban form through development that emphasizes a quality pedestrian experience, promotes public transit, and demonstrates exemplary urban design. The zone promotes a range of uses to achieve 24-hour urban vitality and shared use of parking infrastructure as recommended in the Eastern Waterfront Master Plan for redevelopment. The B-6 zone promotes a mixed-use development pattern envisioned for urban land on Portland's peninsula.
B-7	To establish a zoning district for urban areas in which the City has adopted master plans for redevelopment. Certain areas, including but not limited to Bayside, lie at the perimeter of the established downtown and contain significant redevelopment opportunities. The B-7 zone encourages these districts to acquire a distinctly urban form through dense development featuring a mix of uses such as housing, retail, offices, research and development, and artisan studios and that emphasizes a quality pedestrian experience, promotes public transit, and demonstrates exemplary urban design. Use of multi-modal transportation is strongly encouraged and is advanced by the installation of bicycle amenities, such as bicycle racks and storage areas. The zone promotes a wide range of uses in high quality structures and public open spaces to achieve 24-hour urban vitality and shared parking infrastructure. The B-7 zone promotes a mixed-use development pattern envisioned on Portland's peninsula.

TABLE 5-E: OFFICE ZONE PURPOSE STATEMENTS

O-P	To provide substantial areas for integrated development of offices in a park- or campus-like setting which are of the highest quality, are well-designed and maintained, and are compatible with their natural surroundings.
R-P	To provide appropriate location for the development and operation of low-intensity business uses, including offices on or near major arterials, that are compatible in scale, density and use with surrounding and adjacent residential neighborhoods; or to serve as a transition or buffer zone between residential and more intensive nonresidential zones.



TABLE 5-F: INDUSTRIAL AND AIRPORT ZONE PURPOSE STATEMENTS

I-L & I-Lb	To provide areas in which low-impact industrial uses, and limited other uses serving employees and residents of the surrounding neighborhood, will be compatible with adjacent residential uses, will provide a buffer between residential neighborhoods and higher impact industrial zones, or will stand alone as a smaller scale industrial district. The I-L zone is located adjacent to residential neighborhoods, business uses and other industrial uses where the low-intensity nature of the uses, as well as their strict performance standards, will ensure the compatibility of the uses with other adjacent industrial and nonindustrial uses. Performance standards for uses in the I-L zone are designed to maintain compatibility between low impact industrial uses and neighboring nonindustrial and industrial uses.
I-M, I-Ma, & I-Mb	To provide zones in areas of the city in which low- and moderate-impact industries and transportation-related uses will coexist. I-M and I-Ma zones are located on arterials or collectors. The I-Mb zone is similarly located on the peninsula. These locations provide for direct access onto arterials, thereby protecting residential neighborhoods from drive-through traffic. The purpose of the I-M, I-Ma and I-Mb industrial zones is also to provide for larger industrial buildings and for the limited or controlled use of areas outside of structures for storage of materials and machinery. These facilities often require large volumes of imported materials and products which result in large volumes of shipping and receiving. Often uses may be highway-oriented and transportation-related, thus relying on citywide and regional transportation infrastructure. Industrial uses in these moderate-impact industrial zones may require separation from higher-impact uses.
I-H & I-Hb	To provide areas suitable for higher impact industrial uses than are permitted in other industrial zones and other uses that are capable of demonstrating, through design, layout and topography, their compatibility with, or non-intrusion on, existing or future higher impact industrial uses on adjacent or neighboring I-H zoned properties. Due to the intensity of use, the I-H zones are intended for uses which may require extensive outdoor storage and usage and may utilize heavy equipment. Processes may require separation from residential or sensitive environmental areas. The I-H zones are separated from other nonindustrial uses as well as natural or constructed features. High-impact industrial uses will be of a higher intensity, with a greater lot coverage, than the other zones.
A-B	To provide an area for the development of airport-related enterprises. Appropriate uses permitted in this zone are those customarily associated with the operation of the airport terminal and individual airlines and accessory uses to provide for the comfort and convenience of the airport's patrons and employees.

TABLE 5-G: OPEN SPACE ZONE PURPOSE STATEMENT

R-OS	To preserve and protect open space as a limited and valuable resource; to permit the reasonable use of open space, while simultaneously preserving and protecting its inherent open space characteristics to assure its continued availability for public use as scenic, recreation, and conservation or natural resource area, and for the containment and structuring of urban development; to provide a suitable location for large-scale regional sports and athletic facilities; and to develop an open space system throughout the city, which provides the highest quality parks, plazas, and pedestrian environment. The R-OS zone may include parcels of public property and private property legally restricted from intensive use or development through deed, covenant, or otherwise.

6 USE STANDARDS

6.1 APPLICABILITY

The use of buildings, structures, and land are governed by this article, except when superseded by other applicable laws or ordinances. It is the intent that, when in doubt, this article should be interpreted to accommodate the goals of the City's Comprehensive Plan and other plans.

6.2 DETERMINATION OF USE

6.2.1 Use tables

Tables 6-A to 6-F shall determine if a use is permitted (●), conditional (◐), or not permitted ( ), as a principal use within a zone. Unless otherwise noted, where a use is listed in terms of square footage, square footage figures shall correspond to the total floor area of the use.

6.2.2 Unlisted uses

A. Uses not expressly listed as permitted or conditional in Tables 6-A to 6-F are prohibited as principal uses except that a use may be permitted subject to meeting the following performance-based standards:
   1. The proposed use is consistent with the purposes of the zone.
   2. The proposed use is closely related to a permitted or conditional use in terms of character, scale, and external impacts.
   3. The buildings and structures associated with the proposed use are designed and operated so that it will prevent undue adverse environmental impacts, substantial diminution of the value or utility of neighboring structures, or significant hazards to the health or safety of neighboring residents by controlling noise levels, emissions, traffic, lighting, odor, and any other potential negative impacts.

B. The review authority shall determine whether the uses not listed as permitted or conditional uses meet the above standards. If it is determined that the use does not meet the above criteria, it shall not be permitted.

C. The review authority may impose reasonable conditions of approval on the proposed use to ensure that it is similar in character and impact to a permitted or conditional use.

6.2.3 Multiple uses

A site may contain more than one principal use, so long as each principal use is allowed within the zone.

6.3 CHANGE OF USE

A change of use from one use in these tables to another is governed by the requirements of the new use. The use of any part of any building, structure, or property shall not be changed to any other use, whether principal or accessory and whether alterations in the building, structure, or property are involved or not, until a permit and certificate of occupancy authorizing such change of use has first been secured from the Building Authority in accordance with Chapter 6 of the City of Portland Code of Ordinances.

TABLE 6-A: PERMITTED AND CONDITIONAL USES IN RESIDENTIAL ZONES

		R-1	R-2	R-3	R-4	R-5/R-5a	R-6/R-6a	Use Standards
Residential	Single-family dwellings	●	●	●	●	●	●	
	Two-family dwellings				●	●	●	
	Multi-family dwellings			◐		◐[1]/●[2]	●	6.5.6(G)
	Multiplex				◐	●[1]		6.4.12
	Congregate care facilities					●[2]		
	Handicapped family units	●	●	●	●	●	●	
	Planned Residential Unit Developments			●[4]		●[4]		
	Special needs independent dwelling units				●	●[1]	●	
	Lodging houses					◐[1,3]	●	6.4.9
	Sheltered care group homes	◐	◐	◐	◐	◐	◐	6.5.6(K)
Institutional	Elementary, middle, and secondary schools	◐	◐	◐	◐	◐[1]	◐	6.5.6(F)
	Governmental uses	●	●	●	●	●	●	
	Hospitals			◐		◐[1]	◐	6.5.6(F)
	Intermediate care facilities	◐	◐	◐		◐[1]/●[2]	◐	
	Long-term and extended care facilities	◐	◐	◐		◐[1]/●[2]	◐	
	Places of assembly (<10,000 SF)	◐	◐	◐	◐	◐[1]	◐	
	Places of assembly (>10,000 SF)	◐	◐	◐	◐	◐[1]	◐	
	Preschool facilities	◐	◐	◐	◐	◐	◐	6.5.6(I)
	Post-secondary schools		◐			◐[1]	◐	6.5.6(F)
Comm.	Bed and breakfasts						●/◐[5]	6.4.4
	General offices (<5,000 SF)						◐	6.5.6(C)
	Hostels						●/◐[6]	6.4.8
Other	Agriculture	●	●					
	Cemeteries	◐	◐		●		●	
	Off-street parking			◐	◐	◐[1]	◐	6.5.6(H)
	Parks and open spaces	●	●	●	●	●	●	
	Raising of domesticated animals	◐						6.5.6(J)
	Solar energy system (minor)	●	●	●	●	●	●	6.4.16
	Utility substations	◐	◐	◐	◐	◐	◐	6.5.6(L)

[1] In the R-5 zone only.
[2] In the R-5a zone only.
[3] Conversions of existing two-family or multiplex structures into lodging houses are permitted as a conditional use, provided that the lodging house shall not be located within 500 ft. of another as measured along street lines.
[4] Must consist of horizontally or vertically attached dwelling units, or a series of such dwelling units, with all land owned and used in common. PRUDs shall be subject to review and approval by the Planning Board under Article 15.
[5] Permitted if a conversion of a structure existing as of 3/3/97 to up to four guest rooms and conditional if a conversion of the same to five to nine rooms.
[6] Permitted if for no more than 10 overnight transient guests and conditional if for between 11 and 20 overnight transient guests. An owner, manager, or operator shall be a permanent resident of the building.



TABLE 6-B: PERMITTED AND CONDITIONAL USES IN ISLAND ZONES

		IR-1	IR-2	IR-3[1]	I-B	Use Standards
Residential	Single-family dwellings	●	●	●[2]	●	
	Two-family dwellings				◐	6.5.6(G)
	Multi-family dwellings				◐	
	Handicapped family unit	●	●	●	●	
	Planned Residential Unit Developments	●	●			
	Lodging houses		◐[3]	●[3]	●[3]	
Institutional	Elementary, middle, and secondary schools	◐	◐	●	◐	6.5.6(F)[6]
	Educational facilities (including seasonal camps)	◐	◐			
	Governmental uses	◐	◐	●	◐	
	Places of assembly (<10,000 SF)	◐	◐	●	◐	
	Places of assembly (>10,000 SF)	◐	◐		◐	
	Preschool facilities	◐	◐	●	◐	6.5.6(I)
Commercial/Service	Auto service stations				◐	6.5.6(A)
	Bed and breakfasts				●[4]	
	General services (<5,000 SF)				●	
	Hotels			●[5]	◐[5]	
	Restaurants			●	●	
	Retail (<10,000 SF)			●	●	
Other	Studios for artists and craftspeople				●	
	Agriculture	●				
	Boathouses and storehouses for fishing equipment	●	●	●	●	
	Campgrounds	◐		●		6.4.5
	Cemeteries	◐	◐			
	Marinas and yacht clubs			●	●	
	Off-street parking				●	
	Parks and open spaces	●	●	●	●	
	Raising of domesticated animals	◐				6.5.6(J)
	Solar energy system (minor)	●	●	●	●	6.4.16
	Utility substations	◐	◐	●		6.5.6(L)
	Wharves, piers, docks, and landing ramps	◐	◐	●	●	

[1] All uses within the IR-3 permitted only within a PUD with a minimum total area of 20 acres of contiguous land subject to the standards of Subsection 6.4.14.

[2] Single-family attached permitted provided that new construction shall be limited to no more than six attached dwellings per building.

[3] With greater than two but no more than nine rooming units.

[4] Permitted on Peaks Island only.

[5] Maximum 50 rooms.

[6] The standards of Subsection 6.5.6(F) shall not apply to institutional uses within the I-B zone. In the IR-1 and IR-2 ones, institutional uses are subject to the standards of Subsection 6.5.6(F) only if the total land area of the use is two acres or more.

TABLE 6-C: PERMITTED AND CONDITIONAL USES IN MIXED-USE ZONES

		B-1/B-1b	B-2/B-2b/ B-2c	B-3/B-3b/ B-3c[11]	B-4	B-5/ B-5b	B-6	B-7	Use Standards
Residential	Single-family dwellings	●	●	●		●	●	●	
	Two-family dwellings	●	●	●		●	●	●	
	Multi-family dwellings	●[1]	●	●		●	●	●	
	Congregate care facilities			●					
	Handicapped family units			●		●	●	●	
	Combined living/working spaces	●	●	●		●	●	●	
	Lodging houses	●[2]	●	●	●	●		●	6.4.9
Institutional	Clinics	●[2]	●	●		●		●	
	Cultural facilities			●		●	●	●	
	Elementary, middle, and secondary schools	●[2]	●	●		●	●	●	
	Emergency shelters			◐	◐	◐			6.5.6(B)
	Governmental uses	●[2]	●	●	●	●		●	
	Intermediate care facilities		●	●					
	Long-term and extended care facilities		●						
	Places of assembly (< 10,000 SF)	●[2]	●	●	●	●	●	●	
	Places of assembly (> 10,000 SF)		●	●	●	●	●	●	
	Preschool facilities	●[2]	●	●	●	●	●	●	
	Post-secondary schools		●	●	●	●	●	●	
Commercial /Service	Adult business establishments		●[3]	●[3]					6.4.2
	Auto, boat, and related dealerships		◐		●				6.5.6(A)
	Auto service stations		◐[4]		●	●			6.5.6(A)
	Bars		●[5]	●[5]	●	●	●	●	6.4.3
	Bed and breakfasts	●	●	●				●	6.4.4
	Exhibition, meeting, and convention halls			●		●	◐	●	
	Funeral homes		●		●				
	General offices (<5,000 SF)	●[2]	●	●	●	●	●	●	6.4.6
	General offices (>5,000 SF)		●	●	●	●	●	●	
	General services (<5,000 SF)	●[2]	●	●	●	●	●	●	6.4.6
	General services (>5,000 SF)		●	●	●	●	●	●	
	Hostels	●		●		●		●	6.4.6, 6.4.8
	Hotels		●	●	●	●	●[13]	●	
	Marijuana retail store		●/◐[6]	●	●			●	6.4.10
	Recreation and amusement centers				●	●		●	
	Registered marijuana dispensary		●/◐[6]	●	●			●	6.4.10
	Restaurants	●[2]	●	●	●	●	●	●	6.4.3, 6.4.6
	Retail (< 5,000 SF)	●[2]	●	●	●	●	●	●	6.4.6, 6.4.15
	Retail (5,000 – 25,000 SF)		●	●	●	●	●	●	6.4.15

TABLE 6-C (CONT.): PERMITTED AND CONDITIONAL USES IN MIXED USE ZONES

		B-1/B-1b	B-2/B-2b/ B-2c	B-3/B-3b/ B-3c[11]	B-4	B-5/ B-5b	B-6	B-7	Use Standards
Industrial	Retail (>25,000 SF)		●	●	●	●	●	●	6.4.15
	Small-scale marijuana caregiver		●	●	●			●	6.4.10
	Theaters and performance halls		●	●	●	●	●	●	
	Veterinary services		●		●			●	
	Communication studios		●	●	●	●	●	●	
	Dairies		●[7]		●				
	High-tech manufacturing							◐	6.5.6(D)
	Intermodal transportation facilities					●	●	●	
	Laboratory and research facilities		◐		●		◐	●	6.5.6(E)
	Low-impact industrial (<10,000 SF)		●[8]	◐	●	●	●	●[8]	6.5.6(E)
	Low-impact industrial (>10,000 SF)		●[8]		●	◐			
	Marijuana testing facilities				●				6.4.10
	Marijuana manufacturing facilities				●				
	Marijuana cultivation facilities (<7,000 SF plant canopy)				●				
	Printing and publishing		◐[9]	●	●	●	●	◐	
	Repair services		●	●	●	●	●	●	
	Studios for artists and craftspeople	●[2]	●	●	●	●	●	●	
	Tow lots				●				6.4.17
	Warehousing, storage, and distribution		◐[10]	◐[10]	●	●[10]	◐[10, 14]	◐[10, 14]	6.5.6(E)
Other	Marine uses					●	●		6.4.11
	Correctional pre-release facilities				●				6.4.7
	Off-street parking			●/◐[12]		●	◐	◐	6.5.6(H)
	Parks and open spaces	●	●	●	●	●	●	●	
	Solar energy system (minor)	●	●	●	●	●	●	●	6.4.16
	Solar energy system (major)				◐				
	Utility substations	●	●	◐	●	●	●	◐	6.5.6(L)
	Wind energy system (minor)		◐	◐	◐	◐	◐	◐	6.4.18

[1] Permitted if permitted in the adjacent or nearest residential zone. In other cases, permitted if located above first floor commercial, or on first floor where a minimum depth of 25 ft. along the principal frontage is maintained for commercial use.
[2] Permitted on the ground floor only in the B-1b zone.
[3] Permitted in the B-2 and B-3 zones only.
[4] Permitted as a conditional use in the B-2 only. Expansion of auto service stations in existence as of 11/15/99 permitted as a conditional use in the B-2b and B-2c zones.
[5] Not permitted in the B-2c and B-3c zones.
[6] Permitted in the B-2 zone. Conditional in the B-2b and B-2c.
[7] Permitted only if an expansion of an existing dairy.
[8] Permitted with a retail component only. Low-impact industrial uses greater than 10,000 SF are permitted in the B-2 only.
[9] Printing and publishing of 10,000 SF or less, or expansion of printing and publishing establishments greater than 10,000 SF in existence as of 4/4/88, shall be treated as a conditional use.
[10] Permitted in the B-2/B-2b/B-2c as a conditional use if 10,000 SF or less. Self-storage permitted in the B-4 zone. Self-storage permitted as a conditional use in the B-5 zone (on-peninsula locations only) in buildings existing as of 12/16/15. Self-storage permitted as a conditional use in the B-3 zone in buildings existing as of 1/1/1995; the area of the building dedicated to self-storage shall not exceed 30% of the total building area and may not be located directly adjacent to or facing a public right-of-way. Self-storage not permitted in the B-2/B-2b/B-2c, B-6, and B-7 zones.
[11] See PAD Overlay for additional use regulations.
[12] Structured parking shall be permitted. Surface parking shall be treated as a conditional use.
[13] Hotels shall be limited to no more than 150 rooms.
[14] Wholesale is allowed as conditional use, providing the wholesale operation is associated with an onsite retail establishment and occupies less than 15,000 SF.

TABLE 6-D: PERMITTED AND CONDITIONAL USES IN OFFICE PARK & RESIDENCE PROFESSIONAL ZONES

		OP[1]	R-P[2]	Use Standards
	Any residential use permitted in the nearest residential zone		●	
	Preschool facilities	●	◐	6.5.6(I)
	Funeral homes		●	
	General offices	●	●	
Industrial	High tech manufacturing	◐		6.5.6(D)
Industrial	Laboratory and research facilities	●		
Industrial	Printing and publishing	●		
Industrial	Studios for artists and craftspeople		●	
Other	Parks and open space	●	●	
Other	Solar energy system (minor)	●	●	6.4.16
Other	Utility substations		●	
Other	Wind energy system (minor)	◐		6.4.18

[1] All permitted and conditional uses in the O-P zone, with the exception of parks and open spaces, solar energy systems, and wind energy systems, shall be allowed only within an office park of at least three acres of contiguous land subject to the standards of Subsection 6.4.13.

[2] Any conditional use that is permitted as a conditional use in the nearest residential zone shall be permitted as a conditional use in the R-P zone. All conditional use standards of the residential zone shall apply.

TABLE 6-E: PERMITTED AND CONDITIONAL USES IN INDUSTRIAL & AIRPORT ZONES

		I-L/I-Lb	I-M/I-Mb	I-H/I-Hb	A-B[7]	Use Standards
Institutional	Airports				●[8]	
	Preschool facilities	●	●			
	Emergency shelters	◐	◐	◐		6.5.6(B)
	Intermediate care facilities		●[4]			
	Places of assembly (<10,000 SF)	●				
Commercial/Services	Bars				●	
	General offices (<5,000 SF)	●[1]	●			
	General offices (>5,000 SF)	●[1]	●			
	General services (<5,000 SF)				●	
	General services (>5,000 SF)				●	
	Hotels				●	
	Recreation and amusement centers	●	●			
	Repair services	●	●	●		
	Restaurants				●	
Industrial	Animal-related services	●[2]				
	Construction & engineering services	●	●	●		
	Dairies	●	●	●		
	Fish waste processing			●		
	Food & seafood processing, packing, and distribution		●	●		
	High-impact industrial uses			●		
	Intermodal transportation facilities	●	●	●		
	Laboratory and research facilities	●	●	●		
	Low-impact industrial	●	●	●		
	Lumber yards	●	●	●		
	Marijuana cultivation facility (<2,000 SF plant canopy)	●	●	●		6.4.10
	Marijuana cultivation facility (2,000-7,000 SF plant canopy)		●	●		
	Marijuana cultivation facility (>7,000 SF plant canopy)			●		
	Marijuana manufacturing facility	●	●	●		
	Marijuana testing facility	●	●	●		
	Printing and publishing	●	●	●		
	Recycling and solid waste disposal facilities		●[5]	●[5]		
	Studios for artists and craftspeople	●	●			
	Telecommunication towers (ground-mounted)		●	●		
	Tow lots		●	●		6.4.17
	Warehousing, storage, and distribution facilities	●[3]	●	●		

TABLE 6-E (CONT.): PERMITTED AND CONDITIONAL USES IN INDUSTRIAL & AIRPORT ZONES

		I-L/I-Lb	I-M/I-Mb	I-H/I-Hb	A-B[7]	Use Standards
	Correctional pre-release facilities		●[6]	●[6]		6.4.7
	Marinas	●				
Other	Off-street parking				●	
	Solar energy system (minor)	●	●	●	●	6.4.16
	Solar energy system (major)		●	●	◐	
	Utility substations	●	●	●		
	Wind energy system (minor)	◐	●	●	●	6.4.18
	Wind energy system (major)		●	●	◐	

[1] Only back office uses permitted.
[2] Not including kennel or boarding facilities.
[3] Must be less than 10,000 SF in floor area. No outdoor storage permitted. Self-storage not permitted in the I-L/I-Lb zone.
[4] Permitted in existing structures not designed for industrial, amusement, warehouse or manufacturing uses as of 9/15/14 or later. Such structures may be reused or expanded to establish a facility of no more than 30 persons plus staff.
[5] Permitted within an enclosed structure only.
[6] Not permitted in the I-Ma, I-Mb, or I-Hb zones.
[7] Permitted uses on lots within airport restricted access areas shall be limited to those which do not require or encourage access or visits by the public and which provide technical administrative or other support to airport operations.
[8] Including airport administration, terminals, carrier operations, concessions, reservations and ticket sales, freight, repair and storage, fueling services, flying schools, car rental operations, and other associated uses.

TABLE 6-F: PERMITTED AND CONDITIONAL USES IN RECREATION OPEN SPACE ZONE

	R-OS[1]	Use Standards
Cemeteries	●	
Marinas	●	
Parks and open space	●[2]	
Solar energy system (minor)	◐	6.4.16, 6.5.7(A)
Solar energy system (major)	◐	
Utility substations	●/◐[3]	6.5.6.L, 6.5.7(A)
Wharves, piers, docks, and landing ramps	●	
Wind energy system (minor)	◐	6.4.18, 6.5.7(A)
Wind energy system (major)	◐	

[1] Accessory uses within structures of 2,500 SF or more shall be treated as a conditional use under Subsection 6.5.7(A).
[2] Including active recreational uses, such as playgrounds, golf courses, fields, pools, courts, community gardens, marinas, and sports complexes and passive uses, such as arboretums and picnic areas.
[3] Sewage pumping and treatment facilities shall be permitted. Water pumping stations shall be treated as a conditional use under Subsection 6.5.7.

6.4 SUPPLEMENTAL USE STANDARDS

The following standards shall apply to the following uses as indicated in Tables 6-A to 6-F, whether permitted or conditional.

6.4.1 In general

A. No building intended for use as a habitation shall be erected on a lot which has its only street frontage on a street less than 35 feet wide. No building shall be erected on a lot, except on the islands in Casco Bay, which does not abut a street meeting the minimum requirements for street improvements set forth in this subsection. For purposes of this subsection, street shall be as defined in Article 3, except that a dedicated street which may no longer be accepted due to lapse of time and an accepted street which may have been discontinued by abandonment shall also be deemed to be streets, provided that an applicant for a building permit respecting any lot abutting such street shall, without compensation or claim for damages, and at his or her own cost and expense, first submit to the Building Authority:

1. A deed from the owner of such lot conveying to the City all his or her right, title, and interest in and to such street or any portion thereof.
2. An agreement by such owner forever releasing the City from any and all claims for damages for the laying out and taking of such street and indemnifying the City against any and all other such claims, both such instruments to be executed and in recordable form acceptable to the Corporation Counsel and to encumber and run with the land.

B. For a lot abutting any portion of a street which is unimproved or improved but not permanently paved, that portion which abuts the lot, and any like portion between such

portion and the nearest permanently paved street or portion which is the principal access to such lot, shall be improved, including sewers, storm drains, pavement, curbs and, if located on a designated school walking route, sidewalks, in accordance with the City of Portland *Technical Manual*. Where the nearest permanently paved street does not have granite curbing, the Public Works Authority may waive the requirement of curbing under this subsection, if it determines that an acceptable alternative drainage plan will be provided. Prior to the issuance of a building permit for erection of a building on a lot abutting any portion of a street which is unimproved or improved but not permanently paved, the following shall occur:

1. A plan of the street improvements required by this subsection shall be submitted to the Public Works Authority.
2. Upon determination by the Public Works Authority that the plan meets the street improvement requirements established by this subsection, a performance guarantee and inspection fee for said improvements shall be submitted to the City as set forth under Articles 14 and 15. Also as set forth in Articles 14 and 15, a one-year defect bond shall be tendered to the City prior to release of the performance guarantee required hereby. The provisions of this paragraph (2) shall not apply to the erection of any single-family dwelling on any lot where the owner of the lot establishes that he or she was the owner of that same lot on November 19, 1984, and at all times thereafter, and states his or her intention under oath to make the structure his or her personal residence.

C. The requirements of this subsection shall not apply to the following city streets upon their construction by the Public Works Authority to such standards as are determined by the authority to be the most feasible:
   1. Dingley Court.
   2. Morgan Court.

6.4.2 Adult business establishments

A. Adult business establishments shall be located at least 1,000 feet from any other adult business establishment, and at least 500 feet from any residential zone, as measured in a straight line, without regard to intervening structures or objects.

B. No sexually explicit materials, entertainment, or activity shall be visible from the exterior of the premises.

6.4.3 Bars and restaurants in the B-6 zone

A. No bars located east of Waterville Street shall be permitted within 50 feet of Fore Street.

B. Restaurants located east of Waterville Street within 50 feet of Fore Street shall be limited in hours of operation to between 5 a.m. and 11 p.m. each day and food service and consumption shall be the primary function of the restaurant.

6.4.4 Bed and breakfasts

A. In the R-6 and R-6a zones, the minimum gross floor area for bed and breakfasts shall be 2,000 square feet for the first three guest rooms and 500 square feet for each additional guest room.

B. In all mixed-use zones except the B-1/B-1b zones, bed and breakfasts may include a

meeting facility limited to use for private parties, business meetings, weddings, receptions, seminars, or business and educational conferences, provided that:

1. *In the B-2/B-2b/B-2c zones.* The meeting facility must be less than 4,000 square feet.
2. *In the B-3/B-3b/B-3c zones.* The building in which the bed and breakfast and meeting facility will be located must have existed on March 3, 1997 and have been greater than 4,000 square feet in floor area on that date.

6.4.5 Campgrounds

A. Campgrounds shall not include recreational vehicles.

B. Campgrounds shall be licensed by the State of Maine Department of Human Services.

C. No tent shall be located within 75 feet of the perimeter of site.

D. The land area of the campground shall not be less than the equivalent of 5,000 square feet of land area per tent site exclusive of the roadway network.

6.4.6 Commercial uses in the B-1/B-1b zones

A. Commercial uses shall be permitted provided that such uses generate less than 100 peak hour vehicle trips per 2,000 square feet of floor area and less than 100 peak hour vehicle trips in total.

B. Retail and restaurant uses shall not operate between the hours of 11 p.m. and 6 a.m., and shall not accept deliveries or services between the hours of 10 p.m. and 7 a.m. For restaurants, food service and consumption shall be the primary function.

C. No beverage container redemption centers shall be permitted. Beverage dealers shall be permitted as a retail use provided that the maximum total floor area for redemptions as an accessory use, including the storage of spent containers, shall be no greater than 500 square feet or 10% of the total floor area of the facility, whichever is less.

6.4.7 Correctional pre-release facilities

A. No correctional prerelease facility shall be located within 1,000 feet of another, as measured in a radius from the center of the lot.

B. If a facility requires state or federal licensing, staffing of the facility shall be as required by such license. If a facility does not require state or federal licenses, there shall be a minimum of one staff person for every 10 residents or fraction thereof. The facility shall provide 24-hour supervision of program participants.

6.4.8 Hostels

An operations plan must be submitted demonstrating that:

A. No unaccompanied minors under the age of 18 shall be permitted in the facility.

B. The length of stay for transient guess shall not exceed 15 days within any 60-day period.

C. In the R-6 zone, for hostels greater than 10 guests, a minimum of 250 square feet of land area shall be required per hostel guest.

D. In the B-1/B-1b zones, no more than 20 overnight transient guests shall be permitted.

6.4.9 Lodging houses

A. Lodging houses, except for lodging houses located in the IR-2, IR-3, and I-B zones, shall contain common areas for use by all residents,

including a kitchen. A kitchen need not be available as a part of the common areas where all meals are provided on a daily basis.

B. Lodging houses shall provide a minimum of 200 square feet of combined rooming unit and common area per rooming unit.

C. Each individual rooming unit shall be a minimum of 70 square feet.

6.4.10 Marijuana-related uses

A. The following standards apply to the following marijuana-related uses:
   1. Marijuana cultivation facilities.
   2. Marijuana manufacturing facilities.
   3. Marijuana products.
   4. Marijuana retail stores.
   5. Marijuana testing facilities.
   6. Small-scale marijuana caregivers.
   7. Registered dispensaries.

B. Location criteria
   1. No marijuana cultivation facility, marijuana manufacturing facility, marijuana testing facility, small-scale marijuana caregiver, marijuana store, or registered dispensary may be located within 500 feet of a pre-existing public school, private school, or a public preschool program, as defined by 20-A M.R.S. § 1. Distance shall be measured from nearest property line of the respective marijuana-related use and the property line of the lot containing the public school, private school, or public preschool program.
   2. No marijuana cultivation facility, marijuana manufacturing facility, or marijuana testing facility may be located within 300 feet of the following residential zones: R-1, R-2, R-3, R-4, R-5/R-5A, R-6/R-6A, or R-7. Distance shall be measured from the nearest outer wall of the building housing the marijuana cultivation, manufacturing, or testing facility to the nearest applicable residential zone boundary. If the marijuana-related facility leases a room or suite of rooms within a building, including, without limitation, individual units within a shopping plaza or shopping mall, the nearest outer wall of the room or suite of rooms within which the facility is located shall constitute the nearest outer wall of the building housing that facility.

C. Supplemental standards
   1. Marijuana-related uses may only be permitted within a fully enclosed building.
   2. No outside storage of marijuana, marijuana products, or related supplies is permitted.
   3. No drive-through service is permitted for marijuana-related uses.
   4. No marijuana or marijuana product shall be smoked, eaten, or otherwise consumed or ingested on the premises where sold.
   5. An operating plan for marijuana cultivation facilities and marijuana manufacturing facilities shall be provided that, at a minimum, addresses wastewater, disposal of waste, and security at the premises.
   6. A ventilation plan shall be included for marijuana cultivation facilities, marijuana manufacturing facilities, and small-scale marijuana caregivers that provides for adequate ventilation so as to prevent pesticides, insecticides, or other chemicals used in the cultivation or processing of marijuana or marijuana-related products from being dispersed or released outside the premises. The plan shall further

provide for resulting smoke, vapor, fumes, gases, and particulate matter from marijuana or its processing or cultivation to be effectively confined to the premises.

7. Marijuana-related uses shall provide odor control measures so that odor generated on site is mitigated at the property line of the lot containing the marijuana-related use. Applications must demonstrate appropriate measures, such as carbon filtration, ventilation and exhaust systems, facility plans, or other additional practices adequate to mitigate odors for the scale of operations for the uses proposed.

D. For purposes of this ordinance, any approval issued for a marijuana cultivation facility, marijuana manufacturing facility, or marijuana testing facility operated pursuant to 22 M.R.S. § 2421 et seq. shall be deemed to constitute approval for the same corresponding marijuana cultivating, manufacturing, or testing facility use operating under 28 M.R.S. § 101 et seq. Notwithstanding the above, no marijuana cultivation facility, marijuana manufacturing facility, or marijuana testing facility may operate without the applicable state and City license.

6.4.11 Marine uses

A. In the B-5/B-5b and B-6 zones, marine uses shall include marine products wholesaling and retailing and harbor and marine supplies and services.

B. In the B-5/B-5b zones, marine uses shall include marine repair services and machine shops; shipbuilding and facilities for the construction, maintenance, and repair of vessels; marine museums and aquariums; boat repair yards; boat storage; and seafood processing, packing, and distribution for human consumption.

C. In the B-6 zone, marine uses shall include underground marine fuel storage provided that such storage shall be used solely for the purpose of fueling vessels.

6.4.12 Multiplexes

A. No habitable space in a dwelling unit shall be below grade, except basements that are a part of and below aboveground units.

B. In the R-5 zone, the maximum number of units in a multiplex building shall be six.

C. No dwelling unit shall have less than 600 square feet of floor area, exclusive of common hallways and storage in basement and attic.

6.4.13 Office parks in the O-P zone

An office park shall be approved only if the development meets the following development standards:

A. Office parks shall have a minimum gross area of three acres of contiguous land, consisting of either an Office Park Planned Unit Development (OPPUD) on one lot with one or more buildings and with driveways and open areas to be owned and maintained in common, or an office park subdivision (OPS) on one parcel with two or more lots intended for separate ownership.

B. Development proposals shall include a master plan of the office park. The master plan shall include the following:

1. *For an OPPUD proposal.* The location of the building(s) on the site; infrastructure of the site; identification of common areas; traffic circulation, architectural character and treatment of the building(s); proposed

building envelopes; phasing and timing of the development; private development restrictions; and such other information necessary and sufficient to ensure compliance with the standards in this subsection.

2. *For an OPS proposal.* Delineation of the subdivision of land; infrastructure of the site; identification of common areas, if any; traffic circulation; desired architectural character, including private development restrictions to ensure compatibility of architectural character of future buildings with each other; phasing and timing of the development; private development restrictions; and such other information as necessary and sufficient to ensure compliance with the standards in this subsection.

C. Development proposals shall demonstrate a reasonably unified design of the site, including the architecture, the layout of the buildings, pedestrian and vehicular circulation plan, open space, drainage, and the topography, soil conditions, vegetation and other natural features of the site. Integration of open spaces and natural features shall be achieved by incorporation of outdoor amenities for the benefit of users of the site, such as jogging and walking trails, gardens, and benches.

D. Development proposals shall include a landscape program. All land areas not covered by structures, parking areas, or circulation facilities shall be landscaped and maintained. In order to soften the visual impact of large expanses of pavement in parking lots, vegetation shall be planted or retained in islands or planting strips where required by the site plan or subdivision ordinance.

E. Parking may not be located in the required front setback. If parking is provided in the area between the building and minimum setback line, the parking area must be adequately screened with landscaping materials and permanently maintained.

F. Development proposals shall include internal sidewalks, illustrating the manner in which the developer will provide this amenity to take advantage of the topography and natural features of the site.

G. Development proposals shall include buffering yard areas abutting a residential zone or residential use and to screen parking lots and driveways from public view, identifying the location, composition, and maintenance of the buffer. The buffer and screening shall be of a dense and continuous nature and shall incorporate trees, shrubs, fencing, berms, and related elements deemed necessary.

H. Development proposals shall identify the extent to which the developer shall preserve natural features including, but not limited to, existing vegetation, flood plains, rock outcroppings, surface water bodies, drainage swales and courses, and wetlands; provided any such program shall consider and be sensitive to the need to preserve such natural features.

I. Development proposals shall identify all proposed traffic controls, parking areas, interior traffic circulation, and demonstrate that additional traffic generated by the project itself can be reasonably accommodated on existing public streets.

J. All buildings shall be designed or approved by a registered architect in the State of Maine and

shall be in conformance with the proposed master plan. The scale, texture, color and massing of the buildings shall be coordinated. The full range of high quality, permanent, and traditional or contemporary building materials and technology may be incorporated in a manner so that the development as a whole embodies distinguishing attributes that achieve the developer's desired degree of excellence and are in conformance with the architectural guidelines provided in the private development restrictions. Particular emphasis shall be placed on the appearance of building facades from public streets, from driveway and parking areas, and from other nearby buildings. Building elevation drawings shall be submitted which indicate architectural style, exterior finishes and color, building height and scale, and location and scale of window and door openings. Samples of exterior building materials shall also be submitted.

K. Development proposals shall identify the location and style of lighting to be used in the development. All light fixtures shall be hooded or shielded so that the light shines downward.

L. Development proposals shall identify all proposed signage. Signs shall be designed in proportion and character with the building facades. All signs shall be constructed of permanent materials and shall be coordinated with the building and landscaping design through the use of appropriate materials and finishes.

6.4.14 Planned unit development in the IR-3 zone

In addition to other applicable reviews, no development shall occur nor shall any new use be established in the IR-3 zone unless the Planning Board finds that the final development plan for the site is in compliance with the following standards:

A. The development shall demonstrate a reasonably unified response to the design possibilities of the site, by virtue of such elements as the design and layout of buildings and lots, circulation plan, open space, drainage, and orientation to achieve energy conservation or solar access, to form a functionally integrated whole.

B. The design and layout of the development and buildings shall be reasonably compatible with the surrounding neighborhood by virtue of such features as architectural style, exterior finish, scale, circulation, open space, landscaping, and preservation of natural site amenities.

C. All open spaces on the site shall be functionally integrated into the development plan by virtue of such features as accessibility to residents, recreation, conservation of existing public rights of access to shoreland areas and scenic natural areas, orientation to achieve energy conservation or solar access, preservation of natural site amenities, and use as a buffer between the development and the surrounding neighborhood.

D. The development shall be designed primarily with a pedestrian orientation to minimize the use of and dependency on private motor vehicles. Appropriate areas on the site shall be designated, as necessary, for parking of common service vehicles, golf carts or bicycles to serve the transportation needs of residents and visitors. The internal circulation plan shall also be coordinated with the existing island street network to ensure adequate access for emergency and service vehicles.

E. A project construction plan shall be developed indicating the anticipated number and types of vehicles such as construction equipment, supply delivery and service vehicles needed for undertaking the construction of the project. Documentation shall be provided as to the proposed transportation route such as roads, piers, beaches, sand bars and the impact of construction related activities on the routes.

F. The development shall not have a substantial adverse impact on the capacity of existing island docking facilities. The developer shall demonstrate that an adequate water transportation system, including docking facilities, exists or will be provided.

G. Adequate provision for off island solid waste disposal shall be demonstrated such that the impact on municipal solid waste disposal is minimized. A development shall incorporate methods such as the following to reduce the amount of solid waste generated by the project: compaction and reduction in waste volume, recycling, incineration or baler system, and private collection and transfer to an off-island location. It shall be demonstrated that there will be no significant environmental impacts from the solid waste disposal system.

H. All sanitary waste from the development shall be disposed of by a public sewer, private community sewer system providing at least secondary treatment, or subsurface sewerage system, in compliance with federal, state and local regulations. The developer shall demonstrate that the project will comply with all applicable federal, state and local water quality and groundwater standards.

I. The proposed development shall have sufficient water for the reasonably foreseeable needs of the development and shall not cause an unreasonable burden on existing water supply nor adversely affect groundwater resources. Unless the development is to be served entirely by public water and secondary treatment sewer systems, the determination of compliance with this provision shall be based upon one (1) or more comprehensive groundwater analyses and reports prepared by qualified professionals and including assessment of current groundwater aquifer conditions, the impact of the proposed development on the groundwater aquifer, and recommendations for mitigation of potential impacts caused by the development.

J. The development shall preserve the natural features of the shoreland area by minimizing the disturbance of existing vegetation and slopes, avoiding development in areas subject to erosion and sedimentation, and conserving scenic views and vistas to and from the site.

K. The development plan shall preserve significant resources of the site by integrating open space into the development plan and by conserving such features as scenic vistas, historic man made or natural features, existing vegetation, wetland areas, shoreland areas, ground water, natural wildlife habitat, and recommended or registered State of Maine Critical Land Areas, as well as other environmentally sensitive areas.

L. All open spaces on the site shall be functionally integrated into the development plan by virtue of such features as passive and active recreational opportunities, accessibility to residents, preservation of natural site amenities and resources, orientation to achieve energy conservation or solar access, use as a buffer

between housing clusters and to screen the development from surrounding areas.

M. The applicant shall demonstrate sufficient financial and technical capability for undertaking the proposed project. Financial capability shall include a cost estimate of the proposed improvements, proposed construction and permanent financing, and terms of sale or lease of dwellings and commercial space. Technical capacity shall include the experience and expertise of the developer in implementing projects of similar scope.

N. The applicant shall develop an environmental impact analysis including an inventory of existing environmental conditions at the project site and in the surrounding area with an assessment of the development's probable impact upon the environment. The inventory shall include such resources as air, water quality, water supply, surface water and shoreline, geology, soils, topography, wildlife, botanical and aquatic, including rare and endangered species, historic, archeological and aesthetic. The analysis shall include the direct and cumulative adverse impacts of the project on these resources. The analysis shall also include what steps the applicant proposes to take to identify and minimize adverse environmental impacts during construction, management and use of the property and whether there are alternatives for the project which would decrease the impact of the development.

O. If the project is to be completed in phases, the applicant shall indicate the schedule for completing and implementing infrastructure improvements as well as other improvements, agreements or services required for compliance with the development standards of this subsection, planned unit development standards, and site plan and subdivision review requirements.

P. The development shall not place an unreasonable burden on the ability of the City to provide police, fire, and other emergency services.

6.4.15 Retail in the B-3/B-3b/B-3c and B-5/B-5b zones

Retail shall not include wholesale and bulk purchase lumber and construction supply sales.

6.4.16 Solar energy systems

A. All solar energy systems shall meet the technical, safety, and maintenance standards in the City of Portland *Technical Manual*.

B. Solar panel placement should minimize or negate any solar glare impacting nearby properties or roadways, without unduly impacting the functionality or efficiency of the solar energy system.

C. All applicants are encouraged to ensure the maximum solar energy generation from their system by obtaining solar access easements. Solar access easements may be filed consistent with Maine state law.

D. Solar energy systems shall be located away from and screened from public ways and nearby residential/institutional uses to the extent possible and shall be designed so as to minimize impacts on significant scenic views.

E. Layout and fencing shall be integrated with existing landscape and minimize removal of vegetation to the extent possible.

F. Where any part of the proposed solar energy system (including associated facilities) is within a historic district, such development shall be reviewed and approved by the Planning Authority in accordance with Article 17. Where any part of the proposed solar energy system (including support structures and associated facilities) is within 100 feet of any designated landmark, historic district, or historic landscape district, such development shall meet the standards of Article 14 regarding compatibility with the landmark or historic district.

G. Solar energy systems shall minimize impacts resulting from construction and maintenance of the solar energy system, including lighting, security measures, traffic, and grid connections.

H. Where permitted in residential zones, and in the B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, B-7 and waterfront zones, all solar energy systems shall be co-located with other land uses.

I. Major solar energy systems shall be located on areas already paved or built upon, or where other development is documented to be unlikely due to local conditions.

6.4.17 Tow lots

Tow lots must be at least 300 feet from any residential zone or conforming residential use.

6.4.18 Wind energy systems

A. All wind energy generation equipment shall be approved under a certification program approved by the U.S. Department of Energy such as the Underwriters Laboratories, Germanishcer Lloyd Wind Energies, or other similar certifying organizations. Experimental, homebuilt, and prototype models shall not be permitted.

B. Wind energy systems and associated facilities, including foundations and support structures, electrical connections and control equipment, associated site improvements, and construction techniques, shall be designed, engineered, and installed to comply with all applicable local, state, and federal construction and electrical regulations and Federal Aviation Administration regulations. Applicable state and local approvals shall be obtained prior to installation of any wind energy system.

C. The support structure (e.g. tower, pole) for freestanding wind generating systems shall not be climbable for a minimum height of 12 feet above the surrounding ground level or accessible surface. All ground-mounted electrical and control equipment shall be labeled and secured to prevent unauthorized access.

D. All moving components of a wind energy system shall be a minimum of 12 feet from ground level or accessible surface.

E. All on-site electrical wiring associated with the proposed wind energy system shall be located within the tower/pole/supporting structure and underground. Above ground on-site connections near substations or to the electric grid shall be allowed.

F. The use of guy wires is discouraged. If required, they shall be located away from pedestrian routes/access points and marked with visible, reflective, colored objects, such as flags, reflectors, or tape, which shall be placed on the anchor points of guy wires and along the guy wires up to a height of ten feet from the ground.

G. No wind energy system shall be located within 250 feet of any significant wildlife habitat, as

defined by Maine Department of Environmental Protection/Maine Department of Inland Fisheries and Wildlife under provisions of the Natural Resources Protection Act (38 M.R.S. § 480 et seq.) including wildlife habitat for species appearing on the official state and federal list of endangered or threatened animal species.

H. For all wind energy systems over 45 feet in height above the ground or over 100kW, evidence shall be provided that the Environmental Coordinator of the Maine Department of Inland Fisheries and Wildlife and the Maine Natural Area Program have been notified of the location, height, and design of the proposed wind energy system at least three weeks prior to any final determination under this subsection. Any comments received therefrom shall be addressed to the satisfaction of these state authorities prior to any final determination under this provision.

I. Wind energy systems shall be designed to avoid electromagnetic interference with the transmission or reception of radio, telephone, television, microwave, navigational, or similar signals to neighboring areas.

J. Wind energy systems and associated facilities shall use non-reflective materials and neutral colors and textures that blend in with the surrounding environment. Ground-mounted systems and associated facilities shall be landscaped to integrate the proposed wind energy system into the existing landscape/streetscape.

K. No part of the system may be illuminated, except as required by the Federal Aviation Administration (FAA) or other authorities for safety and security purposes. Where lighting is required, it shall be at the lowest intensity allowable with fixtures shielded and directed to minimize glare and visibility from the ground.

L. There shall be no signs, advertisements, flags, or decorative items on a wind energy system or any associated facilities, except for the manufacturer's/installer's/owner's identification (not exceeding one square feet in size), appropriate warning signs, or lights if required by the FAA.

M. Wind energy systems shall be prohibited within any historic landscape district, any historic cemetery, any historic district, except the Congress Street Historic District where it coincides with the B-3 zone, or within 1,000 feet of any designated historic landmark, which shall include Portland Observatory, Cathedral of Immaculate Conception, St. Dominic's Cathedral, St. Luke's Cathedral, State Street Church, and City Hall.

N. Wind energy systems within R-OS zones are allowed only where they are co-located within public industrial or utility facilities.

O. Systems shall be screened with a vegetated buffer from public areas and residential buildings.

6.5 CONDITIONAL USES

6.5.1 Conditional use review procedure

A. **Review authority.** The Zoning Board of Appeals shall review all conditional use applications, with the exception that the Planning Board shall review:

1. All conditional use applications in the B-3/B-3b/B-3c, B-5/B-5b, B-6, and B-7 zones.
2. All conditional use applications associated with projects that are otherwise before the Planning Board.

3. Conditional use applications for specific uses for which the Planning Board is identified as the review authority under Subsection 6.5.6.

B. **Application.** Applications for conditional use review shall be submitted to the Building Authority for all Zoning Board of Appeals reviews and the Planning Authority for all Planning Board reviews. A nonrefundable application fee, as established from time to time by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The application shall be in such form and shall contain such information and documentation as shall be prescribed from time to time by the review authority.

C. **Public hearing.** A public hearing shall be set, advertised, and conducted by the review authority in accordance with Article 2 of this Land Use Code.

D. **Action**. Within 30 days following the close of the public hearing, the review authority shall render its decision, in a manner and form specified by Article 2 of this chapter, approving the conditional use, approving the conditional use subject to conditions as specified in Subsection 6.5.3, or denying it. The failure of the review authority to act within 30 days shall be deemed an approval of the conditional use, unless such time period is mutually extended in writing by the applicant and the review authority. Within five days of such decision or the expiration of such period, the Building Authority or Planning Authority shall mail notice of such decision or failure to act to the applicant and, if a conditional use is authorized, list therein any and all conditions imposed by the review authority.

6.5.2 General conditional use standards

The review authority shall, after review of the application, approve a conditional use upon a finding that the proposed conditional use, at the size and intensity contemplated at the proposed location, will not have substantially greater negative impacts than would normally occur from surrounding uses or other allowable uses in the same zone. The review authority shall find that this standard is satisfied if it finds that:

A. The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone.

B. The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter.

C. The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.

D. The proposed use will meet any additional zone or use-specific standards identified in Tables 6-A to 6-F and Subsections 6.5.6 and 6.5.7.

6.5.3 Conditions on conditional use approvals

The review authority may impose such reasonable conditions upon the premises benefited by a conditional use as may be necessary to prevent or minimize adverse effects therefrom upon other

property in the neighborhood. Such conditions shall be expressly set forth in the resolution authorizing the conditional use. Violation of such conditions shall be a violation of this article.

6.5.4 Effect of issuance of a conditional use approval

The approval of a conditional use shall not authorize the establishment or extension of any use nor the development, construction, reconstruction, alteration, or moving of any building or structure, but shall merely authorize the preparation, filing. and processing of applications for any permits or approvals which may be required by the City of Portland Code of Ordinances, including but not limited to a building permit, a certificate of occupancy, subdivision approval, and site plan approval.

6.5.5 Limitations on conditional use approvals

No conditional use approval shall be valid for a period longer than six months from the date of approval, or such other time, not to exceed two years, as may be fixed at the time granted, unless the conditional use has been commenced or a building permit is issued and construction has begun within that period and is thereafter diligently pursued to completion, provided, however, that one or more extensions of said time may be granted if the facts constituting the basis of the decision have not materially changed and the two year period is not exceeded thereby. A conditional use approval shall be deemed to authorize only the particular use for which it was issued and such approval shall automatically expire and cease to be of any force or effect if such use shall for any reason be discontinued for a period of 12 consecutive months or more.

6.5.6 Supplemental use-specific conditional use standards

In addition to the general conditional use standards, the following standards shall apply to specific conditional uses:

A. Automobile, boat, and related dealerships and auto service stations

1. The Planning Board shall be the review authority.
2. Signs shall not adversely affect visibility at intersections or access drives. Such signs shall be constructed, installed, and maintained so as to ensure the safety of the public. Such signs shall advertise only services or goods available on the premises.
3. No ingress and egress driveways shall be located within 30 feet from an intersection. No entrance or exit for vehicles shall be in such proximity to a playground, school, church, other places of public assembly, or any residential zone that the nearness poses a threat or potential danger to the safety of the public.
4. A landscaped buffer, no less than five feet wide, shall be located along street frontages (excluding driveways). The, buffer shall consist of a variety of plantings in accordance with the City of Portland *Technical Manual.*
5. Car washes shall be designed to avoid the tracking of residual waters into the street.

B. Emergency shelters

1. The facility shall provide adequate space for conducting security searches and other assessments.
2. The facility shall be designed with a centralized shelter operations office on each level providing sight lines to sleeping areas.
3. A management plan adequately outlining the following areas shall be provided: management responsibilities; process for resolving neighborhood concerns; staffing; access restrictions; on-site surveillance; safety measures; controls for resident behavior and noise levels; and monitoring reports.
4. Adequate access to and from METRO service shall be provided. The facility shall be within a ¼ mile of a METRO line, or shall be within ½ mile of a METRO line and provide adequate indoor space to permit all shelter guests day shelter, as well as implement strategies to help residents utilize transit.
5. The facility shall provide on-site services to support residents, such as case management, life skills training, counseling, employment and educational services, housing assistance, or other programs.
6. Suitable laundry, kitchen, pantry, bicycle storage, and secure storage facilities for shelter stayers shall be provided on-site.
7. An outdoor area for guest use shall be provided on-site with adequate screening to protect privacy of guests.

C. General office in the R-6 & R-6a zones

1. Offices shall serve a member of a recognized profession and be maintained for the conduct of that profession. Professional office uses do not include veterinary offices.
2. For the use of any building designed or constructed for residential use, which was in use as a residence on April 18, 1984, or thereafter:
   a. A professional office shall not be located within 500 feet of another as measured along the street line to the respective property lines.
   b. A building with one or more professional offices shall have at least 50% of the total floor area of the building devoted to residential uses.
   c. The total number of individuals working in a building of professional offices shall not exceed the equivalent of four full time employees.
   d. Any additions or exterior alterations shall be compatible with the architecture of the building and maintain the residential appearance of the building. Construction of a new building shall be compatible with the architectural character of the surrounding area.
3. The scale and surface area of parking, driveways, and paved areas shall be arranged and landscaped to be compatible in size and scale with neighboring properties in the area and to properly screen vehicles from adjacent properties and streets.

D. High-tech manufacturing

1. A minimum of 1/3 of the total square footage devoted to manufacturing shall be conducted in a laboratory environment, in a controlled environment with specialized air handling systems that exceed levels for pressurization and filtration found in office environments and traditional manufacturing facilities.
2. Rooftop equipment shall be integrated into the overall building design and shall be screened as necessary.
3. In the B-7 zone, accessory warehousing is permitted. Where warehousing cannot be located on the same lot because the land area is too small to accommodate the warehousing on the same lot, one remote warehouse may be located within 600 feet of the principal use referenced above.
4. In the O-P zone, truck traffic serving a single manufacturing business or institution shall not exceed, on a regular basis, more than two tractor-trailer truck deliveries per week. No deliveries shall be accepted between 7:00 p.m. and 7:00 a.m.

E. Industrial uses

1. *In the B-2/B-2b/B-2c zones*
   a. The Planning Board shall be the review authority.
   b. The site shall have an adequate traffic circulation pattern designed to avoid hazards to vehicular circulation on adjoining streets. All stacking of motor vehicles shall be on site, and loading facilities shall be located to the rear of the building and shall not be visible from the street.
   c. The exterior design of the structures, including architectural style, facade materials, roof pitch, building form, established setbacks, and height shall be of a commercial rather than industrial character. The site shall contain screening and landscaping which shall meet the requirements of Article 14 for screening between land uses and the City of Portland *Technical Manual*.
2. *In the B-3/B-3b/B-3c zones*
   a. The floor area devoted to industrial use shall not exceed 10,000 square feet. For a building in existence on March 11, 1991, the floor area shall not exceed 10,000 square feet or 50 percent of the total floor area, whichever is greater.
   b. The associated vehicular loading, unloading, parking, circulation, and traffic volumes on the site and on adjacent public streets shall not have a more intensive impact than any use on the site within the last five years.
   c. Any buildings located in a PAD Overlay Zone shall be subject to the requirements of Section 8.8 in addition to the requirements of this subsection.
   d. For buildings that either were not in existence on March 11, 1991, or were in existence on that date but were either in use for any permitted use in the B-3 zone or were designed or constructed for any such use:

i. No tractor trailer trucks or longer vehicles shall be associated with the proposal.
ii. The proposal shall exclude warehousing and storage as a principal use.
iii. The use shall not generate more than six delivery or service trips per day between 7:00 a.m. and 7:00 p.m.

3. *In the B-5/B-5b zones*
   a. Truck loading and access and vehicle parking shall be located in the rear or side yard of the site where possible.
   b. Street frontage shall be designed for pedestrian scale or interest.
   c. Shared infrastructure to the extent practicable, including, but not limited to, service alleys, parking areas, stormwater treatment, public transportation facilities, and driveways, shall be utilized.
4. *In the B-6 zone.* No brew pubs or microbreweries east of Waterville Street shall be permitted within 50 feet of Fore Street.

F. Institutional uses (excluding preschools)

1. The Planning Board shall be the review authority.
2. In the case of expansion of existing institutional uses onto land other than the lot on which the principal use is located, it shall be demonstrated that the proposed use cannot reasonably be accommodated on the existing site through more efficient utilization of land or buildings, and will not cause significant physical encroachment into established residential areas.
3. The proposed use shall not cause significant displacement or conversion of residential uses existing as of June 1, 1983, or July 15, 1985 in the IR-1 and IR-2 zones, or thereafter.
4. In the case of a use or use expansion which constitutes a combination of the conditional institutional uses with capacity for concurrent operations, the applicable minimum lot sizes shall be cumulative.
5. In the case of community halls:
   a. The structure shall have been in existence as of January 4, 2010.
   b. The structure shall have been built for institutional or other non-residential uses.
   c. The structure shall be operated by, or operated subject to the control of, a not-for-profit entity in accordance with its not-for-profit purposes.
   d. A parking management plan shall be submitted for review and approval by the Planning Board.
6. In the case of private club or fraternal organizations, any such establishment serving alcoholic beverages or in possession of a license for serving alcoholic beverages shall meet the minimum lot size requirement for places of assembly greater than 10,000 square feet.
7. Post-secondary schools in the R-2 zone shall only be permitted on a collector or arterial road.
8. In the case of a post-secondary school within the R-5 zone and not including the USM Overlay Zone, such school may build principal structures to a height of 55 feet if the following standards can be met:

a. Minimum lot size: 10 acres which may include adjacent land owned by the institution on both sides of a public street.
b. Minimum setback between buildings on-site: 20 feet.
c. Minimum setback from external property boundary: 30 feet, except that parking garages over 35 feet in height must be located 50 feet from external property boundaries when adjacent to an adjoining residential use.
d. The area between the structure and adjoining residential uses must be adequately screened with appropriate landscaping or other features to buffer the building and effects thereof (i.e. noise, light, etc.) from abutting properties.

G. Multi-family

1. *In the R-3 and R-5 zones.* Alteration of a structure existing and not in residential use as of January 1, 1984 to three or more dwelling units shall be permitted as a conditional use provided that:
   a. No open outside stairways or fire escapes above the ground floor shall be constructed or have been constructed in the immediately preceding five years.
   b. 3,000 square feet of land area per dwelling unit shall be required.
   c. A lower level dwelling unit shall have a minimum of one-half of its floor-to-ceiling height above the average adjoining ground level.
   d. Any addition or exterior alteration, such as change in façade materials, building form, or roof pitch, shall be designed to be compatible with the architectural style of the structure.
   e. In the R-3 zone, any addition or exterior alteration shall be limited to a gross floor area equal to or less than 25% of the total existing floor area as of June 13, 2018.
   f. Paved areas shall be designed to be compatible in size and scale with neighboring properties in the area and properly screened from adjacent streets.
2. *In the I-B zone*
   a. Multi-family buildings shall have a maximum of four units.
   b. No open outside stairways or fire escapes above ground floor shall be constructed or have been constructed in the immediately preceding five years.
   c. A below grade dwelling unit shall be permitted only if access is provided directly to the outside of the building.
   d. Density shall be determined by the most restrictive abutting residential zone, except for those lots which are served by public water and sewer, where density shall be determined by the least restrictive abutting residential zone. If no residential zone is abutting, density shall be determined by the nearest residential zone. Residential uses shall meet the requirements of such abutting or nearest residential zone.

e. Any additions or exterior alterations shall be compatible with the original architecture of the building. The exterior design of new construction, including the architectural style, facade materials, roof pitch, building form, and height shall be compatible with neighboring properties.

f. No existing dwelling unit shall be decreased to less than 1,000 square feet of floor area.

g. No additional dwelling unit shall have less than 600 square feet of floor area, exclusive of common hallways and storage in basement and attic.

h. All sanitary waste shall be disposed of by a public sewer, subsurface sewerage system, or other method in compliance with all applicable federal, state and local regulations.

i. There shall be sufficient water for the needs of the dwellings such that the use does not cause an unreasonable burden on an existing water supply nor adversely affect groundwater resources.

H. Off-street parking

1. *In the R-3, R-4, and R-5 zones*

   a. Off-street parking must be designed to satisfy the parking requirement of a use located in and conforming with the provisions of a nearby mixed-use or industrial zone.

   b. The lot on which the parking is proposed must be located wholly within 300 feet, measured along lines of public access, from the use which requires the off-street parking.

   c. The lot where the off-street parking is proposed shall be under the control of the owner of the use which requires the off-street parking. Evidence of such control by deed or lease shall be required before the certificate of occupancy is issued. If such control should be abrogated, the parking use thus allowed shall automatically revert to a nonconforming use in violation of this article and shall be terminated forthwith.

   d. Conditions may be imposed to insure development compatible with that of the immediate neighborhood notwithstanding the provisions of any other section of this Land Use Code. Such conditions may include limits on the period of such use.

2. *In the R-6 zone*. Off-street parking shall be for passenger cars for uses permitted in the R-6 zone.

3. *Structured parking in the B-6 and B-7 zones*

   a. Parking garages shall incorporate first floor retail space or other non-parking and active use along all street frontages.

   b. The Planning Board may waive the requirement for first floor mixed-use upon demonstration that the project meets one or more of the following criteria:

      i. The applicant demonstrates that steepness of grade or the character of the adjacent street will not support retail or first-

floor mixed use in the foreseeable future.

ii. The first floor of the garage is set back a minimum of 35 feet from the street right-of-way and its design does not provide an impediment for development of such space for mixed-use in the future. Such space (between the garage and the street) shall, in the interim, not be used for surface parking.

iii. The applicant can demonstrate to the satisfaction of the Planning Board that a market for first floor mixed uses currently does not exist, provided that the structure of the garage is designed to accommodate retail and or mixed-uses in the future. In these cases, the Planning Board will need to find that, on the street-level deck of a proposed parking garage, a minimum of 20 feet horizontal distance of depth from the street and nine feet finished floor-to-finished ceiling clearance could house future retail and or mixed use. The applicant will further need to demonstrate that the garage design anticipates the future development of utilities and circulation necessary for non-parking uses. Where a parking garage fronts on more than one public street and where there is an existing change in grade elevation of over 5% across the footprint of the garage, the nine-foot floor-to-ceiling requirement only applies to the street with higher traffic volumes.

c. Where the Board allows a waiver of first floor mixed use, garages shall display architecture that enhances the pedestrian experience and disguises the parking use to the extent possible. Use of traditional storefront design concepts and traditional building materials is encouraged.

4. *Surface parking in the B-3, B-6, and B-7 zones*

a. Surface lots shall be laid out in a manner conducive to development of future buildings, and/or structured parking.

b. Surface parking, including parking aisles, shall be located at least 35 feet from a street. The 35-foot setback shall not apply to driveways perpendicular to the street providing access to the site.

c. In the B-7 zone, surface parking that does not meet the 35-foot parking setback may be permitted as a conditional use, provided that:

i. All or a portion of the 35-foot setback area had a gravel surface on September 29, 2015.

ii. The total gravel surface area on the lot and any contiguous lots did not exceed 15,000 square feet on September 29, 2015.

iii. The parking spaces provide parking to a principal building on a contiguous lot.

iv. One of the buildings described in (iii) above meets the minimum height requirements of the Bayside Height Overlay Map and/or a building on the site has a floor area of 25,000 square feet or greater.

v. The total number of spaces within 35-foot setback in combination with other spaces on the lot does not exceed the minimum parking spaces required.

vi. The proposed parking spaces meet the landscape and buffer requirements of Subsection 6.8.8.

vii. Parking spaces within the 35-foot setback shall provide stormwater quality treatment if required by the City of Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Standards. If not required, an alternative low impact development treatment system approved by the Planning Board shall be provided.

I. Preschool facilities

1. *In all zones*

a. Outdoor play areas shall be screened and buffered from surrounding residences with landscaping and/or fencing to minimize visual and noise impacts.

b. Solid waste shall be stored in covered containers. Such containers shall be screened on all sides.

2. *In the R-P zone.* Facilities for more than 12 children shall meet the following additional standards:

a. The facility shall provide a minimum of 75 square feet of outdoor play area per child.

b. The play area shall be located in the side and rear yards only and shall not be located in front yards.

c. Outside play areas shall be separated from abutting properties by a fence at least 48 inches in height.

d. A 10-foot-wide landscaped buffer shall be required outside of the fenced play area, and shall be established in accordance with the landscaping standards of the City's *Technical Manual*.

3. *In residential and island zones*

a. The facility shall be located in a structure in which there is one or more occupied residential units or in an existing accessory structure, unless the facility is located in a principal structure that has not been used as a residence in whole or in part within the five years immediately preceding the application for a preschool use, or in a nonresidential structure accessory to the principal nonresidential use.

b. There shall be no maximum limit on the number of children in a facility located in a principal structure that has not been used as a residence in whole or in part within the five years immediately preceding the application for a preschool use, or in a



nonresidential structure accessory thereto.

c. The maximum capacity shall be 12 children for facilities located in residential or existing structures accessory thereto, unless the additional standards in paragraph (d) below are met.

d. Preschool facilities located either in structures that have been in residential use within the past five years or in existing accessory structures and that serve between 13 and 24 children shall meet the following additional standards:

   i. The facility shall provide a minimum of 75 square feet of outdoor play area per child.

   ii. The play area shall be located in the side and rear yards only and shall not be located in front yards.

   iii. Outside play areas shall be separated from abutting properties by a fence at least 48 inches in height.

   iv. A 10-foot-wide landscaped buffer shall be required outside of the fenced play area, and shall be established in accordance with the landscaping standards of the City's *Technical Manual*.

   v. The minimum lot size for a preschool located in a residential or existing accessory structure and serving more than 12 children shall be 20,000 square feet.

   vi. The maximum number of children in a preschool facility located in a residential or existing accessory structure shall be 24.

   vii. Any additions or exterior alterations such as facade materials, building form, roof pitch, and exterior doors shall be designed to be compatible with the architectural style of the building and preserve the residential appearance of the building.

J. **Raising of domesticated animals for non-commercial purposes**

   1. No animals shall be kept on any lot less than three acres or closer than 100 feet to any street or lot line, except domesticated chickens as regulated in Chapter 5 of the City of Portland Code of Ordinances.

   2. This use shall not create any odor, noise, health, or safety hazards, or other nuisance to neighboring properties.

   3. Raising of pigs or reptiles is not permitted.

K. **Sheltered care group homes**

   1. A sheltered care group home shall not be located within 500 feet of another, as measured along street lines to the respective property lines.

   2. The facility shall make provision for adequate on-site staffing and supervision in accordance with applicable state licensing requirements. If a facility is not licensed by the state, there shall be a minimum of one staff person for every 10 residents or fraction thereof.

   3. The Board of Appeals or Planning Board may impose conditions upon a conditional use permit concerning the creation or operation of a sheltered care group home

including but not limited to the following: site and building maintenance; lighting, fencing, and other appropriate security measures; screening and buffering of parking areas; compatibility of any additions or alterations with the existing residential structure; compatibility of new structures with the architectural character of the surrounding area; and limitation on the duration of a sheltered care group home permit.

L. Utility substations

1. Utility substations shall be as small in size as practicable.
2. Substations shall be suitably screened and landscaped so as to ensure compatibility with the surrounding neighborhood. The remainder of the lot not consumed by the utility substation and its related access shall be designed and designated for future development.
3. If greater than 100 square feet in the B-7 zone, the structure shall be set back at least 35 feet from the street right-of-way except in the case of a lot having frontage on Marginal Way and I-295, provided the minimum 35-foot setback is met along Marginal Way.
4. In the B-7 zone, the substation equipment shall be fully enclosed within a structure.

6.5.7 Supplemental zone-specific conditional use standards

In addition to the general conditional use standards and supplemental use-specific conditional use standards, the following standards shall apply to conditional uses within certain zones:

A. R-OS Zone

1. The use shall be in conformity with or satisfy a deficiency identified in a federal, state, regional, or city recreation and open space plan, including but not limited to the state *Comprehensive Outdoor Recreation Plan*, as such plans may from time to time be created or revised.
2. Buildings and structures shall not obstruct significant scenic views presently enjoyed by nearby residents, passersby, or users of the site.
3. Indoor recreation or nonrecreational uses shall serve a significant public purpose that cannot reasonably be accommodated outside of the recreation and open space zone.

6.6 ACCESSORY USES

6.6.1 In general

A. Accessory uses shall be permitted in conjunction with permitted or conditional principal uses. Accessory uses must be:

1. Customarily found in association with the principal uses.
2. Generally consistent with the impacts of the primary use.
3. Secondary in nature, clearly incidental and subordinate to the principal uses in terms of area and function.
4. Located on the same lot as the principal use unless otherwise permitted.
5. Consistent with the intent of the zone.

B. No accessory use or uses within a building shall occupy more than a combined total of 25% of the floor area of the principal building, with the exception of required off-street parking, unless otherwise provided in Subsection 6.6.2 below.

C. No accessory use or uses not within a building shall occupy more than a combined total of 25% of the unbuilt lot area, or of the required rear yard area, with the exception of off-street parking or as otherwise provided in Subsection 6.6.2.

6.6.2 Standards for specific accessory uses

A. **Accessory Dwelling Units (ADUs)**

1. Accessory Dwelling Units (ADUs) shall be permitted on all lawfully conforming and nonconforming lots with legal residential uses. ADUs shall comply with all dimensional standards of the underlying zone unless otherwise provided below.
2. Up to two ADUs shall be permitted per qualifying property.
3. At the time of an ADU's initial construction or legal creation, the owner(s) of the property on which the accessory dwelling unit is created must occupy at least one of the dwelling units, with the exception of legally nonconforming lots on Peaks Island.
4. On Peaks Island, neither the accessory unit or principal unit shall be used for short-term rentals as defined under Chapter 6, Section 150.1 of the City of Portland Code of Ordinances.
5. When an ADU is significantly visible from public ways, the building design shall:
    a. Be clearly subordinate to the principal structure(s) in scale and position in relationship with the street and principal structure(s).
    b. Not include outside stairways or fire escapes above the ground floor.
6. Under circumstances where an existing nonconforming structure is converted to an ADU, the design of the ADU shall take into consideration to the extent practicable the privacy of adjacent properties.
7. The developer of an ADU shall record a deed restriction requiring that the ADU and at least one other non-accessory unit on-site remain under common ownership.
8. ADUs shall comply with all dimensional requirements of the underlying zone except:
    a. Lot coverage and lot area per dwelling unit requirements.
    b. Within the IR-1 zone, the minimum lot area shall be 70,000 square feet, except on Peaks Island where this standard shall not apply.
    c. Within the IR-2 zone, the minimum lot area shall be 30,000 square feet, except on Peaks Island where this standard shall not apply.
9. An ADU shall be limited to a gross floor area of 2/3 of the gross floor area of the principal unit(s). In no circumstance shall the height of detached ADUs on a lot exceed the height of the primary structure. Additionally, the aggregate square footage of detached ADUs on a lot shall not exceed the gross floor area of the primary structure.

B. **Amusement devices.** Except where the principal use consists of the sale of alcoholic beverages for consumption on premises or where the principal structure is an airline terminal, pinball machines or amusement devices shall not be considered to be accessory uses whenever there are more than a total of two such machines or devices on the premises.

C. **Antennas, discs, transmitting and receiving equipment.** Building-mounted antennas, discs, and other transmitting and receiving equipment shall be:
   1. No taller than 15 feet above the highest structural steel of the building roof.
   2. Setback no less than 15 feet from the building perimeter.
   3. Integrated into the architecture of the building in placement, form, color, and material so as to screen or camouflage such equipment from public view.

D. **Drive-throughs.** Drive-throughs shall be permitted as an accessory use in the B-4 zone. Drive-throughs shall be reviewed as conditional accessory uses in the B-2/B-2b/B-2c zones, B-3/B-3b/B-3c zones, B-6 zone, and B-7 zone. In all other zones, drive-throughs shall be prohibited. Where a conditional use, drive-throughs shall be subject to the provisions of Section 6.5 and the following additional review standards:
   1. *In general*
      a. The Planning Board shall be the review authority.
      b. Features such as windows, vacuum cleaners, menu/order boards, and stacking lanes must be placed, where practicable, to the side and rear of the principal building except where such placement will be detrimental to an adjacent residential zone or use, and shall be located no nearer than 40 feet from any adjoining property located in a residential zone. This distance shall be measured from the outermost edge of the outside drive-through feature to such property line. In addition, drive-through features shall not extend nearer than 25 feet from the right-of-way.
      c. The site must have adequate stacking capacity for vehicles waiting to use these service features without impeding vehicular circulation or creating hazards to vehicular circulation on adjoining streets.
      d. Any speakers, intercom systems, or other audible means of communication shall not play pre-recorded messages. Any speakers, intercom systems, audible signals, computer prompts, or other noises generated by the drive-through services or fixtures shall not exceed 55 dB or shall be undetectable above the ambient noise level as measured by a noise meter at the property line, whichever is greater.
      e. Site and vehicular light sources shall not unreasonably spill over or be directed onto adjacent residential properties and shall otherwise conform to the lighting standards set forth in the City of Portland *Technical Manual*.
      f. Where automobiles may queue, waiting for drive-through services, their impacts must be substantially mitigated to protect adjacent residential properties from headlight glare, exhaust fumes, and noise. As deemed necessary by the review authority, mitigation measures shall consist of installation of solid fencing with landscaping along any residential property line which is exposed to the

drive-through or the enclosure of the drive-through fixtures and lanes so as to buffer abutting residential properties and to further contain all associated impacts.

g. Drive-through lanes shall be designed and placed to minimize crossing principal pedestrian access-ways or otherwise impeding pedestrian access.

h. The board, as part of its review, may take into consideration the impact hours of operation may have on adjoining uses.

2. *In the B-2/B-2b/B-2c zones.* Drive-throughs shall only be permitted when accessory to a pharmacy or banking facility use. Drive-throughs shall not be permitted for restaurant, bakery, or other food or beverage service uses. Drive-throughs are only permitted in buildings of three or more stories where a majority of the upper stories is devoted to three or more dwelling units. The drive-through shall be screened as much as practical from the front of the building and shall be no closer than 40 feet from abutting residential zones and 25 feet from the street line.

3. *In the B-3/B-3b/B-3c zones.* Drive-throughs shall only be permitted when accessory to a bank. Drive-throughs shall be subject to the Downtown Urban Design Guidelines.

4. *In the B-6 zone.* Drive-throughs shall only be permitted when accessory to a bank and located in the interior of parking structures. Drive-through vehicle circulation shall not create an impediment for retail or mixed-use development for the first floor of the subject garages along any adjacent public streets.

5. *In the B-7 zone*

a. The drive-through must be accessory to a bank occupying a minimum floor area of 4,000 square feet.

b. The drive-through must be attached to or included within a building with a minimum floor area of 20,000 square feet, except that for lots of less than 20,000 square feet and in existence as of March 9, 2005, a drive-through may be included in a building of less than 20,000 square feet.

c. The drive-through facility must be attached or included within a building and/or addition meeting the minimum height of four stores in the Bayside Height District A and three stories in the Bayside Height Districts B and C. For the purposes of this conditional use, the minimum height exceptions for the B-7 zone shall not apply.

d. The first floor of the building must include banking or other retail storefront uses with storefront windows, entries, and interior public space oriented to and visible from the street, with front entry access facing the street and directly accessible from the public sidewalk.

e. Drive-through vehicle circulation shall not be located between the building and any adjacent public streets.

f. The drive-through shall be limited to two vehicle drive-through lanes.

g. The location of any drive-through shall be limited to the geographic area

between Somerset/Kennebec Streets/I-295/Franklin Street/Forest Avenue.

E. Heliports. Heliports shall meet the following minimum specifications:

1. *Roof heliport*
   a. Take-off area (min.): 200 feet x 250 feet
   b. Parking area (min.): 30 feet x 90 feet
2. *Ground heliport*
   a. Take-off area (min.): 300 feet x 700 feet
   b. Parking area and station building shall be located out of flight area.
3. *Elevation of operational area above street (max.):* 100 feet
4. *Clearance from lateral obstruction (min.):* 100 feet
5. *Width of approach and departure path (min.)*: 500 feet at landing area, tapering outward 15 degrees on each side to a width of 1,000 feet
6. *Slope with emergency landing areas:* 1:8
7. *Slope without emergency landing areas:* 1:20
8. *Curved approach:* Minimum radius to turn, 650 feet
9. *Approach zone transition area slope:* 1:2

F. Home occupations

1. The purpose of home occupations is to allow the secondary and incidental use of a residence for the conduct of appropriate occupations whose external activity levels and impacts are so limited as to be compatible with the residential character of the neighborhood.
2. Home occupations must be conducted entirely within the dwelling unit by one or more persons residing within the dwelling unit.
3. In connection with the operation of a home occupation, the following requirements shall be met:
   a. A home occupation shall not occupy more than 500 square feet of floor area or more than 25% of the total floor area of such a dwelling unit, whichever is less, or in the case of licensed family day care homes or home babysitting services, to accommodate not more than six children plus two children after school and having no nonresidential employees.
   b. There shall be no outside storage of goods and materials nor shall there be exterior displays, or display of goods visible from the outside.
   c. Storage of materials related to the home occupation shall count as a part of the occupancy limitations above, but shall not constitute a dominant part of such occupancy, provided, however, storage of such materials or products in garages or other accessory structures is prohibited.
   d. Exterior signs shall be limited to one non-illuminated sign not exceeding a total area of two square feet, affixed to the building and not projecting more than one foot beyond the building.
   e. Any exterior alterations to the residence shall be compatible with the architecture of the building and maintain the residential appearance by



virtue of exterior materials, lighting, and signs.

f. The home occupation shall not produce offensive noise, vibration, smoke, dust, or other particulate matter, odorous matter, heat, humidity, glare, or other objectionable effects.

g. There shall be no more than one nonresident employed in the home occupation, provided, however, family day care or home babysitting services shall have no nonresident employees.

h. No traffic shall be generated by the home occupation in greater volumes than would normally be expected in a residential neighborhood.

i. No motor vehicle exceeding a gross vehicle weight of 6,000 pounds shall be stored on the property in connection with the home occupation.

4. No residence shall be occupied, altered or used for any home occupation except the following:

a. Accountants and auditors.

b. Answering services (telephone).

c. Architects.

d. Artists and sculptors.

e. Authors and composers.

f. Computer programming.

g. Custodial services.

h. Custom furniture repair and upholstering.

i. Dentists, doctors, therapists, and health care practitioners.

j. Direct mail services.

k. Dressmakers, seamstresses and tailors.

l. Engineers.

m. Family planning services.

n. Hairstylists (limited to no more than two hair dryers).

o. Home crafts, such as model making, rug weaving, lapidary work, cabinet making, weaving, ceramics.

p. Interior designers.

q. Lawyers, justices of the peace, and notary publics.

r. Licensed family day care home or babysitting services.

s. Musicians or music teachers, including group instruction not to exceed six students at any time but not including performances or band rehearsals, which shall meet the following additional requirements:

i. Electronic amplification is prohibited.

ii. The applicant shall demonstrate that noise attenuation is provided which minimizes perception of sound at property lines at all times during the use. Noise attenuation measures may include, but are not limited to, insulation, double-pane windows, air conditioners, or any combination of these or similar noise attenuation measures.

iii. Hours of operation shall be limited to 8:30 a.m. to 9:30 p.m.

t. Office facility of a minister, rabbi, or priest.

u. Photographic studios.

v. Professional counseling and consulting services.
w. Professional research services.
x. Sales persons provided that no retail or wholesale transactions are made on the premises.
y. Small appliance repair.
z. Snow plowing provided that only one snow plow vehicle is stored on or generated from the site.
aa. Special tutoring or instruction (not to exceed three pupils at any given time).
bb. Clerical services.
cc. Small-scale marijuana caregiver, except that no more than one small-scale caregiver may operate out of any one dwelling unit.

5. A home occupation that is not listed in (4) above but is similar to and no more objectionable than those home occupations listed, shall be permitted as a conditional use subject to the requirements of Section 6.5 of this article. This provision shall not include veterinarians, kennels, animal raising, funeral homes, retail uses including antique shops, restaurants, dancing studios, towing services, repair and painting of automobiles as home occupations.

G. Letting of rooms. The letting of rooms within an existing dwelling unit in any residential zone shall be permitted as an accessory use provided that:

1. There shall be no more than two persons occupying such room or rooms.
2. There shall be not more than two rooms per dwelling unit occupied for such use.
3. There shall be no increase in the bathroom and/or kitchen facilities in the dwelling, and no such facility shall have been constructed in the immediately preceding two years.

H. Makers' markets in the IL-b zone. Makers' markets, including periodic or seasonal sale of handcrafted and limited production products for final consumption, which may include prepared or raw foods, shall be permitted as an accessory use in the IL-b zone, provided that:

1. Such sales are located within a lawfully conforming principal permitted use.
2. Such sales occupy an area no larger than 45% of the floor area devoted to the principal use.
3. Such sales by any single vendor or group of vendors shall occur for no more than a total of 28 hours a week collectively.
4. Such products are produced or permitted to be produced in the IL/IL-b zone.
5. Such products are sold by the producer of the product or their designee.

I. Tasting rooms in industrial zones. Tasting rooms shall be permitted as accessory uses on the premises of facilities where beer, wine, spirits, other alcoholic or non-alcoholic beverages, or food are produced, provided that:

1. Service of food in the facility is limited to that which does not constitute a full course meal.
2. No more than 10% of the beverage menu in tasting rooms accessory to beverage production or 10% of the food menu in tasting rooms accessory to food production is produced or manufactured off-site.

Tasting rooms shall not be subject to the limitations on the use of unbuilt lot or yard area in Subsection 6.6.1(C).

J. **Solar energy generation**. Roof-mounted, building-integrated, or small-scale ground-mounted solar energy systems shall be permitted as accessory uses within all zones except the Stream Protection Zone and within cemeteries. Accessory solar energy systems are only permitted within the Recreation and Open Space Zone where co-located with public industrial or utility infrastructure and are subject to historic preservation review when such systems are either located within or less than 100 feet from an identified historic district or historic landscape district. All accessory solar energy systems are subject to the following conditions:
   1. Accessory solar energy systems shall comply with all general use standards for solar energy systems as stated under Subsection 6.4.16 of this article and with the dimensional requirements as stated under Article 7.
   2. Small-scale ground-mounted solar arrays shall occupy less than 1,000 square feet of ground area.

K. **Wind energy generation.** Freestanding and roof-mounted wind energy systems shall be permitted as accessory uses within all zones except the Stream Protection Zone, within historic districts except where the Congress Street Historic District coincides with the B-3 zone, within historic cemeteries or historic landscape districts, or within 1,000 feet of any designated historic landmark (Portland Observatory, Cathedral of Immaculate Conception, St. Dominic's Cathedral, St. Luke's Cathedral, State Street Church, and City Hall), subject to the following conditions:
   1. Accessory wind energy systems shall comply with all general use standards for wind energy systems as stated under Subsection 6.4.18 of this article.
   2. Properties shall be limited to one free-standing wind energy system and/or three roof or building mounted wind energy systems.
   3. Accessory wind energy systems shall either be located on the rear half of a building or structure, or within the rear yard and shall be sited to maximize existing vegetative or other screening from nearby residential buildings and public ways. The location shall minimize changes to existing topography and natural vegetation which would result from construction or maintenance of the system.

6.7 TEMPORARY USES

6.7.1 In general

Temporary uses may be permitted from time to time as determined by the Planning Authority. In addition to regulations pertaining to temporary uses contained elsewhere in the City of Portland Code of Ordinances, the following standards shall apply for specific temporary uses.

6.7.2 Standards for specific temporary uses

A. **Temporary parking.** Parking of vehicles may be permitted by a temporary certificate of occupancy for a limited period of time not to exceed one year in anticipation of future development.

B. **Temporary private tenting.** Temporary private tenting with one tent accessory to a principal

residential use is permitted in the IR-1 and IR-2 zones provided that adequate water supplies and sanitation facilities are available in connection with the principal residential use.

C. **Temporary sales.** No "garage sale," "lawn sale," "attic sale," "rummage sale," or other similar casual sale of tangible personal property which is advertised by any means whatsoever whereby the public at large is or can be made aware of such sale, shall be deemed to be accessory or temporary if such sale occurs after sales have been conducted on the same premises for six or more days previously during the calendar year.

D. Temporary stands

1. No premises shall be used for business purposes consisting of temporary stands, booths, platforms, or vehicles intended for the sale of merchandise or other mercantile purposes if any part of such stand, booth, platform, or vehicle is proposed to be located nearer than 125 feet to any residential zone, except that a single stand with no more than 200 square feet of floor area for the sale of agricultural products produced on the premises shall be permitted as accessory to a permitted agricultural use.
2. A single produce stand shall be permitted on the premises of a community garden for the sale of flowers, vegetables, herbs, or fruit produced on the premises, provided that the stand is no more than 100 square feet in floor area or open table area and is located a minimum of five feet from any property line; that sales are limited to two days per week between the hours of 9:00 a.m. and 6:30 p.m. during the growing season from May 25 through October 31; and that the stand has received all necessary permits. The use of produce stands shall be seasonal and temporary. Any properly permitted structure may remain on the premises year-round. If the community garden is owned or operated by a non-profit organization, sales of flowers, vegetables, herbs, or fruit produced in other gardens or farms in Maine owned or operated by said organization shall be permitted within the same limitations listed above. For purposes of this subsection, community garden means a parcel of open land used for the cultivation of flowers, vegetables, herbs, or fruit by a group of city residents either jointly as a single plot or through individual garden plots or beds.
3. A single produce stand shall be permitted on the premises of a non-profit organization incorporated pursuant to the laws of the State of Maine with the permission of the owner and on the premise of public schools with the permission of the school department; provided that the stand is for the sale of local fruit, vegetables, flowers, seedlings, and plants produced by the seller; that the stand is no more than 100 square feet in floor area or open table area and is located a minimum of five feet from any property line; that sales on the premises are limited to two days per week between the hours of 9:00 a.m. and 6:30 p.m. during the growing season from May 25 through October 31; and that the stand has received all necessary permits. The use of

produce stands shall be seasonal and temporary. Any properly permitted structure may remain on the premises year-round.

4. In the IR-1 and IR-2 zones, a single stand with no more than 200 square feet of floor area for the sale of agricultural products produced on the premises or the sale of fish or shellfish caught by the occupant of the premises shall be permitted as a temporary use.

E. **Truck load sales.** Truck load sales shall not extend beyond three consecutive days nor occur more frequently than three times a calendar year.

6.8 PERFORMANCE STANDARDS

6.8.1 Design

A. In the B-3 zone, all development, all building and site alterations, and all provision of landscaping or other pedestrian amenities shall be consistent with the Downtown Urban Design Guidelines.

B. In the B-7 zone, all buildings shall have a minimum of one operable public pedestrian entrance facing the street frontage of the lot. Such building entrances shall comply with the B-7 design standards.

6.8.2 Development in the R-OS zone

All development in the Recreation and Open Space Zone shall comply with the following development standards:

A. All ground areas not used for parking, loading, vehicular, or pedestrian areas and not left in their natural state shall be suitably landscaped and designed with quality materials that are consistent with adopted City policy or master plans, and which provide a comfortable, durable, accessible, readily maintainable, and aesthetically pleasing environment.

B. Natural features, such as mature trees and natural surface drainageways, shall be preserved to the greatest possible extent consistent with the uses of the property.

C. Loading areas shall be screened and parking areas shall be screened and landscaped so as to avoid a large continuous expanse of paved area.

D. Buildings and structures shall be sited to avoid obstructing significant scenic views presently enjoyed by nearby residents, passersby, and users of the site.

E. Storage of commodities and equipment shall be completely enclosed within buildings or provided with screening by a fence, wall, or landscaping.

F. The outer perimeter of playfields, play lots, and other active recreational areas shall be screened, or shall be located a reasonable distance from any residential use.

6.8.3 Discharges

No discharge shall be permitted at any point into any private sewage disposal system, or stream, or into the ground, of any materials in such a way or of such nature or temperature as to contaminate any water supply, or otherwise cause the emission of dangerous or objectionable elements, except in accordance with standards approved by the Public Health Authority or by the Public Works Authority. No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the Department of Public Works in accordance with Chapter 24 of the City of Portland Code of

Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24.

6.8.4 Electromagnetic interference

In any industrial zone, there shall be no electromagnetic interference that adversely affects the operation of any equipment other than that belonging to the creator of such interference.

6.8.5 Exterior lighting

All exterior lighting shall be designed and installed with full cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties.

6.8.6 Heat, glare, radiation

Heat, glare, or radiation shall be imperceptible without instruments at lot boundaries and shall not present a safety hazard.

6.8.7 Historic resources

The exterior design of proposed or renovated structures located within historic districts shall be subject to the historic preservation provisions of Article 17. The exterior design of proposed or renovated structures located adjacent to historic districts or historic resources shall be subject to historic preservation requirements of Article 14.

6.8.8 Landscaping and screening

A. In all mixed-use zones, the O-P zone, the R-P zone, and the A-B zone outside of restricted access areas, sites shall be landscaped to screen parking and accessory site elements, including storage and solid waste receptacles, from the right-of-way, public open space, or abutting residential zones.

B. In the I-H and I-Hb zones, where a front yard abuts an arterial or a major collector street, it shall be landscaped. Rear yards, side yards, and the perimeter of any parking area for greater than 15 vehicles shall be landscaped if visible from a right-of-way, public open space, or residential zone.

6.8.9 Noise

A. The maximum permissible sound level of any continuous, regular, or frequent source of sound produced by an activity shall be as shown in Table 6-G.

B. For any noise generated by a use in the B-5/B-5b, B-6, B-7, I-L/I-Lb, I-M/I-Mb, and I-H zones, sound shall be measured at or within the boundaries of any residential zone. For any noise generated by a use in the B-1/B-1b, B-2/B-

TABLE 6-G: NOISE STANDARDS

Zone	Daytime/Evening (7 a.m.-9 p.m.)	Night (9 p.m.-7 a.m.)
I-B	60 dBA	55 dBA
R-P	55 dBA	55 dBA
O-P	60 dBA	60 dBA
B-1/B-1b	55 dBA	55 dBA
B-2/B-2b/B-2c	60 dBA	55 dBA
B-3/B-3b/B-3c	60 dBA	55 dBA
B-4	65 dBA	60 dBA
B-5/B-5b, B-6, B-7[1]	60 dBA	50 dBA
I-L/I-Lb[1]	60 dBA	50 dBA
I-M/I-Mb[1]	70 dBA	55 dBA
I-H/I-Hb[1]	75 dBA	55 dBA
A-B	60 dBA	60 dBA
IS-FBC	60 dBA	55 dBA

[1] Daytime/evening noise regulations shall extend until 10 pm, after which time nighttime noise regulations shall apply.

2b/B-2c, I-B, R-P, O-P, A-B, and IS-FBC zones, sound shall be measured at lot boundaries. For any noise generated by a use in the B-3/B-3b/B-3c, sound shall be measured at lot boundaries or within publicly accessible pedestrian open space. For any noise generated by a use in the B-4 zone, sound shall be measured off premises at the source of complaint.

C. In addition to the sound level standards established in Table 6-G, all uses shall employ best practicable sound abatement techniques to prevent tonal sounds, or sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time, and impulse sounds, or sound events characterized by brief excursions of sound pressure, each with a duration of less than one second. If such tonal and impulse sounds cannot be prevented, uses shall employ best practicable sound abatement techniques to minimize the impact of such sounds in residential zones.

D. Sound levels shall be measured with a sound level meter with a frequency weighting network manufactured according to standards prescribed by the American National Standards Institute (ANSI) or its successor body. Measurements shall be made at all major lot lines of the site, at a height of at least four feet above the ground surface. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).

E. Wind energy systems

1. Where the underlying zone is residential and does not specify sound requirements, or where the system will be within 100 feet of a residential building, the audible sound levels generated by the wind energy system shall not exceed 45 decibels on the A scale between the hours of 9:00 p.m. and 7:00 a.m., and 50 decibels on the A scale between 7:00 a.m. and 9:00 p.m., as measured at the nearest property line in accordance with this provision and technical standards set out in the City of Portland *Technical Manual*.
2. For any system over 45 feet in total height not in the Recreation and Open Space, Resource Protection, or Island Transfer Station Overlay Zones, the maximum sound levels allowed by this ordinance shall not be exceeded at the nearest property boundary and at the nearest point vertically above the property line that coincides with the maximum building height allowed in the abutting zone.
3. Any system located within the Recreation and Open Space, Resource Protection, or Island Transfer Station Overlay Zones and more than 100 feet from a residential building shall not exceed 55 decibels on the A scale as measured 50 feet from the base of the tower.
4. Audible sound levels of wind energy systems shall include sounds generated in all conditions including low and high winds (furling, yawing, and flutter) and power

outages (freewheeling). If after installation, the system is determined to be operating at levels above these limits (as measured at the property lines in accordance with this provision and applicable technical standards, the owner shall take (at the owner's cost) remedial action to ensure compliance with these limits. Required action may include relocation or removal of the system.

F. Exemptions

1. Noises created by construction and maintenance activities between 7:00 a.m. and 10:00 p.m. are exempt from the maximum permissible sound levels set forth above. Construction activities on a site abutting any residential use between the hours of 10:00 p.m. and 7:00 a.m. shall not exceed 50 dBA.
2. The following uses and activities shall also be exempt from the requirements of Table 6-G:
    a. The noises of safety signals, warning devices, emergency pressure relief valves, and any other emergency devices.
    b. Traffic noise on public roads or noise created by aircraft and railroads.
    c. Noise created by refuse and solid waste collection, provided that the activity is conducted between 6:00 a.m. and 7:00 p.m.
    d. Emergency construction or repair work by public utilities, at any hour.
    e. Noise created by any recreational activities which are permitted by law and for which a license or permit has been granted by the City, including but not limited to concerts, parades, sporting events, and fireworks displays.

6.8.10 Odor

A. It shall be a violation of this article to create an odor nuisance.

1. An odor nuisance shall be considered to exist when 10 confirmed complaints occur in an area within two separate 24-hour periods. The 10 confirmed complaints must originate from 10 different households in an area zoned residential or from 10 different individuals in a commercial or industrial facility. The Building Authority shall only respond to a complainant who confirms that the odor is detectable at the time of the actual complaint. In order to confirm a complaint, the Building Authority or its designee shall first determine that an odor is detectable in the area of the complaint. The Building Authority or its designee shall interview the complainant to verify that the detectable odor is in fact the odor that resulted in the complaint. If the complainant verifies the odor as the source of the complaint, then the Building Authority shall notify the owner or operator of the alleged odor source either in person or by telephone within one working day, with a written confirmation within seven working days of the complaint. In the event that the Building Authority is unable to contact the owner or operator of the alleged odor source in person or by telephone within one working day, then the Building Authority shall send

written notice to the operator within seven working days of the complaint.

2. In the event that 10 complaints are confirmed as set forth in paragraph (1) above in two separate 24-hour periods within a 90-day period, the Building Authority shall cause a certified odor inspector to investigate any odor complaints received in the next 30 days following the receipt of the tenth confirmed complaint from the second 24 hour period. If the odors remain under the ambient intensity standard as established in this subsection for the next 30 days, then a new odor nuisance must be established after that time in accordance with the requirements of this subsection. The certified odor inspector shall do the following in response to a complaint under this subsection:
    a. Verify that an odor is detectable in the area of the complaint and confirm that it is the odor that resulted in the complaint.
    b. Quantify the intensity of the odor on the eight point in butanol intensity scale as defined in regulations promulgated by the Planning & Urban Development Director to establish training and technical standards to support this subsection.
    c. Track the odor to its source.

B. When the certified odor inspector determines that a violation has occurred because an odor has exceeded the maximum ambient odor levels set forth in this subsection, the Building Authority shall notify the owner or operator either by telephone or in person of the violation within one working day of the violation. The Building Authority shall confirm this notification in writing within seven working days of this initial notice. In the event that the Building Authority is unable to contact the owner or operator by telephone or in person within the required time period, then it will send written notification within seven working days of the violation.

C. Upon receipt of the written notice of violation, the owner or operator of the odor source shall do the following:

1. Implement odor reduction procedures immediately upon notification by the Building Authority that the facility has violated this subsection wherever odor reduction can be achieved by operational or procedural changes at the facility.
2. Submit to the Building Authority, within 30 days of the written notice of violation, an odor reduction plan which is designed to reduce ambient odors attributable to emissions from that source to the maximum allowable intensity for that zone. The plan shall include a detailed summary of the measures that the owner or operator will take to mitigate the community annoyance and estimated dates for completion of those measures. In the event that it will take longer than 30 days to develop the odor reduction plan, the owner or operator of the facility shall submit within the 30-day time period a schedule for the development of the odor reduction plan. The Building Authority shall review this plan to determine whether it will be adequate to resolve the odor nuisance in a reasonable time period.

3. Implement the plan in accordance with the schedule approved by the Building Authority.

D. The maximum ambient intensity standard for odors generated by uses located in the industrial zones shall not exceed the following levels when the odor is measured in the zone indicated:

1. 4.0 in any industrial or mixed-use zone for odors resulting from uses in industrial or mixed-use zones.
2. 3.0 in any residential zone for odors resulting from uses in industrial or mixed-use zones.

6.8.11 Outdoor effects

A. In all mixed-use, office, and industrial zones and the IS-FBC zone, uses shall be operated within a completely enclosed structure, except for those customarily operated in open air.

B. In the mixed-use and IS-FBC zones, open air activities shall be those licensed by the city.

C. There shall be no outdoor kennels.

D. No open exterior stairways or fire escapes shall be constructed above the ground floor, except that the Building Authority may permit the installation of an exterior egress stair or an upgrade of an existing exterior fire escape for a conforming or lawfully nonconforming dwelling unit existing as of January 5, 1998, if such egress is required to meet current fire or other life safety codes, provided that the owner demonstrates to the Building Authority that:

1. There is no practical and economically reasonable way to provide such egress within the interior of the building, as demonstrated by the submission of detailed floor plans showing the projected cost of and the impact on the existing dwelling from an interior stair.
2. The stairway and associated landings and other building fixtures are designed and will be constructed to have a minimal visual impact upon the building, especially as viewed from any public way or public open space, as demonstrated by photographs of the front and any other affected facades of the building and plans or drawings of the proposed egress stairs.

6.8.12 Outdoor storage

Outdoor storage shall comply with the requirements of Table 6-H.

6.8.13 Relocation of displaced residents

In the B-3, B-3b, and B-3c zones, any development which results in the displacement of residents of dwelling units currently located on the development site shall meet the requirements of Section 18.5.

6.8.14 Smoke

Smoke shall not be emitted at a density in excess of the opacity level designated in Table 6-I, as classified in Method 9 (Visible Emissions) of the Opacity Evaluation System of the U.S. Environmental Protection Agency.

TABLE 6-H: OUTDOOR STORAGE STANDARDS

B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, O-P, R-P, A-B[1], and IS-FBC	There shall be no exterior storage with the exception of fully enclosed receptacles for solid waste disposal.
B-4, B-5/B-5b, B-6, B-7, and Industrial	Outdoor storage of materials shall be done in such a manner as to prevent the breeding and harboring of insects or vermin, to prevent the transfer of such materials from the site by natural causes or forces and to contain fumes, dust, or other materials which constitute a fire hazard. This storage shall be accomplished within enclosed containers or by raising materials above ground, separating materials, preventing stagnant water, or by some other means. In the B-4, B-5/B-5b, B-6, and B-7 zones, no outdoor storage shall be permitted in the front setback, except for storage for plant and tree nurseries or lumber yards if listed as a permitted use. In the B-4, B-5/B-5b, B-6, and B-7 zones, any storage of new materials, finished products, or related equipment must be suitably screened from the public way and abutting properties by a landscaped buffer or solid fence at least five feet in height.
B-1/B-1b and B-2/B-2b/B-2c	Vehicles or truck trailers with or without wheels shall not be used for on-site storage. In the B-2/B-2b/B-2c zone, there shall be an exception where such storage is located in a designated loading zone identified on an approved site plan or such storage is not visible from the street or adjacent residences during winter.
B-5	Outdoor storage of rental and moving equipment shall be located on the site and not within a public right-of-way or sidewalk. A curb, guard rail or other barrier shall be provided to contain such equipment and storage on the site as well as out of landscape buffer areas. A landscape buffer shall be provided. Outdoor storage of rental and moving equipment must be accessory to a building in existence as of the date of this ordinance. Exterior lighting shall not exceed that which is necessary for security purposes.

[1] Does not apply to airports.

TABLE 6-I: SMOKE STANDARDS

Zone	Opacity Level
R-P	20%
O-P	
B-1/B-1b	
B-2/B-2b/B-2c	
B-3/B-3b/B-3c	
B-4	30%
B-5/B-5b	40%
B-6	
B-7	
Industrial and A-B zones	
IS-FBC	20%

6.8.15 Storage and repair of vehicles

A. In all residential zones, all island zones, the R-P zone, and the B-3 zone, only one unregistered motor vehicle may be stored outside for a period not exceeding 30 days.

B. In other mixed-use zones, storage of unregistered motor vehicles for more than 10 days and outdoor storage of used automobile tires shall be prohibited.

C. No building in any zone shall be erected, altered or used as a garage for the storage of more than three motor vehicles or for the business of repairing motor vehicles if any part of either old or new building when completed would be

closer than five feet to any part of any church, public or private hospital, or school or if any part of either old or new building when completed would be less than 15 feet from the boundary line of any lot upon which any part of any church, public or private hospital, or school is located. No existing garage used for the storage of more than three motor vehicles or for the business of repairing motor vehicles shall be deemed to become a nonconforming use through the subsequent erection of such church, hospital, or school closer than the aforesaid distance to such a garage.

6.8.16 Traffic

Development in the I-M, I-Ma and I-Mb zones shall utilize streets classified as arterials by the Maine Department of Transportation to the greatest extent possible.

6.8.17 Waste disposal

A. All solid waste disposal, including materials which might cause fumes or dust, or constitute a fire hazard if stored out-of-doors, shall be only in fully enclosed, covered containers or receptacles. In all nonresidential zones with the exception of the industrial zones, such containers or receptacles shall be within designated, screened areas. In industrial zones and the B-4 zone, outdoor storage of refuse, debris, or previously used materials awaiting reuse shall either be in an appropriate container or located within a designated, screened area.

B. Containers or receptacles shall not leak or otherwise permit liquids or solids to escape from the container or be transferred beyond lot boundaries by natural causes or forces. Areas attracting large numbers of insects or vermin are prohibited.

C. Where food processing is permitted, all food processing waste shall be stored within a completely enclosed structure and if not refrigerated shall be removed from the site in an enclosed container within 48 hours of its generation. All enclosed and exterior food processing waste storage areas shall be cleaned and sanitized on a regular basis.

6.8.18 Vibration

A. In any mixed-use zone, the O-P, and the R-P zones, vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile-supported pier.

B. In all industrial zones, any use creating earthshaking vibrations, with the exception of airports, shall be controlled in such a manner as to prevent transmission beyond lot lines of vibrations causing a displacement of .003 or greater on one inch, as measured by a vibrograph or similar instrument at the property boundaries.

7 DIMENSIONAL STANDARDS

7.1 APPLICABILITY

Construction, alterations, and additions to structures and buildings are governed by this article, except when superseded by other applicable laws or ordinances. It is the intent that, when in doubt, this article should be interpreted to accommodate the goals of the City's Comprehensive Plan and other plans.

7.2 RULES OF MEASUREMENT

Building footprint. The lot area contained within the outermost perimeter of the building envelope including cantilevered portions of the building, projections, and porches, decks, and similar attached structures integral to the building and contributing to its mass, but excluding roof overhangs.

Floor area. The total floor space enclosed by exterior or standard fire walls of a building, exclusive of vent shafts and courts.

Grade, pre-development. Average grade, existing on October 1, 2000, at the corners of the foundation of the proposed structure.

Height. The vertical measurement from grade, or the pre-development grade on the islands, to the highest point of a structure. For buildings, height shall be measured to the roof beams in flat roofs, to the highest point of the roof beams or the highest point on the deck of mansard roofs, to a level midway between the level of the eaves and highest point of pitched roofs or hip roofs, or to a level two-thirds of the distance from the level of the eaves to the highest point of gambrel roofs. For this purpose, the level of the eaves shall be taken to mean the highest level where the plane of the roof intersects the plane of the outside wall on a side containing the eaves.

Impervious surface ratio. The proportion of a site covered by impervious surfaces, calculated by dividing the total impervious surface area by the lot area. For the purposes of this measurement, impervious surface shall be as defined by the Maine Department of Environmental Protection.

Landscaped open space ratio. The proportion of lot area covered by landscaped open space, calculated by dividing the total landscaped open space area by the lot area. For the purposes of this measurement, landscaped open space shall not include rooftop gardens or structured or engineered surfaces.

Lot area. The area of a lot enclosed within the boundary lines of a lot.

Lot coverage. The proportion of lot area covered by building footprint and the footprint of accessory detached structures.

Lot width. The distance measured between side lot lines through that part of the principal building where the lot is narrowest.

Net land area. The land area arrived at by subtracting from lot area the square footage of the following: a) areas of special flood hazard; b) existing watercourses measured by the area between the top of the banks at the normal high-water mark; c) wetlands; and d) slopes of 25% or greater. Where a slope of 25% or greater was altered to less than 25%

within the two years immediately preceding a development proposal, such slope shall also be subtracted from the lot area.

Setback. A space on a lot which is required by this article to be maintained open, unoccupied, and unobstructed between lot lines and any structure, except as otherwise permitted in this code of ordinances. A setback shall be measured from a line parallel to the lot line drawn through the point of a structure nearest to such lot line. This measurement shall be taken at right angles from such parallel line. When measuring setbacks, setbacks shall be interpreted to include setbacks of structures from property lines and setbacks of principal structures from one another. No principal structure shall occupy the minimum setback of another principal structure. Setbacks shall not apply to fences, flagpoles, raised garden beds, and other similar structures. When setbacks are established in relationship to height, the height in stories or feet of that part of the principal structure adjoining a yard shall be used in determining the required setback.

Setback, front. A setback along the front lot line, extending between side lot lines, the depth of which shall be the shortest horizontal distance between the front lot line and any structure. In the case of lots with frontages on two or more streets, the orientation of the principal entry to the principal building shall prevail. In the case of lots without frontage on a street, the property line that parallels the nearest developed street shall be considered the front.

Setback, rear. A setback along the rear lot line, extending between side lot lines, the depth of which shall be the shortest horizontal distance between the rear lot line and any structure.

Setback, side. A setback along a side lot line extending from the front lot line to the rear lot line, the width of which shall be the shortest horizontal distance between the side lot line and any structure.

Stepback. A space on a lot which is required by this article to be maintained open, unoccupied, and unobstructed between lot lines and any structure that occurs at a prescribed height above the ground. Stepbacks shall apply to all attached accessory structures, including the minimum necessary housing of elevators, stairways, tanks fans, or other building operating equipment not intended for human occupancy.

Story. That portion of a building included between the surface of any floor and the surface of the floor, or the roof, next above. A half story is a story situated under a sloping roof, the area which at a height four feet above the floor does not exceed two-thirds of the floor area of the story immediately below it. A story which exceeds 18 feet in height shall be counted as two stories. A basement shall be counted as a story for the purpose of height measurement where more than one-half of its height is above the average level of the adjoining ground.

Street frontage. The distance for which a lot line adjoins a public street, from one lot line intersecting said street to the furthest distant lot line intersecting the same street.

7.3 DIMENSIONAL STANDARDS

Tables 7-A to 7-H shall establish the dimensional standards for each zone.

TABLE 7-A: RESIDENTIAL ZONE DIMENSIONAL STANDARDS

		R-1	R-2	R-3[2]	R-4	R-5[2,3]	R-5a[4]	R-6[6,7]	R-6a[13]
Lot area (min.)	**Governmental**	15,000 SF	10,000 SF	6,500 SF	6,000 SF	6,000 SF			
	Hospital			10 ac.		5 ac.		2 ac.	
	Intermediate or long-term, extended care facility	3 ac.	3 ac.	2 ac.		2 ac.	1.5 ac.	1 ac.[8]	
	Lodging house					9,000 SF		2,000 SF	
	Multiplex				9,000 SF	9,000 SF			
	Place of assembly **<10,000 SF**	1 ac.	1 ac.	1 ac.	15,000 SF	.5 ac.		10,000 SF	
	Place of assembly **>10,000 SF**	2 ac.	2 ac.	2 ac.	30,000 SF	1 ac.		15,000 SF	
	Post-secondary school		2 ac.			2 ac.		2,000 SF	
	Elementary, middle, and secondary school	2 ac.	2 ac.	2 ac.	30,000 SF	30,000 SF		30,000 SF	
	Raising of animals	3 ac.							
	Residential	15,000 SF	10,000 SF	6,500 SF	6,000 SF	6,000 SF[3]	6,000 SF /2 ac. max[5]	2,000 SF	4 ac.
	All other uses	15,000 SF	10,000 SF	6,500 SF	6,000 SF	6,000 SF		2,000 SF	
Lot area per dwelling unit (min.)		15,000 SF	10,000 SF	6,500 SF	3,000 SF	3,000 SF	1,600 SF	725 SF	
Lot area per rooming unit (min.)						1,000 SF		250 SF[9]	
Lot area per multiplex unit (min.)					3,000 SF for first 3, 6,000 SF thereafter	4,500 SF			
Lot area per SNIDU[1] (min.)					2,400 SF	3,600 SF			
Street frontage (min.)		75 ft.	50 ft.	50 ft.	50 ft.	50 ft.	50 ft.	20 ft.	
Lot width (min.)		100 ft.	80 ft.	65 ft.	60 ft.	60 ft. 90 ft. for multiplex	60 ft.	20 ft.	
Front setback (min.)		25 ft. Or average depth of adjacent front yards	25 ft.	25 ft.	25 ft.	20 ft.	25 ft.	5 ft.	
Rear setback (min.)		25 ft.	25 ft.	25 ft.	25 ft.	20 ft.	25 ft.	10 ft.	
	Detached accessory (< 250 SF footprint)	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	
Side setback (min.)	**<1.5 stories to 1.5 stories**	12 ft.	12 ft.	8 ft.	10 ft.	8 ft.	10 ft.	5 ft.[10]	<45 ft. in height: 10 ft.
	2 stories	14 ft.	14 ft.	14 ft.	14 ft.	12 ft.	14 ft.		
	2.5 stories	16 ft.	16 ft.	16 ft.	16 ft.	14 ft.	16 ft.		>45 ft. in height: 15 ft.
	Detached accessory (< 250 SF footprint)	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.		
	On side street (min.)	20 ft. Or depth of front yard directly abutting the lot.	20 ft.	20 ft.	20 ft.	15 ft.	20 ft.	None	

TABLE 7-A (CONT.): RESIDENTIAL ZONE DIMENSIONAL STANDARDS

		R-1	R-2	R-3[2]	R-4	R-5[2, 3]	R-5a[4]	R-6[6, 7]	R-6a[13]
Stepbacks (above 35 ft. when property line abuts a residential zone)(min.)								10 ft. from side property line and 15 ft. from rear property line[11]	
Structure height (max.)		35 ft.	35 ft.	35 ft.	35 ft.	35 ft.	35 ft.	45 ft.[12]	65 ft.
	Detached accessory	18 ft.	18 ft.	18 ft.	18 ft.	18 ft.	18 ft.	18 ft.	
Lot coverage (max.)		20%	20%	35%	30%	40%	30%	60%	
Landscaped open space ratio (min.)								20%	
Width of garage opening on front façade (max.)								9 ft. or 40% of the front facade, whichever is greater, and in no case more than 20 ft.	

[1] Special needs independent dwelling unit.
[2] See Table 7-B for PRUD standards.
[3] Single-family homes may be built on small lots in the R-5 under small residential lot dimensional requirements under certain conditions. See Table 7-C for R-5 Small Residential Lot dimensional requirements.
[4] For R-5a, PRUD standards shall apply to PRUDs, multi-family development of 4 or more units, congregate care, and intermediate, extended, or long-term care facilities, unless noted otherwise in the table above. See Table 7-B for additional standards that apply to these uses.
[5] Applies to 1-, 2-, and 3-family dwellings only.
[6] Alterations to single-family, two-family, and multi-family dwellings in existence as of 6/15/15 shall not result in the creation of any additional dwelling unit of less than 600 square feet of floor area, exclusive of common hallways and storage in basement and attic; and shall not result in any existing dwelling unit being reduced in size to less than 1,000 square feet of floor area, exclusive of common areas and storage in basement and attic.
[7] Subdivisions consisting of horizontally attached dwellings on individual lots are not required to have side yards between such dwellings where a party wall condition will exist. Horizontally attached dwellings located within a single lot shall be required to meet the applicable side setback requirements at the external lot boundaries of the subdivision and internal lot boundaries between such dwellings that are not attached to each other. No minimum lot size or width shall be required for individual lots underlying townhouse (horizontally attached) dwelling types. The applicable minimum lot area per dwelling shall apply to each lot.
[8] Except for long-term and extended care facilities: 10,000 SF for the first 9 residents plus 750 SF for each additional resident, up to a total of 2 ac.
[9] A minimum lot area per intermediate care resident of 250 SF also applies.
[10] Except that a side setback in the R-6 zone may be reduced to zero, provided that the cumulative side yards are not less than 10 ft. A permanent maintenance easement a minimum of 5 ft. in width shall be provided on the parcel adjacent to the lot line with the reduced side setback.
[11] Does not apply on side streets.
[12] Except as provided under the Fort Sumner Park Height Overlay, the Munjoy Hill Conservation Overlay, and the Bayside Height Overlay.
[13] All R-6 dimensional standards apply in the R-6a unless otherwise indicated.

TABLE 7-B: PRUD DIMENSIONAL STANDARDS

	R-3	R-5	R-5a[3]
Lot area[1] (min.)	3 ac.	2 ac.	2 ac.[4]
Net land area per dwelling unit (min.)	6,500 SF	3,000 SF	1,600 SF[4, 5]
Units per building (max.)	PRUD < 5 ac.: 2 PRUD > 5 ac.: 6	12	
Average number of units per building (max.)	PRUD > 5 ac.: 5		
Structure height (max.)	35 ft.	35 ft.	55 ft.
Building length (max.)	Without garages: 100 ft. With integral garages: 140 ft.	140 ft.	
Length of accessory garage structure (max.)		60 ft.	
Building setback from external subdivision property lines (min.)	3 or fewer D.U. in building: 25 ft.	Bldg. Length 100 ft. or less: 25 ft.	Bldg. Length 100 ft. or less: 25 ft.
	4 or more D.U. in building: 35 ft.	Bldg. Length >100 ft.: 35 ft.	Bldg. Length >100 ft.: 35 ft.
Distance between detached PRUD dwelling units (min.)	16 ft.		
Common recreation open space area[2] (min.)	300 SF/D.U.	300 SF/D.U	200 SF/D.U.[4]
Habitable space elevation	No habitable space in a PRUD shall be below grade, except basements that are a part of and below above-ground units.		

[1] Areas of special flood hazard as defined in Article 12 shall be excluded from lot area calculations.
[2] Common open space shall be designated on the site. The primary purposes of such open space areas shall be for passive or active recreation. Such spaces may include natural, landscaped or hardscaped elements. At a minimum, a contiguous area of 6,000 SF shall be provided.
[3] In the R-5a zone, PRUD standards shall apply to PRUDs, multi-family development of 4 or more units, congregate care, and intermediate, extended, or long-term care facilities unless otherwise noted.
[4] Does not apply to intermediate, extended, or long-term care facilities but does apply to PRUDs, congregate care, and multi-family development of 4 or more units.
[5] Minimum land area per intermediate care facility resident: 8,000 SF lot area for first 35 residents, plus 350 SF for each additional resident.
[6] For PRUD standards in island zones, see Table 7-D.

TABLE 7-C: R-5 SMALL RESIDENTIAL LOT DEVELOPMENT DIMENSIONAL STANDARDS[1]

Lot area (min.)		5,000 SF
Side setback (min.)		7 ft.[2]
	Detached accessory (< 250 SF footprint)	5 ft.
	Side yard on side street	10 ft.
Lot width (min.)		40 ft.
Street frontage (min.)		40 ft.
Lot coverage (max.)		50%

[1] Single-family homes may be built on small lots in the R-5 under small residential lot development dimensional requirements if the lot is: vacant; or used exclusively for parking; or contains structure(s) not used for residential purposes; or is created from a single lot division of a developed lot and results in a lot meeting the small residential lot dimensional requirements with the remaining developed portion meeting the standard dimensional requirements of the R-5 zone.
[2] The width of one side setback may be reduced 1 ft. for every foot that the other side yard is correspondingly increased, but no side yard shall be less than 4 ft. in width.

TABLE 7-D: ISLAND ZONE DIMENSIONAL STANDARDS

			IR-1	IR-2	IR-3	I-B[10]	
						Served by Public Water & Sewer	*Not Served by Public Water & Sewer*
Lot area (min.)[11]	Bed and breakfast					5,000 SF for 3 guest rooms plus 5,000 SF/ additional room	10,000 SF/ guest room
	Campground		10 ac.		5,000 SF/ campsite, but not less than 10 ac.		
	Hotel				10,000 SF/ guest room	5,000 SF for 3 guest rooms plus 5,000 SF/ additional room	10,000 SF/ guest room
	Lodging house			10,000 SF/ rooming unit	10,000 SF/ rooming unit	5,000 SF for 3 rooming units, plus 5,000 SF/ additional rooming unit	10,000 SF/ rooming unit
	Place of assembly	>10,000 SF	30,000 SF	30,000 SF	35,000 SF	20,000 SF	
		<10,000 SF	15,000 SF	15,000 SF			
	PRUD/PUD		5 ac.[1]	5 ac.[1]	20 ac.		
	Raising of animals		3 ac.				
	Residential		40,000 SF[2,3]	20,000 SF[3]	42,500 SF[6]	20,000 SF	
	Restaurant				35,000 SF	10,000 SF	20,000 SF
	Retail				35,000	None	20,000 SF
	Seasonal camp		10 ac.		35,000 SF		
	School/educational facility		40,000 SF	20,000 SF	35,000	20,000 SF	
	All other uses				35,000 SF	20,000 SF	
Lot area per dwelling unit (min.)			None[4]	None[4]	42,500 SF[7]		
Street frontage (min.)			100 ft.[5]	70 ft.[5]	70 ft.[8]	40 ft.	
Lot width (min.)			100 ft.[5]	80 ft.[5]	80 ft.	40 ft.	
Front setback (min.)			30 ft.[5]	25 ft. or the average of adjacent front yards[5]	25 ft.[9]	20 ft. or avg. depth of adjacent front yards	
Rear setback (min.)			30 ft.[5]	25 ft.[5]	25 ft.[9]	10 ft.	
	Detached accessory (< 250 SF footprint)		10 ft.[5]	10 ft.[5]	10 ft.[9]		

TABLE 7-D (CONT.): ISLAND ZONE DIMENSIONAL STANDARDS

		IR-1	IR-2	IR-3	I-B[10] *Served by Public Water & Sewer*	I-B[10] *Not Served by Public Water & Sewer*
Side setback (min.)		20 ft.[5]	20 ft.[5]	20 ft. [9]	10 ft.	
	Detached accessory (< 250 SF footprint)	15 ft.[5]	15 ft. [5]	15 ft. [9]	10 ft.	
	On side street	20 ft.[5]	20 ft.[5]	20 ft. [9]	10 ft.	
Structure height (max.)		35 ft.	35 ft. For Little Diamond Island: 27 ft.	35 ft.	35 ft.	
	Accessory detached	18 ft.	18 ft.	18 ft.	18 ft.	
	Lot coverage (max.)	20%	20%	20%	50%	

[1] PRUDs shall consist of detached dwellings.
[2] 60,000 SF if not served by public water.
[3] For PRUDs, minimum lot area shall be reduced up to 50% provided there is an equivalent corresponding increase in common or public open space that is usable for passive or active recreational opportunities or that serves as a buffer between buildings or between the development and the surrounding neighborhood.
[4] Except 1 dwelling unit per 40,000 SF of net land area for PRUDs in IR-1 and 20,000 SF of net land area in for PRUDs IR-2.
[5] For PRUDS, standard shall be reduced up to 50%. For accessory structures in the IR-1, IR-2, and I-B zones, side setbacks from principal structures shall be 5 feet.
[6] Except that the minimum lot size per dwelling unit shall be reduced by the amounts specified below, to a minimum lot size of 35,000 SF per dwelling unit, provided that the Planning Board finds that the development meets the following criteria: a. The minimum lot size per dwelling unit shall be reduced by 5,000 SF if a public off-island water source provides 75% of the water needs of the development. b. The minimum lot size per dwelling unit shall be reduced by 2,500 SF if the development provides appropriate permanent restrictions or other agreements precluding the use, maintenance and parking of all private motor vehicles exclusive of construction and common service vehicles.
[7] The maximum density for a PUD shall be based on the applicable minimum lot size for each use as measured in terms of net area. For purposes of calculating density, if separately described lots exceed the applicable minimum lot size, the excess area shall not be credited toward the minimum lot size for any other use.
[8] Except where the Planning Board finds that the development has an adequate street network to permit access for pedestrians and emergency service vehicles.
[9] When adjoining any external property boundary.
[10] All I-B standards apply for lots served by public water and sewer and lots not served by public water and sewer unless otherwise indicated.
[11] In the IR-3, the minimum lot area for buildings containing both residential and nonresidential uses shall be cumulative. Where there are two or more residential uses contained in a building, the minimum lot area shall be the larger of the applicable minimum lot sizes.

TABLE 7-E: MIXED-USE ZONE DIMENSIONAL STANDARDS

		B-1/B-1b	B-2/B-2b/B-2c	B-3/B-3b/B-3c	B-4	B-5/B-5b	B-6	B-7
Lot area (min.)	**School**	20,000 SF			10,000 SF			
	Place of assembly	10,000 SF						
Lot area per dwelling unit (min.)	**On-peninsula**	435 SF	435 SF					
	Off-peninsula	1,000 SF	1,000 SF, except 435 SF if active street frontage[3]					
Lot area per rooming unit (min.)	**On-peninsula**	150 SF	150 SF					
	Off-peninsula	350 SF	350 SF					
Street frontage (min.)		20 ft.	20 ft.	15 ft.	60 ft.			
Front setback (from all street frontages) (max.)		10 ft., or the average front yard depth of nearest developed lots if < 10 ft.	10 ft.	5 ft.	20 ft.	None, except 10 ft. in B-5b	10 ft.[7]	10 ft.
Rear setback (min.)	**Principal**	None, except 10 ft. if abutting a residential zone	10 ft.		20 ft.			
	Accessory	None, except 5 ft. if abutting a residential zone	5 ft.		7 ft.			
Side setback (min.)	**Principal**	None, except 5 ft. if abutting residential zone	None		10 ft.			
	Accessory		5 ft.		5 ft.			
Stepbacks (above 35 ft. when property line abuts a residential zone) (min.)		Side: 10 ft.	Side: 5 ft.					
		Rear: 15 ft.	Rear: 15 ft.					
Length of building wall at maximum setback (min.)							70% of street frontage or 25% of building perimeter[8]	75% of street frontage or 25% of building perimeter[9]
Length of undifferentiated blank wall along publicly accessible way (max.)				30 ft., except 15 ft. within PAD Overlay				
Floor area (max.)		Non-residential uses on first floor: 10,000 SF total[1]	Laboratory and research facilities, warehousing, 10,000 SF	None, except 15,000 SF for each floor above 125 ft.			Laboratory and research facilities and warehousing: 15,000 SF	
		Restaurants (public area): 2,000 SF					Exhibition and meeting halls: 20,000 SF	
		Clinics: 3,000 SF						

TABLE 7-E (CONT.): MIXED-USE ZONE DIMENSIONAL STANDARDS

	B-1/B-1b	B-2/B-2b/B-2c	B-3/B-3b/B-3c	B-4	B-5/B-5b	B-6	B-7
Structure height (max.)	On-Peninsula: 45 ft., except 50 ft. along Congress Street if commercial first floor and residential above[2] Off-Peninsula: 35 ft.	45 ft., except 50 ft. if first floor is in commercial use, 65 ft. in B-2 and B-2c on lots >5 ac. if required side and rear setbacks are increased by 1 foot for each foot of height over 45 ft., or as otherwise governed by the Bayside Height Overlay Map	See Downtown and Bayside Height Overlay Maps	65 ft.	65 ft., except in B-5b along W. Commercial St. south of Danforth St.[5] and 120 ft. on Thompson's Point[6]	65 ft. or as otherwise governed by the B-6 Building Height Overlay Map	See Bayside Height Overlay Map
Lot coverage (max.)			25% of lot area for portions of structures exceeding 125 ft. in height[4]				
Impervious surface ratio (max.)	90%	Residential: None Other uses in B-2 and B-2c: 80% Other uses in B-2b: 90%		80%			

[1] Uses in structures which existed prior to the date of enactment of the B-1/B-1b zones are exempt.
[2] The commercial first floor uses shall utilize at least 75 % of the first-floor frontage along Congress Street and shall have an average depth of at least 20 ft.
[3] A building will be determined to have an active street frontage upon meeting the following guidelines to the greatest extent practicable: the primary building façade shall be within 10 ft. feet of the front lot line; there shall be no parking on the lot within 35 ft. of the front lot line; no more than 25% of the first floor primary façade shall consist of access to garages, unutilized space, service entrances, storage or mechanicals and the remaining minimum 75% shall have an average depth of a minimum of 20 ft. for residential or commercial uses; and all primary ground floor entries to multi-family buildings must orient to street, not to interior blocks or parking lots.
[4] Except that no floor area shall be required to be less than 10,500 SF, gross.
[5] For parcels of land in the B-5b zone located along W. Commercial St. south of Danforth St.: West of the projection of the centerline of the Fletcher St. right-of-way, the maximum building height shall be 45 ft.; and, east of the projection of the centerline of the Fletcher St. right-of-way and west of the projection of the centerline of the Emery St. right-of-way, the maximum building height shall be 55 ft. A projection of the centerline of a street is defined by extending the centerline of the referenced street right-of-way along its most southerly block to the centerline of W. Commercial St. Furthermore, notwithstanding Subsection 7.5.1, no rooftop structure located between the projections of the centerlines of Emery St. and Fletcher St., as described above. shall exceed a height of 62 ft as measured from average grade of the building at its foundation.
[6] Applies only to parcels subject to an approved master development plan. Thompson's Point is defined as the contiguous parcels of upland occupying the peninsula bounded on the east by Route 295, on the north by the Mountain Division Rail right-of-way, and on the south and west by the Fore River and its associated wetlands. Nearby lands accessed from Hobart and Osgood Streets are not included.
[7] Does not apply to parking garages and public transportation facilities. Notwithstanding required setbacks, new structures located in the blocks located south of Fore Street and north of Commercial Street and its extension shall build to the key building envelopes shown on the B6 Building Height Overlay & Building Envelopes map. Buildings located in the area east of the Fore Street Connector shall not have a maximum front setback and shall not be required to build to the key building envelope perimeter. Parking structures and the buildings for public transportation facilities may, however, be set back beyond the key building envelopes (toward the interior of blocks), but may not occupy the land between the key building envelope and the street right-of-way.
[8] For buildings fronting on two or more streets, the minimum building wall on one street may be decreased so long as the frontage is proportionally increased on other streets in so far that the building wall on the secondary street is not reduced to less than 25 ft. Buildings in the area east of the Fore Street Connector shall not be subject to this requirement.
[9] Does not apply to additions to or relocations of designated historic structures or structures determined to be eligible by the Historic Preservation Board.

TABLE 7-F: OFFICE PARK & RESIDENCE PROFESSIONAL ZONE DIMENSIONAL STANDARDS

		O-P	R-P[1]
Lot area (min.)		1.5 ac.	6,000 SF
Street frontage (min.)		100 ft.	60 ft.
Lot width (min.)		150 ft.	60 ft.
Front setback (min.)		50 ft.	20 ft., or avg. depth of adjacent front yards[2]
Rear setback (min.)	**Principal**	50 ft	20 ft.
	Accessory		7 ft.
Side setback (min.)	**Principal**	25 ft., except 40 ft. where side yard abuts residential zone or use	1 story: 10 ft.
			2 stories: 12 ft.
			3+ stories: 14 ft.
	Accessory		7 ft.
	On side street		1-2 stories: 15 ft.
			3+ stories: 18 ft.
Structure height (max.)		55 ft., except 75 ft., including rooftop appurtenances, on lots within office park subdivisions which are > 50 ac. if each minimum setback is increased by 1 ft. for each 1 ft. of height above 55 ft.	45 ft.
Floor area (max)		High-tech manufacturing: 20,000 SF	
Impervious surface ratio (max.)		60%	70%
Pavement setback (min.)		15 ft.	

[1] Residential uses shall meet the dimensional requirements of the nearest residential zone.
[2] The front yard of a lot existing as of April 4, 1988, which lot is less than 100 ft. deep, need not be deeper than 10% of the depth of the lot.

TABLE 7-G: INDUSTRIAL & AIRPORT ZONE DIMENSIONAL STANDARDS

	I-L/I-Lb		I-M/I-Ma/I-Mb		I-H/I-Hb		A-B
Lot area (min.)							20,000 SF
Street frontage (min.)	60 ft.		60 ft.		60 ft.		50 ft.[2]
Lot width (min.)							50 ft.
Front setback (min.)	I-L	25 ft.	I-M/I-Ma	1 ft. for each ft. of building height	I-H	25 ft.	None, except 20 ft. if property has frontage on Westbrook St.
	I-Lb	None	I-Mb	None	I-Hb	None	
Rear setback (min.)	I-L	25 ft., except 40 ft. when abutting residential zone	I-M/I-Ma	1 ft. for each ft. of building height up to 25 ft., except 35 ft. when abutting residential zone	I-H	35 ft.	None., except 50 ft. if abutting residential zone or use[3]
	I-Lb	None, except 25 ft. when abutting residential zone	I-Mb	None, except 25 ft. when abutting residential zone	I-Hb		
Side setback (min.)	I-L	25 ft., except 40 ft. when abutting residential zone	I-M/I-Ma	1 ft. for each ft. of building height up to 25 ft., except 35 ft. when abutting residential zone	I-H	35 ft.	None, except 25 ft. if abutting residential zone or use[3]
	I-Lb	None, except 25 ft. when abutting residential zone	I-Mb	None, except 25 ft. when abutting residential zone	I-Hb		
Structure height (max.)	45 ft.		I-M/I-Mb	75 ft.	75 ft.		75 ft., except 45 ft. within 100 ft. of a residential zone
			I-Ma	45 ft.			
Impervious surface ratio (max.)	I-L	65%	I-M/I-Ma	75%	I-H	85%	70%[2]
	I-Lb	100%	I-Mb	100%	I-Hb	100%	
Pavement setback (min.)[1]	15 ft.		10 ft.		10 ft.		

[1] Shall not apply to entrance drives.
[2] Except for lots in airport restricted access areas, which shall not be subject to this provision.
[3] No structure may extend beyond the building line established for any runway or taxiway. If provided, rear and side yards must not be less than 5 ft. in width.

TABLE 7-H: RECREATION OPEN SPACE ZONE DIMENSIONAL STANDARDS

		R-OS[1]
Front setback (min.)		25 ft.
Rear setback (min.)		25 ft.
Side setback (min.)	**Principal**	12 ft.
	Accessory	
	On side street	
Structure height (max.)	**Principal**	35 ft., except 45 ft. if more than 1,000 ft. from a shoreland zone.
	Accessory	
Floor area ratio (max.)		.5
Impervious surface ratio (max.)		25%[2]

[1] Public open spaces less than 2 ac. and on the peninsula are not required to meet the R-OS dimensional standards.
[2] Except 75% for sports complexes and 100% for sewage treatment facilities.

7.4 SUPPLEMENTAL DIMENSIONAL STANDARDS

7.4.1 Corner clearance

No shrub, wall, fence, sign, or pile of material higher than 3 1/2 feet above the lowest elevation at the curbline shall be permitted on a corner lot within the area of a triangle formed by a line connecting the curblines of the intersecting streets at points 25 feet from the corner, unless said obstruction is reviewed by the Public Works Authority and found not to be a traffic or public safety hazard.

7.4.2 Fences

In residential zones, no wall or fence within 15 feet of the street shall be more than four feet in height, unless said fence is located in the side or rear yard.

7.4.3 Solar energy systems

A. Setbacks

1. Solar energy systems shall be located in side or rear yards wherever possible.
2. Minor solar energy systems shall be setback 50 feet from residential, R-P, B-1/B-1b, and B-2/B-2b/B-2c zones.
3. Major solar energy systems shall be setback 75 feet from residential, RP, B-1/B-1b, and B-2/B-2b/B-2c zones.

B. Height

1. *Ground-mounted solar energy systems.* Where the total height of the support structure plus the solar energy system is equal to or below the zone-based height maximum, the absolute height of the solar energy system shall be 20 feet above the ground as measured from the base of the support.
2. *Roof-mounted solar energy systems.* Where the total height of the support structure/building plus the solar energy system is equal to or below the zone-based height maximum, the absolute height of the solar energy system shall be:
   a. In all residential and R-P zones: 5 feet above the roof and set back from the edge of the roof by one foot for every one foot of solar energy system height.

b. In B-4 and industrial zones: No limit
c. In all other zones: 8 feet above the roof and set back from the edge of the roof by one foot for every one foot of solar energy system height.

7.4.4 Swimming pools

Outdoor swimming pools as accessory uses shall be subject to the following dimensional standards:

A. No swimming pool shall be sited in the front yard.

B. No part of any swimming pool shall be located closer than 10 feet from the principal structure, nor closer than 10 feet from side or rear lot lines.

7.4.5 Wind energy systems

A. Setbacks

1. Wind energy systems and associated facilities shall meet all setbacks for principal structures for the zone in which the system is located. Where setbacks vary, the largest setback shall apply. All parts of the wind energy system, including associated facilities and guy wires, shall be at least 10 feet from the property line (except where connecting to the grid), any utility line (in any direction), or other easement/right-of-way. The setback from utility lines, easements, and right-of-way lines may be reduced where the owner/benefitted party provides written permission.
2. Roof-mounted wind energy systems shall be set back from property boundaries and street right-of-way lines by a distance equal to or greater than four times the height of the system as measured from the roof surface at the point of attachment. For systems in and adjacent to waterfront zones, mixed-use zones (except B-1/B-1b and I-B), OP zone, industrial zones, the Island Transfer Station Overlay zone, and the R-OS zone, the setback from property boundaries and street right-of-way lines may be reduced to a minimum distance of 1.0 times the height of the system, where the system is incorporated into the architecture of the building and a certified engineer confirms that it would not present and public safety risk. The setback shall be measured to the center of the wind generator base.
3. Freestanding wind energy systems with a total height of less than 85 feet shall be set back from property boundaries and street right-of-way lines by a distance equal to or greater than 1.1 times the total height of the system, and from residential buildings and hospitals on other properties by a distance equal to or greater than twice the total height of the system. The setback distance shall be measured to the center of wind generator base.
4. Freestanding wind energy systems with a total height of greater than 85 feet shall be set back away from property boundaries and street right-of-way lines by a distance equal to or greater than twice the total height of the system, and from residential buildings and hospitals on other properties by a distance equal to or greater than four

times the total height of the system.

5. For freestanding wind energy systems in and adjacent to waterfront zones, mixed-use zones (except B-1/B-1b and I-B), the O-P zone, industrial zones, the Island Transfer Station Overlay Zone, and the R-OS zone, the setback from property boundaries and street right-of-way lines may be reduced to a minimum distance of 1.0 times the total height of the system where determined that the minimum required setback would be contrary to the public interest.
6. In residential zones, the B-1/B-1b zones, the I-B zone, and the R-P zone, where the lot is less than 0.5 acres, any vertical element of the wind energy system (tower/pole) shall be located in the rear yard or on the rear half of the existing building. Wind energy systems and associated facilities shall be sited to maximize existing vegetative or other screening from nearby residential buildings and public ways. The location shall minimize changes to existing topography and existing natural vegetation which would result from construction or maintenance of the system.

B. Height

1. Heights of wind energy systems, permitted as either freestanding or roof-mounted structures, shall be as shown in Table 7-I.
2. Roof-mounted wind energy systems shall measure no higher than 10 feet above the highest part of the roof.

TABLE 7-I: WIND ENERGY SYSTEM HEIGHT

Zone	Height (max.)
RPZ	10 ft.
Residential Zones[1], R-P, B-1/B-1b, and I-B	25 ft.
Historic Districts[2] and within 1,000 ft. of designated landmarks	45 ft.
EWPZ, WPDZ, WCZ, B-2/B-2b/B-2c, B-5, and B-6	65 ft.
B-3, B-4, B-7, and O-P	85 ft.
ROS, I-M, I-Mb, I-H, and A-B	160 ft.

[1] Permitted up to 65 ft within USM Overlay Zone or on other sites with institutional uses measuring over 5 acres.
[2] Permitted up to 85 ft in B-3 part of Downtown Historic District.

7.5 SPACE AND BULK EXCEPTIONS

7.5.1 Height

A. In the B-3/B-3b/B-3c zones. Minimum height provisions as depicted on the Downtown Height Overlay Map shall not apply to:

1. Accessory building components and structures such as truck loading docks covered parking, mechanical equipment enclosures and refrigeration units.
2. Information kiosks and ticketing booths.
3. Public transportation facilities of less than 10,000 square feet, or additions of less than 5000 square feet to existing public transportation facilities provided that the cumulative additions as of June 4, 2007 do not exceed 10,000 SF.
4. Additions to buildings existing as of June 4, 2007 provided that the cumulative additions since June 4, 2007 do not exceed 10% of the building footprint on June 4, 2007, except building additions on those portions of the lot located closer to the street line than the building footprint

existing as of June 4, 2007 shall not be included in this 10% limitation.

5. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations, telephone electronic equipment enclosures, and other similar structures.
6. Additions to and/or relocation of designated historic structures or structures determined by the Historic Preservation Board to be eligible for such designation.
7. Parking attendant booths or bank remote teller facilities.
8. Structures accessory to parks and plazas.
9. Buildings or building additions of less than 2,500 square feet footprint, on lots or available building sites of less than 3,000 square feet.

B. **In the B-6 zone.** Minimum height provisions as depicted on the B-6 Building Height Overlay and Building Envelopes map shall not apply to:

1. Buildings located in the area east of the Fore Street Connector.
2. Parking attendant booths.
3. Information kiosks and ticketing booths.
4. Parking garages.
5. Public transportation facilities.
6. Additions to buildings existing as of December 8, 2004 provided that the cumulative additions since December 8, 2004 do not exceed 25% of the building footprint on December 8, 2004, except that such restriction shall not apply to those portions of the building addition that are constructed closer to the street line than the building footprint existing as of December 8, 2004.
7. Buildings or building additions of less than 2,000 square feet footprint on lots or available building sites of less than 2,000 square feet.
8. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations, telephone electronic equipment enclosures and other similar structures.
9. Additions to and/or relocations of designated historic structures.

C. **In the B-7 zone.** Minimum floor provisions as depicted on the Bayside Height Overlay Map shall not apply to:

1. Accessory building components such as truck loading docks, mechanical equipment enclosures and refrigeration units.
2. Information kiosks and ticketing booths.
3. Parking garages.
4. Public transportation facilities.
5. Additions to buildings existing as of March 9, 2005 provided that the cumulative additions since March 9, 2005 do not exceed 50% of the ground floor building footprint on March 9, 2005, except that such restriction shall not apply to those portions of the building addition(s) that are constructed closer to the street line than the building footprint existing as of March 9, 2005.
6. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations,

telephone electronic equipment enclosures, and other similar structures.

7. Additions to and/or relocation of designated historic structures or structures determined by the Historic Preservation Board to be eligible for such designation.
8. Portions of buildings more than 50 feet from the street line.

D. In the Bayside Gateway Urban Height District A. Buildings in the Bayside Gateway Urban Height District A as depicted on the Bayside Height Overlay Map may be greater than 125 feet but no more than 165 feet in height provided that:

1. Such buildings shall be reviewed by the Planning Board as conditional uses under Section 6.5 of this Land Use Code.
2. Such buildings shall be sited to minimize encroachment into designated view corridors and visual landmarks to and from the downtown or that do not substantially further obstruct such corridors blocked by existing development as referenced in the Bayside Height Study Map and the B-7 design standards.
3. Portions of such buildings higher than 125 feet shall be stepped back at upper levels to provide light and air to adjacent streets, trails, and open spaces, with a ratio of no less than the ratio of building height to width of adjacent streets, trails and open spaces equivalent to 1.5 to 1. The Planning Board may modify this requirement for master development plans or major site plans provided that the following conditions are met:
   a. Each building exceeding 125 feet shall contain at least 20 dwelling units per building.
   b. Building wall stepback requirement along public street frontage for buildings with frontage on one street: Minimum 10-foot stepback between third and fifth stories and a minimum 10-foot stepback between the 125 and 145 foot level.
   c. Building wall stepback requirement along public street frontage for buildings with frontage on multiple streets: Above paragraph (b) requirement along longest building façade street wall, and of the remaining street walls the same requirement as paragraph (b) or a 15 foot wide streetscape improvement area containing a public sidewalk, landscaping, and other streetscape improvements within the abutting street right-of-way and/or private property along the remaining street frontage. A building with frontage on four streets shall meet the above requirement except that two of the streets shall have the stepback requirement.
   d. The Planning Board shall have the authority to waive one or more of the required stepbacks provided that one of the following conditions is met:
      i. The depth of the building lot precludes a building having an

average minimum lot depth dimension of 170 feet.

ii. The proposed building has an architecturally significant design that is articulated to avoid a monolithic appearance and emphasizes slender, vertically-oriented proportions while employing a variety of scales, materials, fenestration, and massing to assure a rich, visually interesting experience as viewed within the context of the downtown skyline and provide visual interest and human scale at the pedestrian level.

e. In the event such a waiver is granted, the Planning Board may require the applicant to mitigate the impacts of the waiver by requiring the following:

i. Along all public street frontages and public open spaces, all buildings (regardless of height) shall maintain a pedestrian scale through the use of building elements at the street level as listed in this standard along no less than 60% of the building's horizontal length.

ii. Along all public street frontages and public open space for the building(s) over 125 feet, a canopy, awning, or similar permanent architectural feature to provide pedestrian protection and wind mitigation shall be provided within the first 35 feet of height.

iii. In order to preserve view corridors and to maintain a varied skyline, all buildings above 125 feet within a single development site should be separated to avoid the appearance of a tall, solid block massing. In accordance with this policy, on development sites of 500 feet or greater as measured parallel to Marginal Way, the aggregate building façade widths above 85 feet shall not exceed 50% of the total development site distance parallel to Marginal Way. Buildings over 125 feet in height that are being reviewed as separate phases of a master development plan shall be entitled to meet the 50% building requirement in aggregate for all such buildings over 125 feet in height in the master development plan, provided that view corridors are retained as each phase is built.

iv. The applicant shall demonstrate building design elements and location will reasonably mitigate downdraft effects of the proposed building or buildings.

4. Such buildings provide publicly accessible and usable open space, meeting the B-7 design standards, of at least 10% of the building lot area.

5. If located on lots including or adjacent to planned or proposed street or pedestrian

way connections, land dedication to such street or connection shall be credited toward the 10% open space requirement. Buildings over 125 feet in height that are being reviewed as separate phases of a master development plan shall be entitled to meet the 10% percent open space requirement in aggregate for all such buildings over 125 feet in height, provided that the open space shall not fall below 10% percent at any built phase or combination of built phases.

6. Such development shall comply with all other requirements and design standards as required by this article.

E. Roof-mounted solar energy systems. Photovoltaic panels and thermal water heating panels, whether parallel or angled to a pitched or gable roof, may be erected above the height limitation for principal or accessory buildings as follows:

1. *In all residential zones.* Up to three feet above the maximum height allowed in the underlying zone. In the case of flat roofs, the solar energy system may be up to five feet above the maximum height allowed in the underlying zone. All roof-mounted solar energy systems shall be set back from the edge of the roof by one foot for every one foot of solar energy system height.
2. *In B-4 and industrial zones.* Up to four feet above the maximum height allowed in the underlying zone. In the case of flat roofs, there are no height limits.
3. *In all other zones.* Up to three feet above the maximum height allowed in the underlying zone. In the case of flat roofs, the solar energy system may be up to eight feet above the maximum height allowed in the underlying zone. All roof-mounted solar energy systems shall be set back from the edge of the roof by one foot for every one foot of solar energy system height.

F. Public art. Except in residential zones, public art that has been individually accepted by the City Council for inclusion within the public art collection pursuant to Article 21 shall not be subject to the height limitations within the underlying zone.

G. Rooftop appurtenances. Unless otherwise noted, rooftop appurtenances for the housing of elevators, stairways, tanks, fans, or other building operating equipment not intended for human occupancy, deck railings, skylights, steeples, flag poles, chimneys, smokestacks, radio or television masts, water tanks, or silos may be erected above the height limitations herein prescribed.

H. Telecommunication towers. Where permitted, ground-mounted telecommunication towers may be erected above the height limitations within the underlying zone.

7.5.2 Length of building wall at maximum setback

A. In the B-6 zone. Buildings located area east of the Fore Street Connector shall not be subject to the building wall requirement.

B. In the B-7 zone. Additions to and relocations of designated historic structures or structures

determined to be eligible under Article 17 shall be exempt from the building wall requirement.

7.5.3 Lot area

A. **Institutional uses in residential zones.** No minimum lot area shall be required for institutional uses in residential zones in the following cases:
   1. Uses existing as of June 1, 1983.
   2. Expansion on to land abutting the lot on which the principal use is located.
   3. Expansion onto land other than the lot on which the principal use is located to the extent that such expansion consists of the reuse of surface parking area or nonresidential structures existing and in nonresidential use as of June 1, 1983, provided that such reuse is contained within the lot of such structure or parking area as of June 1, 1983.
   4. Expansion onto land other than the lot on which the principal use is located of no more than 15% of the total contiguous land area of the existing use, or one acre, whichever is less, within any five-year period.

B. **Residential lots not served by public sewers.** A lot in an unsewered residential district shall meet the provisions of the state Minimum Lot Size Law, 12 M.R.S. § 4807 et seq., or the applicable minimum lot area, whichever is larger, except that the minimum lot size may be reduced on the islands in Casco Bay as provided in (C) below.

C. **In island zones.** In issuing any permit for new development in island zones:
   1. The Building or Planning Authority shall require that any lot located in the IR-1 zone shall be at least 40,000 square feet in area and in the IR-2, IR-3, and I-B zones be at least 20,000 square feet in area when the lot is to be serviced by a subsurface wastewater disposal system, except those lots which are located in a subdivision approved by the Planning Board after June 8, 1968 and excluding Peaks Island.
   2. Excluding Peaks Island from this paragraph (2), any property owner whose lot does not meet the minimum lot size requirements outlined in (1) above may, for purposes of this subsection only, merge two or more separate lots on the same island in order to meet these requirements. Where the lots so merged are not contiguous, the property owner shall grant to the city as holder a conservation easement upon the lot or lots which will not contain the principal structure. The conservation easement shall contain both an existing legal description and a city assessor's chart, block, and lot description. The Planning Authority shall be authorized to accept such conservation easements on behalf of the city. Said easement shall be recorded by the applicant in the registry of deeds. A copy of the recorded easement and copies of the deeds for both lots shall be submitted to the Planning Authority prior to issuance of a building permit. The property over which the conservation easement has been granted shall be used for passive recreational and conservation purposes

only, and shall be subject to the following restrictions:

a. No structure shall be permitted on this property.
b. No parking or storage of vehicles or machinery shall be permitted on this property at any time.
c. No area of this property shall be paved.
d. No exterior storage for commercial use shall be permitted on this property.
e. The easement deed shall reference the lot which is benefited by this conservation easement. No conservation easement shall be used to benefit more than one lot.

3. Conservation easements shall only be granted over lots which conform either to the provisions of Subsection 4.3.1 or to the minimum lot sizes set forth in Table 7-D. Conservation easements shall not be granted over any lot which is encumbered by any other easement which prohibits all construction on that lot. A conservation easement may also name as a holder or grant a third-party right of enforcement to a nonprofit corporation or charitable trust, the purposes or powers of which include retaining or protecting the natural, scenic, or open space values of real property; assuring the availability of real property for agricultural, forest, recreational, or open space use; protecting natural resources; or maintaining or enhancing air or water quality of real property. Nothing in this subsection shall be construed to allow an owner of a currently existing and developed lot to convey or permit a portion of that lot to be used to fulfill the requirements of this subsection if such conveyance would render the existing lot nonconforming under the terms of this Land Use Code. The lot upon which a building is to be constructed shall meet the minimum lot size requirements of Subsection 4.3.1.
4. Where an existing subsurface wastewater disposal system serving an existing structure requires replacement, the replacement system shall meet the applicable state requirements. The land area requirements in paragraph (1) above shall not apply to such a replacement system.
5. For purposes of this subsection, the mean high tide mark shall be considered to be the shoreline lot line.

7.5.4 Lot coverage

A. Lot surrounded by streets or alleys. Where a lot containing ten thousand 10,000 square feet or less is completely surrounded by streets or alleys, the lot coverage may be increased 20%.

7.5.5 Setbacks

A. Setbacks in residential and R-P zones. In any residential zone and the R-P zone, the width of one side setback may be reduced one foot for every foot that the other side setback is correspondingly increased, but no side setback

shall be less than the minimum required for a one-story building.

B. **Setbacks in the O-P zone.** The Planning Board may reduce by up to 50% the minimum setback if another yard within the lot is correspondingly increased so that the combined minimum yards on all four sides equal 150 feet. If two or more buildings are located on one lot, only the requirements of the front, rear or side setbacks that adjoin any external property boundary must be met, provided a sufficient fire line is provided.

C. **Projections in required setback areas.** Any setback may be occupied by a one-story entrance porch not enclosed, with or without a roof, if the area of the porch does not exceed 50 square feet nor the projection from the building exceed six feet. A basement bulkhead of similar size, but not more than 24 inches in height, is also permitted. A cornice eave, sill, canopy, chimney, bay window, balcony, or other similar architectural feature may project into any required setback a distance of not more than two feet.

D. **Pavement setbacks.** Pavement setbacks shall not apply to entrance drives.

E. **Corner lot setbacks.** In case a principal residential structure has its front yard upon the long side of a corner lot, the rear setback may be reduced to a depth not less than the required side setback on the lot, provided that the aggregate of the widths of both sides and depths of front and rear yards is not less than the similar aggregate of required dimensions of all setbacks if the front yard were faced on the short side of the lot.

F. **Maximum front setbacks**

1. Maximum front setbacks shall not apply to utility substations and secondary building components.
2. *In the B-1/B-1b zone.* Building additions are encouraged but not required to meet front setbacks.
3. *In the B-2/B-2b/B-2c zones*
   a. Building additions do not have to meet maximum front setback requirements.
   b. The Planning Board or Planning Authority may approve a different front setback for irregularly shaped lots or lots with frontage greater than 40 feet in width provided the front setback is met to the maximum extent practicable.
   c. If a lot has less than 40 feet of frontage and is more than 100 feet deep, then no maximum setback is required.
   d. If existing structures are within 20 feet of the street or meet the front setback maximum and the remainder of the lot has less than 40 feet of frontage, then no maximum setback is required.
   e. The Planning Board or Planning Authority may waive the maximum front setback for utility substations and alternative energy installations.
   f. Where setbacks exceed 10 feet, a continuous, attractive, and pedestrian-scaled edge treatment shall be constructed along the street, consisting of street trees spaced at no

more than 15 feet on center, approved by the City arborist, and a combination of landscaping no less than four feet deep, ornamental brick or stone walls, or ornamental fencing.

4. *In the B-3/B-3b/B-3c zones.* The Planning Board may require or approve an additional setback to comply with the design standards of Article 14 and the City of Portland *Design Manual.*
5. *In the B-6 zone.* For lots fronting on more than one street in the B-6 zone, the front setback can be increased more than 10 feet if all of the following conditions are met:
    a. The increased setback occurs at the intersection of the streets.
    b. The increased setback area is the primary pedestrian entrance to the building.
    c. 75% of the total building wall length facing the abutting streets shall be setback no greater than 10 feet. All building wall segments which make up the increased setback shall be included in the calculation of the total building wall length.
    d. For new construction on a lot abutting three or more streets, the maximum setback shall apply only to the two streets with the highest traffic volume.
6. *In the B-7 zone*
    a. Parking structures, public transportation facilities, utility substations, secondary building components such as truck loading docks, mechanical equipment enclosures, and refrigeration units are not subject to the maximum front setbacks.
    b. The maximum front setback may be increased to more than 10 feet if all of the following conditions are met:
        i. 75% of the total building wall length of an individual building facing the abutting streets is setback no greater than 10 feet.
        ii. The increased setback area shall include a functional and accessible public pedestrian entrance into the building that faces the street, unless a public pedestrian entrance already exists along the same street.
        iii. The increased setback shall not be used for surface parking.
    c. For a corner lot having frontage on two streets, the maximum setback shall apply to both streets. In the case of a lot having frontage on two or more street corners, newly constructed buildings shall be sited at street corners and meet the maximum setback requirement prior to other freestanding buildings being constructed on the lot which shall also meet the maximum street setback. In the case of a corner lot having frontage on a third street (but not a corner) the maximum setback need not apply to the third street.

d. In the case of a lot having frontage on two streets but not on a corner, the maximum setback shall apply to all streets but in the case of a lot having frontage on three streets but not on a corner, the maximum setback shall apply to only two streets. For purposes of this subsection only, the first building on a lot shall meet the maximum setback on at least one street with future buildings required to meet the maximum setback on the remaining street(s).

e. In the case of a lot in which a minimum 75% of the total lot frontage has a building within ten feet of the street, other buildings may be located on the lot more than 10 feet from the street. In the case of a lot having frontage on Marginal Way and I-295, the property edge along I-295 shall not be considered street frontage.

f. The maximum building setback shall not apply to vertical building expansions in the following cases:
   i. The upper floors of a building in which the lower floors meet the maximum setback and the minimum height requirement.
   ii. The building existed as of March 9, 2005 and meets the minimum height requirement.
   iii. A building not meeting the maximum street setback and the minimum height requirement may vertically expand a total of one floor from March 9, 2005.
   iv. In the case of a building in which at least 50% of the building wall(s) abutting street(s) is within 20 feet of the street.
   v. Additions to parking garages existing as of March 9, 2005.

g. Additions to buildings existing as of March 9, 2005 that are nonconforming as to the maximum setback need not conform to the maximum street setback provided the cumulative building footprint since March 9, 2005 does not exceed 50% of the existing building footprint. Such restriction shall not apply to those portions of the building addition that are constructed closer to the street line than the building footprint existing as of March 9, 2005 and to vertical expansions as provided for in (f) above.

h. Lots having frontage on streets in which the curve of the street frontage precludes a rectangular-shaped building along the street line, for purposes of calculating the setback, the average setback of the building from the street line may be used, but in no event shall the average setback along the length of the building edge exceed an average setback of 15 feet nor shall the maximum setback exceed 20 feet. The increased setback shall not be used for surface parking, vehicular loading or vehicular circulation.

i. Additions to and relocations of designated historic structures or structures determined to be eligible by the Historic Preservation Board shall be exempt from the maximum setback requirement.

G. Minimum setback exceptions for lots of record

1. In the case of a lot of record existing as of June 5, 1957 in the R-1, R-2, R-3, R-4, R-5, R-5a, and R-6 zones and less than 100 feet deep, the front setback need not be deeper than 20% of the depth of the lot.
2. In the case of a lot of record existing as of June 5, 1957 in a residential zone, the required side setback for principal structures may be reduced in order to provide a buildable width of up to 24 feet, but in no case shall the resulting side yards be less than the following:
   a. R-1, R-2: 12 ft.
   b. R-3, R-5: 8 ft.
   c. R-4, R-5a: 10 ft.

7.5.6 Stepbacks

A cornice eave, sill, canopy, chimney, bay window, balcony, or other similar architectural feature may project into any required stepback a distance of not more than two feet.

7.5.7 Street frontage

In the IR-1 and IR-2 zones, a lot of record that is buildable pursuant to Subsection 4.3.1 and lots created after July 15, 1985, which are not part of a subdivision need not provide street frontage if access is available by means of a permanent easement or right-of-way which existed as of July 15, 1985. Such easement or right-of-way shall have a minimum width of 16 feet and a minimum travel width of eight feet except that an easement or right-of-way providing access for three or more lots or providing the only means of access to a parcel or parcels of three acres or more, shall meet the construction requirements of Chapter 25, Article III of the City of Portland Code of Ordinances. In the IR-1 zone, such easement or right-of-way shall conform to the requirements contained within the City of Portland *Technical Manual*. In the IR-2 zone, such easement or right-of-way shall be a minimum of 32 feet wide. Such easement or right-of-way shall be sufficient to permit municipal service delivery.

8 OVERLAY ZONES

8.1 COMPACT URBAN RESIDENTIAL OVERLAY (R-7)

8.1.1 Purpose

The purpose of the R-7 Compact Urban Residential Overlay Zone is to encourage and accommodate compact residential development on appropriate locations on the Portland peninsula, pursuant to the *New Vision for Bayside* and housing plans of the City of Portland. Suitable sites should be within walking distance of downtown or other work places, shopping and community facilities, and have access to public or private off-site parking or transit service. The intent of this zone is to foster increased opportunities for compact living for owners and renters representing a variety of income levels and household types.

Locations for siting the R-7 zone are intended to be located on the peninsula of Portland, in the area encompassed in the *New Vision for Bayside* plan, other peninsula R-6 locations characterized by moderate- to high- density multi-family housing in a form and density exceeding that allowed in the R-6 zone and where infill development opportunities exist, and areas on the peninsula with mixed business and residential zoning and uses which can accommodate higher density infill residential development without negatively impacting the existing neighborhood or adjacent properties. It may be appropriate in some cases to apply the R-7 Overlay Zone through conditional or contract zoning to ensure that the new development is architecturally appropriate and compatible with the surrounding neighborhood.

TABLE 8-A: R-7 DIMENSIONAL STANDARDS

Lot area (min.)		None
Street frontage (min.)		None
Setbacks (min.)	**Front**	None
	Rear and side	5 ft.
	Side yard on side street	None
Lot coverage (max.)		100%
Lot area per dwelling unit (min.)		435 SF
Structure height (max.)		50 ft.
Dwelling unit size (min.)		400 SF

8.1.2 Permitted Uses

Permitted uses in the R-7 Compact Urban Residential Overlay Zone shall be the uses permitted in the R-6 zone.

8.1.3 Dimensional standards

Residential uses shall comply with the dimensional requirements in Table 8-A. All other uses in the R-7 zone shall observe the dimensional requirements of the R-6 zone.

8.1.4 Design standards

Residential development shall be reviewed by the Planning Board under Article 14. Such development shall also comply with the following development standards. The general intent of these development standards is to achieve an attractive and comfortable city neighborhood environment. Varied and human-scaled building facades are key to making a place "pedestrian-oriented." Building designs should provide a high level of visual interest, without creating a chaotic image. Residences should include design elements that enhance the streetscape and address the street.

A. Porches and bays should face the street.
B. Primary ground floor residential entries to multi-family buildings must orient to street, not to interior blocks or parking lots. Secondary and upper-floor entries from the interior of a block are acceptable. The front door to single-family homes, duplexes, and townhouses must be visible from the street.
C. The design approach shall provide an architecture that will be a visible and permanent expression of the character of the neighborhood.
D. The facade shall be varied and articulated to provide visual interest to pedestrians.
E. The design shall reinforce the public realm of the public open space, sidewalks, and streets through appropriately scaled entries, porches, fenestration, landscaping, and architectural details.
F. The design shall provide visual and acoustical privacy between units.
G. The design shall maximize natural light and ventilation within units.

8.2 DOWNTOWN ENTERTAINMENT OVERLAY

8.2.1 Purpose

The purpose of the Downtown Entertainment Overlay Zone is to regulate the location of businesses with entertainment licenses in order to maintain and improve public safety and the quality of life of Portland residents by preventing an over-concentration of businesses with entertainment licenses, particularly those which also have liquor licenses, and the public safety problems that have and will be experienced when too many of these businesses are located too close to each other. These problems include large late-night crowds within which fights and assaults, disorderly conduct and other breaches of the peace occur and that are difficult to effectively police and that expose not only innocent bystanders but also police officers to danger and personal injury.

8.2.2 Applicability

For the purposes of this section, the Downtown Entertainment Overlay Zone includes and is defined by the boundaries of the following zones as shown on the Downtown Entertainment Overlay Zone map: the B-3, B-3c, and WCZ zones. Any property that lies partly within the Downtown Entertainment Overlay Zone shall be subject to the regulations of the overlay.

8.2.3 Dispersal requirement

A business with an entertainment license as required or authorized by Chapter 4, Section 4-51(a) of the City of Portland Code of Ordinances within the Downtown Entertainment Overlay Zone may not be located within 100 feet of another business with an entertainment license, as measured along or across public ways from the main entrance or entrances of each.

8.2.4 Exemption

A. A business with an entertainment license located in the Downtown Entertainment Overlay Zone on or before January 3, 2006 shall not have to comply with the requirements of this section and if located within 100 feet of another licensee shall be considered a nonconforming use controlled by Article 4. Such a business is considered an entertainment business for the purpose of calculating dispersion requirements under Subsection 8.2.3 for a new or relocating entertainment business in the Downtown Entertainment Overlay Zone.

B. A business with an entertainment license that does not allow amplified entertainment shall not have to comply with the dispersal requirement of Subsection 8.2.3.

8.2.5 Separate business entities

Where two or more entertainment businesses operate on one site, and where each business entity requires or has a separate business license, or displays in a manner visible from public property separate business trademarks, logos, service marks, or other mutually identifying names or symbols, each business entity shall be counted as a separate entertainment business for the purpose of this section.

8.2.6 Conditions

Following a hearing held pursuant to Chapter 15, Section 15-10 of the City of Portland Code of Ordinances, the City Clerk may impose conditions to maintain or improve public safety on the food service license of any business in the Downtown Entertainment Overlay Zone that operates between 1:00 a.m. and 4:00 a.m., following a written recommendation from the Portland Police Department that such conditions are necessary. The City Clerk's decision may be appealed to the City Manager pursuant to Chapter 15, Section 15-9 of the City of Portland Code of Ordinances. Nothing in this section shall be construed to limit the City Clerk's authority in Chapter 15 to deny, suspend, or revoke any license pursuant to the standards and process in that chapter.

8.3 FORT SUMNER PARK HEIGHT OVERLAY

8.3.1 Applicability

The Fort Sumner Park Height Overlay is established to protect the public interest by limiting the impact of development on the quintessential views of natural resources and the changing Portland skyline from Fort Sumner Park. There is established a key apex point in Fort Sumner Park at 43° 40' 2.3359" N. 70° 15' 4.3687" W. The Fort Sumner Park Height Overlay includes all land within 200 feet, or the R-6 zone boundary, whichever is closer, of this key apex point that is located closer to the middle line of Sheridan Street than said apex point.

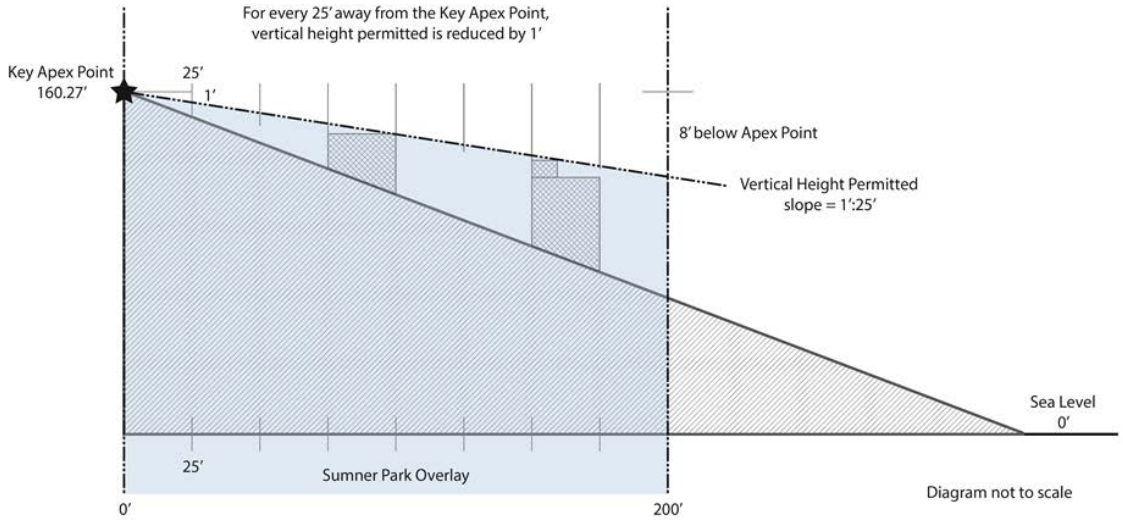


FIGURE 8-A: FORT SUMNER PARK OVERLAY PERMISSIBLE HEIGHT

8.3.2 Standards

Notwithstanding any other section of this Land Use Code, development in the Fort Sumner Park Height Overlay shall be subject to the following additional provisions:

A. The top of structures, including rooftop appurtenances, within the overlay shall not exceed the baseline vertical height of the apex point (160.27' City of Portland Datum (Mean Tide)). For each 25' radially away from the apex point, the vertical height permitted in the overlay is reduced by 1 foot. (See Figure 8-A.)

B. The minimum building setback from the park property shall be 15 feet.

8.3.3 Review process

Any project within the Fort Sumner Park Overlay shall go before the Parks Commission for a recommendation to the Planning Board regarding potential impacts on Fort Sumner Park.

8.4 HELISTOP OVERLAY

8.4.1 Purpose

The intent of the Helistop Overlay is to allow for helicopter landing areas on individual sites in addition to those uses permitted in the underlying zone. The purpose of this zone is to protect the public health and safety by allowing helicopters serving medical needs to land in certain areas, while protecting surrounding areas from any negative effects associated with such a use.

8.4.2 Helistop standards

A. High volume helistops (more than five landings per month)

1. All take-off, landing, and parking areas shall be surfaced with grass or with a dust-proof material.
2. Each landing pad shall be set back at least 200 feet from any residence, school or church. Each landing pad shall be set back at least 50 feet from any commercial or industrial structure. All setbacks shall be measured from the edge of the landing pad.
3. The area in which a landing pad is located shall be enclosed by a fence or other barrier of not less than three feet in height or shall be secured by a locked gate, as approved by the Fire Department.
4. All high-volume helistops shall be subject to review under Article 14.

B. Low-volume helistops (five or fewer landings per month)

1. All low volume helistops shall be subject to approval by the Building Authority and the Fire Department.

8.5 INSTITUTIONAL OVERLAY (IOZ)

8.5.1 Purpose

The Institutional Overlay Zone (IOZ) designation provides a regulatory mechanism available to the city's four major medical and higher education campuses where an improved regulatory structure is needed to facilitate a consistent, predictable, and clear growth management process. The purposes of the Institutional Overlay Zone are to:

A. Acknowledge that the city's major academic and medical institutions play a prominent role in the health and well-being of the local and regional community, and in order to sustain that role, these institutions need flexibility to change and grow.

B. Encourage proactive planning for institutional change and growth which identifies and addresses likely long-term institutional needs



and cumulative impacts while leveraging potential benefits at the neighborhood, city, and regional level.

C. Ensure that institutional change and growth both complements and, as appropriate, integrates adjacent or surrounding neighborhoods through carefully planned transitions.

D. Support the formation and continuation of mutually beneficial public-private cooperation.

E. Support an ongoing public engagement process that benefits both the institutions and nearby neighborhoods.

F. Reflect Comprehensive Plan and other policy objectives.

G. Provide a consistent regulatory approach to all major institutions which allows unique regulatory requirements that balance the particular needs of institutions with the needs of the surrounding neighborhood and wider community.

8.5.2 Location and applicability

The city's four primary medical and higher education institutions are eligible to apply for designation as Institutional Overlay Zones. The eligible institutions are the two major hospital institutions of Maine Medical Center and Mercy Hospital and the two major academic institutions of University of Southern Maine and University of New England, their successors and assigns. Designation as an IOZ is the preferred mechanism where the eligible institution's proposed development is inconsistent with the existing zoning.

8.5.3 Establishment

A. **Application for an Institutional Overlay Zone.** Where the eligible institution seeks designation as an IOZ, they shall submit a zone change application consisting of two components:

1. An Institutional Development Plan (IDP) in accordance with Subsection 8.5.4.
2. A regulatory framework in accordance with Subsection 8.5.5 that would, when and if adopted, be the text and map amendment to the City's Land Use Code and zoning map.

B. **Required public involvement**. At least two neighborhood meetings shall be required. The first shall be held prior to the formal submission of a zone change application for an Institutional Overlay Zone and the second shall be held during the City's review. Meetings shall identify the concerns, if any, of affected residents and property owners, and inform the development of the Institutional Development Plan (IDP) and regulatory framework. Meetings shall be held in a convenient location proximate to the institution. The applicant shall provide written notification to property owners of record within 500 feet of the proposed IOZ boundary at least ten days prior to the meeting dates and maintain written records of the meetings.

C. **Required scoping meeting.** The eligible institution shall meet with the Planning Authority after the first required neighborhood meeting and prior to submission of the zone change application to confirm the focus of the Institutional Development Plan (IDP) and regulatory framework, including associated study areas that may be outside of the proposed IOZ boundary. The IDP and regulatory framework will vary in detail and focus depending on the eligible institution and its particular context. The content

requirements in Subsections 8.5.4 and 8.5.5 and the comments from neighborhood meeting(s) shall provide direction for the content of the IDP. The Planning Authority or Planning Board may require additional information or modify content requirements as is relevant to the eligible institution.

D. **Reviewing authority.** The Planning Board shall review the zone change application, including the IDP and regulatory framework. At least one public workshop and a public hearing before the Planning Board are required. Upon recommendation of the Planning Board, the City Council shall review and consider adoption of the Institutional Overlay Zone and the accompanying regulatory framework as an amendment to the City's Code of Ordinances.

E. **Future institutional development.** All new development by the eligible institution within the boundary of the IOZ shall be compliant with the IOZ and accompanying regulatory framework, consistent with the IDP, consistent with the Comprehensive Plan, and meet applicable site plan standards, unless such standards are superseded by the regulatory framework. Any use/development proposed by the eligible institution outside the IOZ boundary that complies with the zoning for permitted uses in that location shall be reviewed under the standards of that zone. Any use/development proposed by an eligible institution outside of the IOZ boundary that is proposed in a residential zone and is functionally related to the operations within the IOZ shall be addressed by the IDP and require an amendment to the IDP.

8.5.4 Institutional Development Plan (IDP)

A. **Purpose.** Any use conducted by an eligible institution and any construction by an eligible institution in an Institutional Overlay Zone shall be consistent with an Institutional Development Plan (IDP) approved by the Planning Board in accordance with this ordinance. The purpose of the IDP is to establish baseline data about institutional land uses, facilities, and services and measure, analyze, and address the anticipated or potential impacts of planned institutional growth and change. The IDP shall serve as a background document that supports the proposed regulatory framework and frames subsequent site plan review(s).

B. **Planning horizon.** An IDP shall provide the City and abutting neighborhoods with a clear outline of the anticipated or potential growth and change of the eligible institution for the short- to medium-term (e.g. 1-5 and 5-10 years respectively), as well as a conceptual growth plan for the long-term (e.g. 10 years or more). however, the specific planning horizons for each institution will be determined as part of the IDP approval process.

C. **Content.** The IDP submission shall address the following elements unless specifically modified by the Planning Authority or Planning Board, with the scope and level of detail to be clarified at the required scoping meeting:

1. Context information, including:
    a. The institution's adopted mission, vision, or purpose statement.
    b. A summary of relevant baseline data on the institution, including:
        i. A neighborhood context plan.

ii. An inventory of current programs and services.
iii. A current census of the number of people using the institution (e.g., employees, enrollment, patients), with an indication of maximums and minimums over time.
iv. An inventory and/or plan of all existing property holdings within the main campus and within the City of Portland, including an indication of functional land use links between off-campus properties and the main campus (e.g. remote parking).
v. An inventory and/or plan of existing facilities, including data on use, floor area, and any existing functional connections between facilities.

c. A summary of the baseline characteristics of the existing campus and context of the institution, based on identified study areas, including:
i. A summary of existing resources, such as historic, open space, and natural resources.
ii. A summary of the existing transportation system, including vehicular, pedestrian, transit, bicycle, and parking supply, demand, and utilization.
iii. A summary of existing public infrastructure supporting the institution, including demand, utilization and any capacity issues.
iv. Relevant municipal plans, projects, and studies that may influence the IDP study area and opportunities for integrating institutional growth.

d. A summary of public involvement in the development of the IDP, including major areas of public concern.

2. Assessment of future institutional growth and change, including:
a. A description of institutional needs and areas of future institutional growth and change, with:
i. A projected census of users (e.g., enrollment /employment/patient/ visitor figures and anticipated variations over time).
ii. Institutional objectives for property both within and outside the IOZ boundary (e.g. acquisition and/or disposition), including an indication of any functional land use connection for sites outside the IOZ boundary to the main campus.
iii. A development plan addressing anticipated or potential institutional needs and physical improvements, including the proposed boundary of the IOZ and any phasing of the development.

b. Analysis and associated plans that address the following elements in terms of anticipated growth or potential impacts within the identified study area, and support the

development parameters as set out in the regulatory framework, including:

i. Transportation and access, with:
   a) An analysis of the projected changes in parking demand, supply, and impacts to the off-street and on-street parking capacity, including an explanation of the proposed parking plan.
   b) An analysis of the projected changes in vehicular, pedestrian, transit, and bicycle access routes and facilities, their capacity, and safety.
   c) A transportation, access, and circulation plan, representing the synthesis of the analysis, and including a program of potential improvements or set of guidelines to address access deficiencies to and within the IOZ. The plan should outline proposed mechanisms and potential strategies to meet transportation objectives, including transportation demand management, phasing, and when a Traffic Movement Permit (TMP) may be required.

ii. Environment, with:
   a) An analysis of potential cumulative impacts on natural resources and open spaces.
   b) An analysis of projected energy consumption, hazardous materials generation, noise generation, and similar issues as relevant.
   c) An environmental plan, representing the synthesis of the analysis and including a proposed program or set of guidelines for future preservation, enhancement, conservation, and/or mitigation.

iii. Infrastructure, with:
   a) An analysis of projected public utility demand and the capacity of associated infrastructure.
   b) An analysis of projected public safety needs and projected impacts to the capacity of these services.
   c) An infrastructure plan, representing the synthesis of the analysis and including a proposed program or set of guidelines to support sustainable growth.

iv. Design, with:
   a) An analysis of projected impacts to neighboring properties and public spaces, including potential shadow, wind, and lighting impacts, impacts of height

and massing, and impacts to historic resources.

b) An analysis of transition areas between the institution and adjoining neighborhoods, including identification of key character defining components of the surrounding context.

c) An analysis of existing Crime Prevention Through Environmental Design issues and identification of how these principles would be addressed as part of the proposed campus development.

d) A conceptual built environment/public realm plan, representing the synthesis of the analysis and including a set of guidelines for urban design, landscape, open space, and streetscape treatments, with particular attention to the treatment of edges (both within and abutting the IOZ boundary) to achieve compatible transitions.

v. Neighborhood engagement, with:

a) A plan for ongoing community engagement that represents best practices, promotes collaborative problem solving around community concerns, fosters transparency, and identifies mechanisms for neighborhood feedback and institutional accountability.

b) A property management framework that identifies the institution's process for handling operational property issues with neighbors.

c) Strategies for assuring communication pertaining to property acquisition and disposition in surrounding neighborhoods.

d) A set of construction management principles to apply to all institutional construction, that represent best practice, aim to minimize short- and long-term construction impacts on surrounding residents and businesses, and ensure a clear communication strategy is in place in advance of construction.

D. Standards of review. The IDP shall:

1. Address all content requirements, unless explicitly modified by the Planning Authority or Planning Board.
2. Reflect the issues/topics identified in the required public process.

3. Demonstrate consistency with the City's Comprehensive Plan and the purpose of this ordinance.
4. Demonstrate how the property ownership, proposed growth, and requested regulatory framework relate to the institution's mission.
5. Demonstrate that traffic and parking impacts have been anticipated and that the proposed parking provision is justified as based on an assessment of options for reducing traffic and parking demands.
6. Outline an approach to open space, natural, and historic resources that supports preservation and enhancement.
7. Demonstrate that potential cumulative environmental impacts have been anticipated and can be minimized or satisfactorily mitigated.
8. Demonstrate that utility impacts have been anticipated and can be minimized or satisfactorily mitigated.
9. Reflect a comprehensive design approach that ensures appropriate transitions with the existing or future scale and character of the neighboring urban fabric.
10. Promote compatibility with existing or future uses in adjacent neighborhoods, maintain housing, and support local amenities.
11. Anticipate future off-site improvements that would support the integration of the institution into the community and city-wide infrastructure.
12. Conform with the standards of Article 17 for designated landmarks or for properties within designated historic districts or designated historic landscapes, if applicable. When proposed adjacent to or within 100 feet of designated landmarks, historic districts, or historic landscapes, the IDP shall be generally compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity.
13. Incorporate strategies to support clear communication and ongoing public engagement between institutions and nearby neighbors.

E. Approval. Upon finding that an eligible institution's IDP meets the standards of review, the Planning Board shall approve, approve with conditions, or deny an IDP.

F. Monitoring. The IDP shall establish a schedule for reporting on IDP implementation at regular intervals of not more than ten years from the date of approval of the initial or amended IDP, and identify thresholds for IDP amendments.

G. Amendments. An approved IDP shall guide campus development unless and until amended. If at any time the eligible institutions request minor amendments to an approved IDP, the Planning Authority may approve such minor amendments, provided that they do not constitute a substantial alteration of the IDP and do not affect any condition or requirement of the Planning Board. The applicant shall apply with a written statement of the proposed amendment and proposed amended IDP to the Planning Authority, whose decision as to whether the amendment is minor shall be final. Major amendments shall be reviewed by the Planning Board. When the IDP is amended, the baseline data in the IDP shall be updated as appropriate.

8.5.5 Regulatory framework

A. **Purpose.** The regulatory framework translates the IDP into a set of clear and specific zoning requirements for the IOZ that constitute the text and map amendments to the City's Land Use Code and zoning map. The zoning requirements are anticipated to include parameters that guide the growth and change of the institution as well as broad strategies to address potential impacts, with plans and details to be developed under site plan review.

B. **Applicability.** The regulatory framework shall apply only to properties that are within the IOZ boundary and to which the eligible institution holds right, title, or interest. For these properties, the Institutional Overlay Zone shall supersede the underlying zoning, and all new institutional development shall be conducted in compliance with the regulatory framework and the approved Institutional Development Plan. Properties located within the Institutional Overlay Zone not subject to right, title, or interest of the eligible institution shall continue to be governed by the regulations of the underlying zoning designation.

C. **Uses.** Institutional uses, including hospitals and higher education facilities, shall be permitted, as shall uses that are functionally integrated with, ancillary to, and/or substantively related to supporting the primary institutional use, consistent with the applicable approved IDP.

D. **Content.** The regulatory framework shall reflect the information and analysis of the IDP. The content shall be tailored to address the particular issues associated with the institution and its neighborhoods. The regulatory framework should be succinct and use tables and graphics as possible to address the following, if applicable:

1. *Zoning boundary of the IOZ.* The area to which the regulations apply, as shown on the zoning map, subject to other provisions of this ordinance (i.e. the map amendment to the City's zoning map).
2. *Phasing and schedules.* Requirements that relate to particular proposed phases; a chart showing the schedule or thresholds for submitting an amended IDP (or elements of an IDP, such as a Transportation Demand Management (TDM) Plan).
3. *Uses.* Clarification, as necessary, on permitted uses.
4. *Dimensional requirements.* Graphics, sketches, or standards, including details for transition zones within the IOZ boundary.
5. *Transportation.* Elements such as Transportation Demand Management Plan (TDM) trip reduction targets or contribution to area-wide TDM measures; broad parameters for ensuring pedestrian, vehicular, bicycle and transit access and safety; parking ratios and management strategies; thresholds for access improvements.
6. *Environment.* The approach to the inclusion of open space and preservation of environmentally-sensitive areas.
7. *Mitigation measures.* The broad approach to identified mitigation measures, which would be addressed in greater detail in the site plan review process; thresholds for addressing deficiencies; goals for preservation/protection.

8. *Design.* Graphics and standards to clarify building placement and envelope (height and massing); guidelines for integration of site features; required treatments for transition zones and treatment for all edges (both within and abutting the IOZ boundary); guidelines for establishing campus identity.
9. *Neighborhood integration.* Thresholds and strategies for neighborhood engagement; mitigation of impacts on neighboring properties, including construction impacts; buffering requirements; objectives for pedestrian linkages and safety; other requirements that address community concerns.
10. *Monitoring.* A schedule for regular monitoring reports on IDP implementation in accordance with the IDP.

E. Standards of review: The regulatory framework shall:

1. Be consistent with the Comprehensive Plan and the Institutional Development Plan.
2. Provide a clear zoning framework, using graphics and tables as appropriate, to apply to future site plan reviews.
3. Provide specific regulatory statements as appropriate that respond to concerns raised during the required public involvement.
4. Outline measurable goals and thresholds for improvements or other actions identified in the IDP to be advanced in subsequent site plan applications.

F. Approval/adoption. The Planning Board shall review the proposed regulatory framework against the standards of review and make a recommendation on the institution's IOZ designation and regulatory framework to the City Council for adoption as part of this Land Use Code.

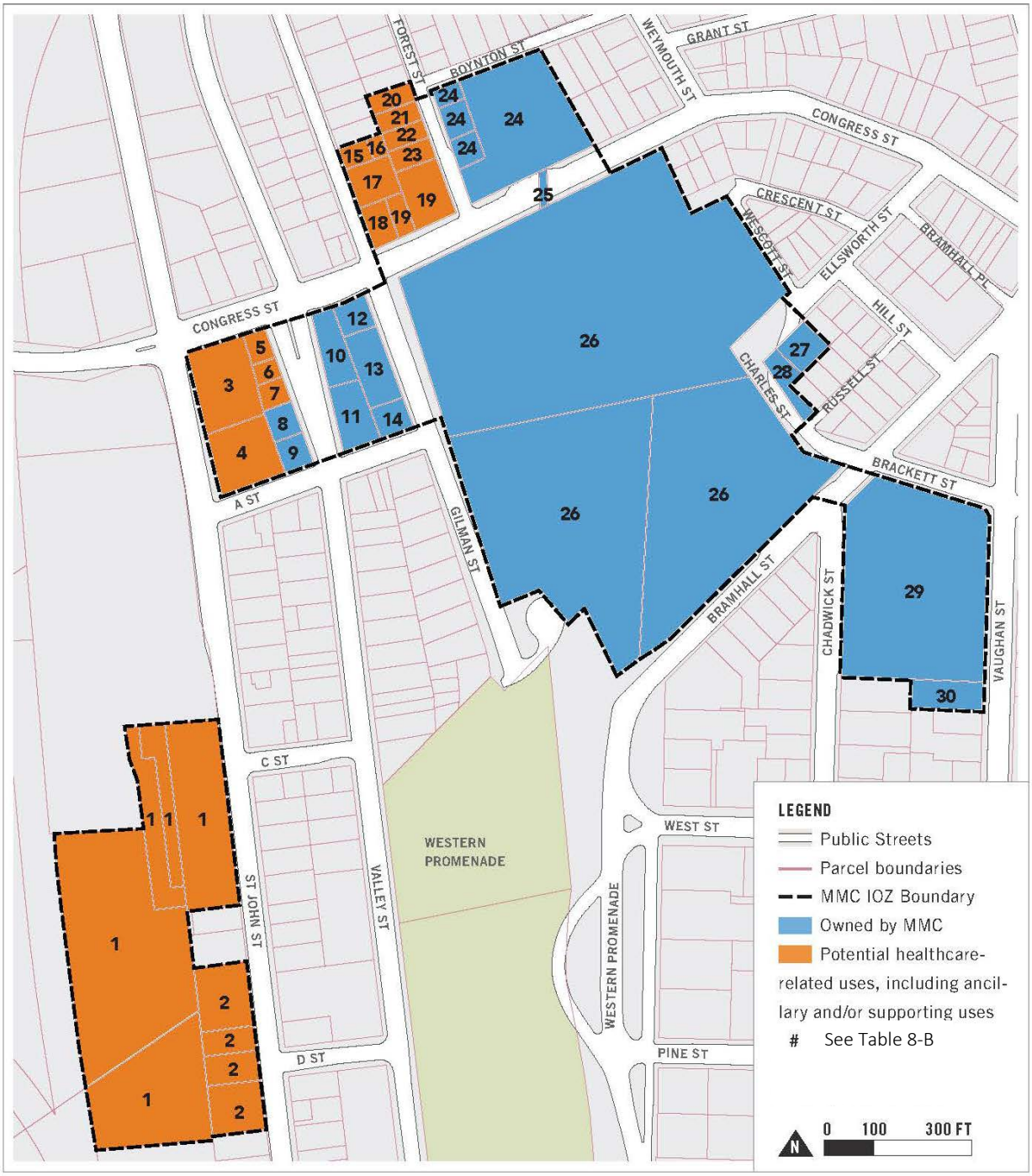
G. Amendments. A regulatory framework and IOZ boundary as adopted by the City Council shall remain in force unless and until amended. Amendments to a regulatory framework and/or IOZ boundary may be brought forth by the City or eligible institution. Proposed amendments to the IOZ boundary or regulatory framework shall be reviewed by the Planning Board and adopted by the City Council subject to the provisions of this ordinance.

8.5.6 Maine Medical Center Institutional Overlay Zone Regulatory Framework

A. Applicability. All development proposed by Maine Medical Center (MMC) within the boundary of the MMC Institutional Overlay Zone (IOZ) shall be consistent with the approved Institutional Development Plan (IDP), consistent with the Comprehensive Plan, and meet applicable standards of the Land Use Code, unless such standards are superseded by the following regulatory framework. This regulatory framework shall govern future development by MMC within the IOZ unless amended by the Portland City Council upon formal application of MMC. The MMC Institutional Overlay Zone shall have the boundaries depicted in Figure 8-B, below, and shall include the properties listed in Table 8-B.

B. Updates and amendments

1. It is intended that the IDP will be updated on a regular basis to ensure that the data is current and that the document remains accurate. Accordingly, monitoring reports



Note: Refer to Table 8-C for a list of permitted uses.

FIGURE 8-B: MMC IOZ BOUNDARY

TABLE 8-B: LIST OF PROPERTIES INCLUDED IN THE MMC IOZ

Map#	Legal Description	Address	Acreage	Ownership
1	64-A-2-8-9-11/74-A-7/75-A-6	222 St John St.	4.6516	Owned by others
2	68-D-1-3-13-14-16	180 St John St.	0.9494	Owned by others
3	65-G-1	950 Congress St.	0.4628	Owned by others
4	64-B-1	275 St John St.	0.4163	Owned by others
5	65-G-2	942 Congress St.	0.0659	Owned by others
6	65-G-3	940 Congress St.	0.0482	Owned by others
7	65-G-4	274 Valley St.	0.0667	Owned by others
8	65-G-5	268-270 Valley St.	0.0978	MMC
9	64-B-2	262-266 Valley St.	0.0895	MMC
10	65-H-1	932 Congress St.	0.1864	MMC
11	65-H-9	261 Valley St.	0.2185	MMC
12	65-H-2	930 Congress St.	0.1040	MMC
13	65-H-5	52 Gilman St.	0.2384	MMC
14	65-H-8	44 Gilman St.	0.1128	MMC
15	65-E-22	85 Gilman St.	0.0565	Owned by others
16	65-E-32	85 Gilman St.	0.0282	Owned by others
17	65-E-24	81 Gilman St.	0.1653	Owned by others
18	65-E-28	919 Congress St.	0.1059	Owned by others
19	65-E-29-30	909 Congress St.	0.3233	Owned by others
20	65-E-19	22 Forest St.	0.0826	Owned by others
21	65-E-21	18 Forest St.	0.0831	Owned by others
22	65-E-23	14 Forest St.	0.0826	Owned by others
23	65-E-25	12 Forest St.	0.0883	Owned by others
24	53-I-1-2-3-12	887 Congress St.	1.3400	MMC
25	53-X-1	Congress St. Pedestrian Walkway	---	MMC
26	53-D-7/54-H-1/64-C-1	22 Bramhall St.	12.563	MMC
27	54-C-6	34 Ellsworth St.	0.1341	MMC
28	54-C-10	40 Ellsworth St.	0.1155	MMC
29	54-I-1	308 Brackett St.	2.5200	MMC
30	63-B-8	214 Vaughan St.	0.1983	MMC

Notes:

Properties owned by MMC are listed under MMC or MMC Realty Corp.

MMC will not extend its functionally-related Bramhall campus hospital operations beyond the boundary of the IOZ within the City of Portland without further amendment to the IDP. This includes any expansion of functionally-related operations that displace residential uses outside of the IOZ boundary. A functional relationship is defined as uses or activities that are traditionally or customarily linked to the day-to-day operations of the MMC Bramhall Campus that would relocate a significant proportion of the total employee population or activities.

will be filed every three years and shall include a summary of progress on IDP implementation and of acquisitions and divestment since the date of IDP approval. At the time of the submission of the monitoring report, MMC shall identify any updates to the IDP which may result from updated master planning, changes in baseline information, or changes in the adjacent neighborhoods which affect MMC, to allow the IDP to remain current. Updates and minor amendments not described below shall be reviewed administratively by the Planning Authority.

2. Minor amendments that impact phasing of the long-term development blocks or change the approach to parking, transportation, neighborhood engagement or design shall be reviewed by the Planning Board for consistency with the objectives of the IDP. In addition to consistency with the objectives of the IDP, review of phasing and development program amendments shall focus on integration with the campus and impacts on transportation or infrastructure. This review may occur simultaneously with the site plan review of an anticipated project.
3. Major amendments shall be reviewed by the Planning Board and are required under the following circumstances:
    a. A change to the regulatory framework is required.
    b. The IDP is no longer representative of the institutional mission or approach to community as a result of redevelopment in the area or City upgrades to neighborhood planning (such as roadway changes, infrastructure upgrades, community design, lighting).
    c. Development proposed by MMC is inconsistent with the master facility plan, transportation plan intent, design plan intent, or environment and infrastructure plan intent identified in the IDP.
4. Annual monitoring reports will be submitted for MMC's Transportation Demand Management (TDM) Plan. TDM monitoring reports shall include a summary of progress towards targets established in the TDM Plan.

C. **Uses.** In addition to the uses permitted in the underlying zone, the uses in Table 8-C are permitted as a matter of right. In recognition that MMC is part of a mixed-use area of the city, with important existing services and businesses that serve the local and wider community, healthcare facility development fronting onto Congress Street and St. John Street shall activate the public realm, to the extent able, with uses such as service and retail/restaurant, landscaping, active building entrances, pocket parks, etc., on the ground or other publicly accessible level, consistent with the design intent contained in the approved IDP. In areas identified in the IDP as "Priority zone for commercially oriented/retail uses," usable ground floor retail, restaurant, or comparable community-oriented use that provides services to local residents and employees both during the day and evening hours is required. In areas labeled "Street activation through location of windows, entrances, etc.," usable ground floor retail,

restaurant, or community-oriented use is encouraged to the extent practicable. Such uses, where constructed or facilitated as part of a healthcare related development, are expressly permitted whether ancillary or supporting the healthcare facility or not, and shall be open and welcoming to the general public in addition to employees or visitors of MMC.

TABLE 8-C: PERMITTED USES

Healthcare facilities, including but not limited to the following ancillary and/or supporting uses:

- Hospital
- Medical Office/Clinic
- Laboratory Center / Services
- Research and Development (R&D) Laboratory or Facility
- Educational Facility / Conference Center
- Administrative / Business Office
- Accessory Service or Trade Uses
- Guest House
- Multi-family Housing for Healthcare Staff and Students
- Rehab / Skilled Nursing Facility
- Retail
- Restaurant/Cafe
- Employee Service Amenities
- Day Care Center
- Fitness Center or Gymnasium
- Parking Lot or Garage
- Bicycle Storage
- Heliport
- Antenna Station
- Outdoor use areas, such as green areas, parks, gardens, art installations, and other active and passive non-commercial recreation spaces

D. **Dimensional requirements.** The MMC Institutional Overlay Zone shall have the dimensional requirements listed in Table 8-D and depicted in Figures 8-C and 8-D.

E. **Design.** New buildings within the IOZ shall adhere to the Design Guidelines set forth in Chapter 5: Design of the IDP and the site plan standards of Article 14.

F. Signs

1. At the time of first site plan review following IDP approval, a unified campus-wide signage plan shall be submitted for review and approval by the Planning Authority. Any update to such plan due to a change in name or logo shall not require amendment to the IDP.
2. Signs shall be designed in accordance with the campus-wide signage plan. All signs shall be designed in proportion and character with building facades and adjacent street typology. All signs shall be coordinated with the building and landscaping design and be constructed of appropriate permanent, high quality materials and finishes.

G. Transportation

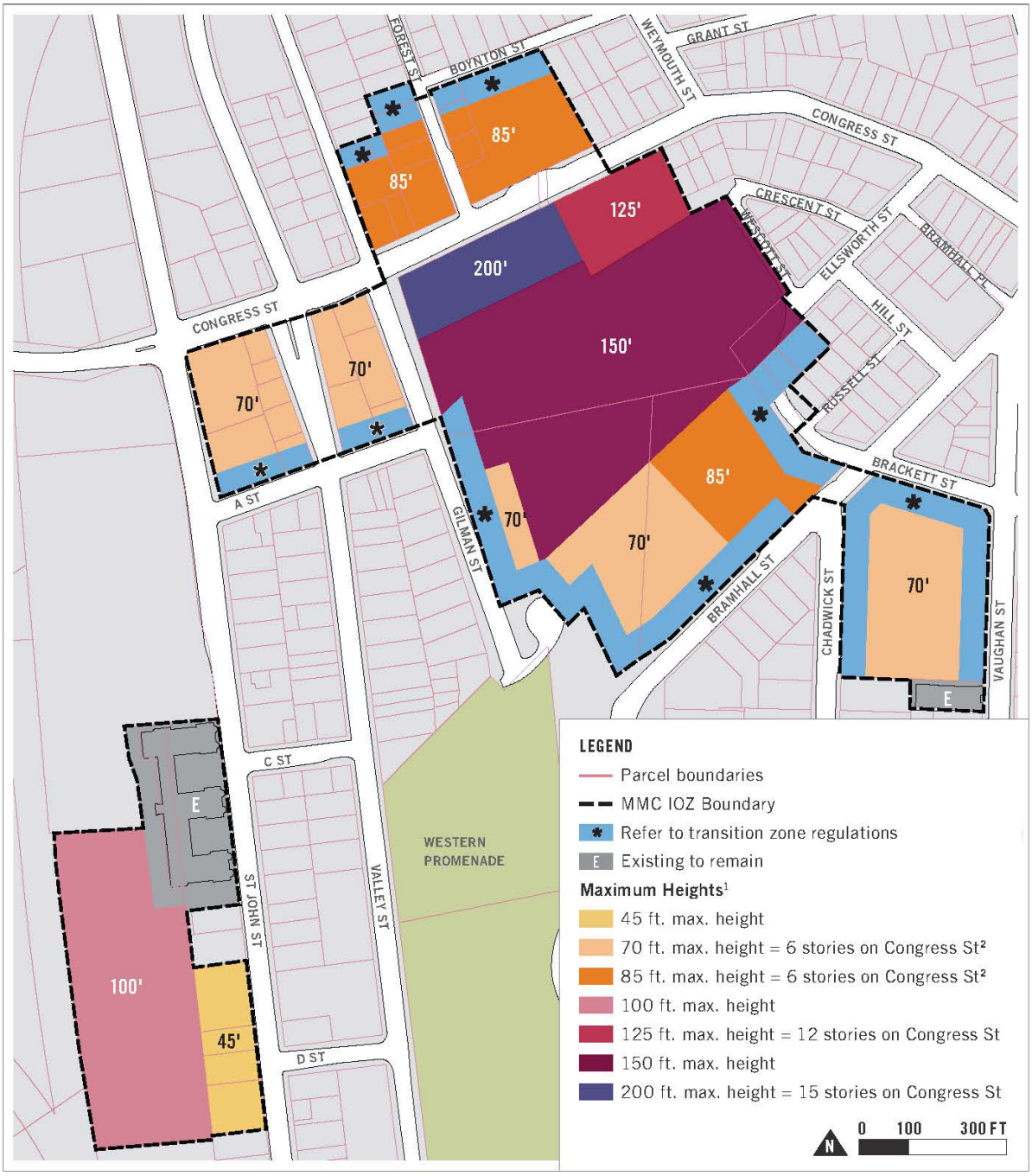
1. *Transportation Demand Management (TDM)*
   a. At the time of the first site plan review following IDP approval, MMC shall submit a campus-wide TDM Plan substantially in accordance with those TDM objectives and strategies identified in the approved Institutional Development Plan. The TDM Plan may be phased into short-, mid-, and long-term actions to allow for progressive implementation over time.



TABLE 8-D: MMC IOZ DIMENSIONAL REQUIREMENTS

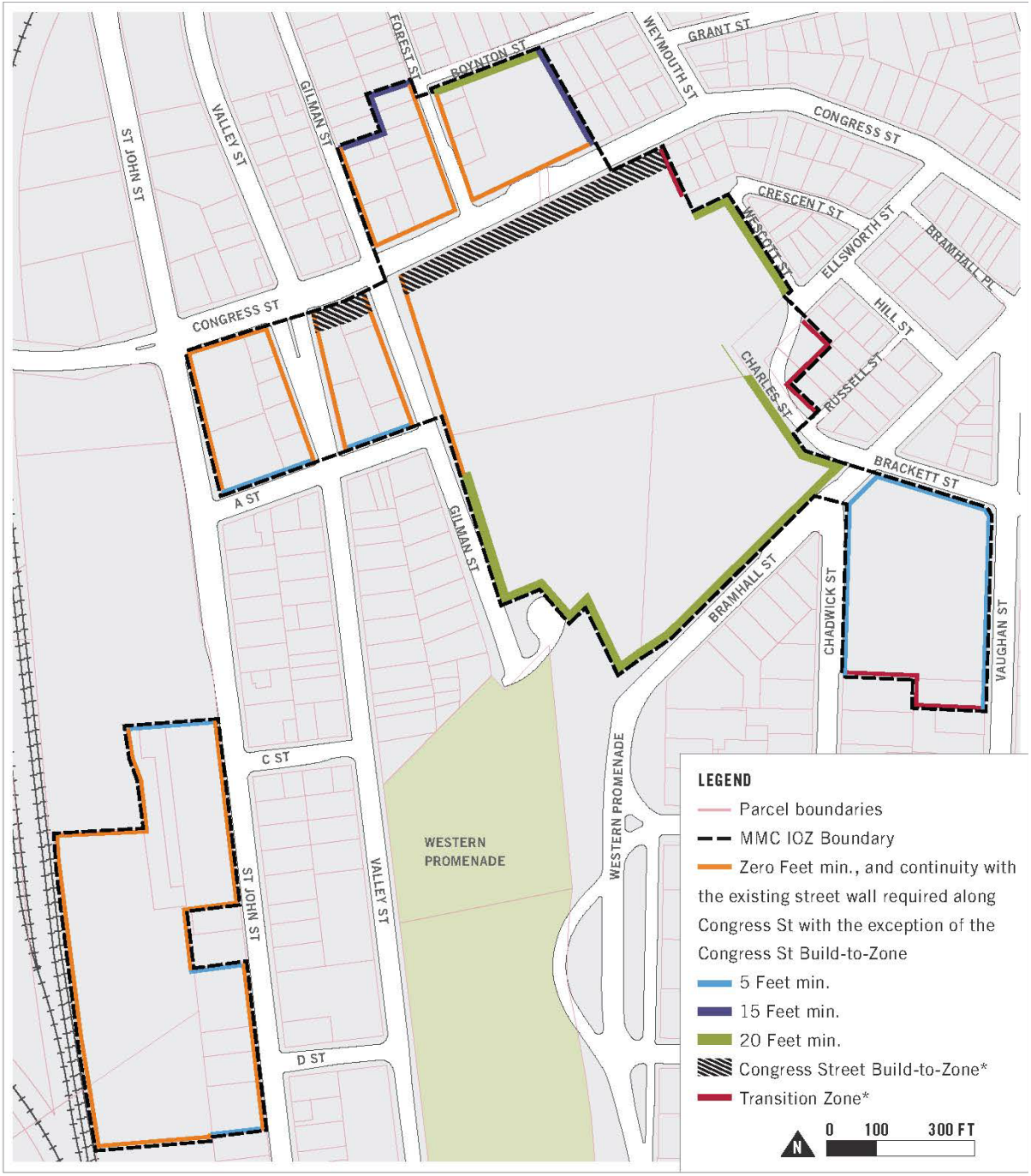
Building heights (max.)	Max. building heights for new buildings within the IOZ shall be governed by the Maximum Building Heights Map in Figure 8-C, or by the transition zones clause of this table for those buildings located in transition zones. Refer to IDP "Chapter 5. Design" for methodology on determining heights.
Building heights (min.)	Three stories, except in transition zones, where the minimum building height shall be two stories. Minimum building heights shall not apply to building awnings, associated kiosks, pavilions or similar building components.
Building length (max.)	Length of proposed parking garage at 222 St John St shall not exceed 500 feet as measured roughly parallel to St John St.
Building setbacks (min.)	Minimum building setbacks shall be governed by the Minimum Setbacks Map in Figure 8-D. Additional requirements are listed in the transition zones and Congress Street build-to zone sections of this table.
Congress Street build-to zone[1]	A build-to zone is identified for some properties that abut Congress Street. See Minimum Setbacks Map in Figure 8-D for the location of build-to zone. i. The Congress Street build-to zone extends between 0 to 40 feet from the right-of-way boundary. ii. Buildings located in these parcels must have a minimum of 70% of the façade facing Congress Street located within the build-to zone.
Transition zones	Transition zones are identified inside the IOZ boundary in areas where the IOZ abuts or is located across a public right-of-way from a residential zone or a historic-designated district. See Maximum Building Heights Map in Figure 8-C for location of transition zones. i. Transition zones shall extend 50 feet into the parcel from the parcel boundary. ii. Transition zones that abut a Residential zone with or without an intervening public right-of-way shall have a maximum height limit that matches the maximum height permitted within that Residential zone. iii. In areas where the IOZ abuts a residential zone without an intervening public right-of-way, minimum side and rear yard requirements of the abutting residential zone apply within the IOZ boundary, unless noted otherwise in Minimum Setbacks Map in Figure 8-D.

[1]A "build-to zone" is the area on the lot where all or a portion of the street-facing building facade must be located, measured as a minimum and max. yard (setback) range from the public right-of-way boundary.



Notes: 1. Minimum building heights also apply. Refer to Table 8-D.
2. For buildings with residential use above the ground floor, the following height maximums apply: 70 ft. maximum height = 7 stories, and 85 ft. maximum height = 8 stories.

FIGURE 8-C: MAXIMUM BUILDING HEIGHTS



* Refer to Table 8-D Dimensional Requirements

FIGURE 8-D: MINIMUM SETBACKS

b. The TDM Plan shall be designed to provide transportation choice with the goal of reducing parking demand and single-occupancy vehicle trips to and from MMC by employees and visitors.

c. The TDM Plan shall establish parking and trip reduction targets associated with the short-term (0-2 years), mid-term (2-5 years), and the long-term (5+ years), as well as a data collection plan.

2. *Parking*. Parking requirements in the IOZ shall be established at the time of site plan review based on a parking study that includes a campus-wide analysis of demand and supply. The parking demand study shall determine parking requirements and shall be sufficient to alleviate parking pressure on surrounding neighborhoods. Parking studies developed by MMC shall integrate parking and trip reduction achievements and data contained in the TDM Plan.

H. **Environment.** Development proposed by MMC shall be designed to integrate with the surrounding context, including open space and pedestrian networks and infrastructure.

I. **Mitigation measures.** MMC shall mitigate site plan impacts to off-premise infrastructure in a manner proportionate to those impacts. Mitigation may include financial or in-kind contributions to existing or planned City projects focused on mitigating the impacts of MMC development. Mitigation contribution shall be determined based on the City's standard procedure in effect at the time of site plan review.

J. Neighborhood Integration and engagement

1. For the purpose of keeping surrounding residential areas appraised of its future development plans, and to address any neighborhood issues related to the operations of the MMC Bramhall campus, MMC shall adhere to the ongoing community engagement principles identified in the approved Institutional Development Plan.

2. MMC shall conduct ongoing community engagement, including the formation of a Neighborhood Advisory Committee comprised of representatives of MMC, the Parkside neighborhood, the West End neighborhood, the Western Promenade Neighborhood Association, the St. John Valley neighborhood, the Libbytown neighborhood, and the City.

K. Construction management

1. At the time of site plan review, MMC shall submit a construction management plan substantially in accordance with those construction management principles identified in the approved Institutional Development Plan for review and approval by the Planning Authority.

2. The construction management plan shall include a construction schedule, as well as strategies for managing neighborhood communication and noise, air quality, traffic, and parking impacts associated with the construction as set forth on the construction management template developed by the City and attached and incorporated to the IDP as Appendix A.

L. Other requirements

1. *Helipad.* MMC shall be governed by the provisions of the Helistop Overlay Zone with the following exceptions:
   a. Setback requirements of Subsection 8.4.2(A)(2).
   b. Fencing requirements of Subsection 8.4.2(A)(3).
2. *Snow ban parking.* When the City of Portland declares a snow parking ban, MMC shall make parking available to neighbors in a designated parking area on or near its campus upon the following condition: Due to the patterns of patient flow in the hospital, the hours of snow ban parking for registered vehicles during an announced City of Portland snow parking bans are 6:00 p.m. until 6:00 p.m. Vehicles that are not moved out of these parking areas by the applicable time each morning are subject to towing at the owner's expense.
3. *Healthy communities.* Recognizing that a stable residential and commercial environment is key to the health of any neighborhood, MMC commits to supporting its existing and future neighbors in the St. John Valley, Parkside, West End, Western Prom, and Libbytown neighborhoods. Accordingly, MMC shall implement and participate in the healthy communities programs as described below.
   a. Caring Community Grants. MMC shall develop an annual grant program with available funds of up to $30,000. Goals, priorities, eligibility requirements, program guidelines, and allocation approach will be developed by the MMC Neighborhood Advisory Committee, as described in Chapter 6 of the IDP approved on September 26, 2017. Neighborhood associations or other entities located or operating in the St. John Valley, Parkside, West End, Western Promenade, and Libbytown neighborhoods may apply for grant funding relating to the following initiatives:
      i. Neighborhood investment and Infrastructure: Focused on creating strong, safe, accessible and vibrant neighborhoods.
      ii. Quality of life: Focused on improving access to recreation, arts or cultural experiences in the neighborhoods.
      iii. Diversity and inclusion: Focused on fostering the building of relationships and understanding among diverse groups, including capacity building and outreach activities.
      iv. Public Safety: Focused on supporting public safety programs through training programs, equipment or other means in the neighborhoods.
      v. Environmental sustainability: Focused on preventing waste, increasing recycling or supporting other programs that work to improve the environment.
   b. Healthy Neighborhoods Program. MMC shall initiate and adopt a memorandum of understanding

(MOU) by and between the MMC, the City of Portland, an identified Community Housing Development Organization and any other community partners that may be identified later establishing a Healthy Neighborhoods program. Such a program shall be designed to fund and execute housing and community improvement and development programs in St. John Valley and the other neighborhoods surrounding MMC's Bramhall Campus.

8.6 ISLAND TRANSFER STATION OVERLAY

8.6.1 Purpose

The purpose of the Island Transfer Station Overlay Zone is to establish a location for a transfer station for municipal solid waste and municipal public works activities. This zone shall be established through a conditional rezoning process in order to ensure the imposition of appropriate conditions for the protection of neighboring properties.

8.6.2 Permitted uses

A. Municipal solid waste facilities, including compactors and storage bins, provided that the compactor shall be located within a fully enclosed structure.

B. Recycling facilities, provided that all recycling areas shall be buffered and screened from neighboring properties.

C. Municipal garages, material storage, and parking for vehicles.

D. Maintenance of municipal vehicles and equipment.

E. Minor wind energy systems co-located with public industrial or utility facilities, subject to the standards of Subsection 6.4.18.

8.6.3 Conditions

Requirements for setbacks and any operational limitations shall be established as part of the conditional rezoning process.

8.7 MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY DISTRICT

The residential neighborhoods on Munjoy Hill are experiencing specific development pressures related to its location and the nature of the existing building stock, further documented in work by the City's Planning & Urban Development Department in the winter of 2018. In order to address the negative impacts of these pressures and create a positive framework for investment in the area, there shall be a Munjoy Hill Neighborhood Conservation Overlay District (the "District").

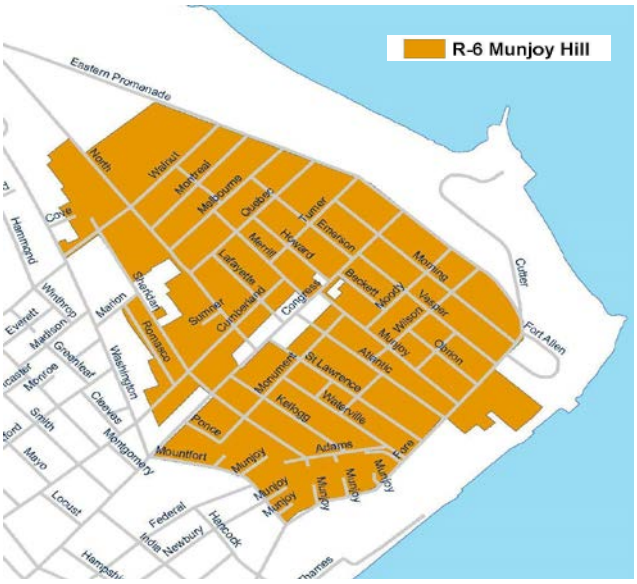


FIGURE 8-E: MUNJOY HILL NEIGHBORHOOD CONSERVATION DISTRICT BOUNDARIES

8.7.1 Area of effect

This District will apply in the highlighted area depicted on the map in Figure 8-E and includes all properties in the R-6 zoning district in an area east of Washington Avenue and Mountfort Street, north of Fore Street, and west of the Eastern Promenade.

8.7.2 Effect of the district

In addition to the standards contained in this Land Use Code that are applicable to properties in the R-6 zone, all properties within this District shall meet the standards of Section 8.7. Where this section imposes a standard that differs from the standards contained in Articles 6, 7, 14, and 15 of this Land Use Code, the City of Portland *Design Manual* or City of Portland *Technical Manual,* the standards in this section shall control.

8.7.3 Dimensional standards

Within the District, the dimensional requirements in Table 8-E supersede those dimensional standards outlined elsewhere in this Land Use Code.

8.7.4 Design review

A. **Design standards.** In addition to the general R-6 design standards, the following design standards shall apply in the Munjoy Hill Neighborhood Conservation District and shall supersede any conflicting design standards:

1. All buildings shall use simple, traditional roof forms as illustrated in Figure 8-F, except that flat roofs are permitted in buildings of three or more units. This requirement may also be modified through Subsection 8.7.4(B) below. Dormers and cross gables are allowed but where readily visible from the public right-of-way shall be clearly subsidiary to the primary roof form. (See Figure 8-G.)
2. The first floor shall contain active living space, such as a living room or bedroom, with windows for at least 50% of the width of the front façade in total. (See Figure 8-H.) Active living space does not include space intended primarily for circulation or storage.

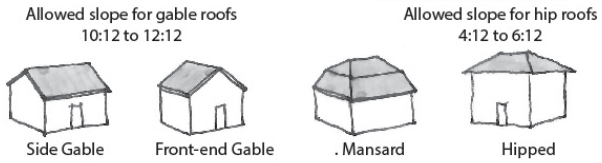


FIGURE 8-F: ROOF FORMS

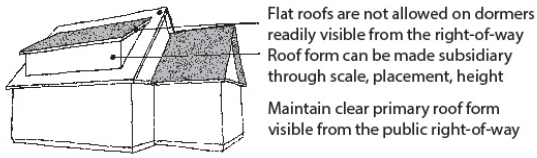


FIGURE 8-G: DORMERS AND SUBSIDIARY ROOFS

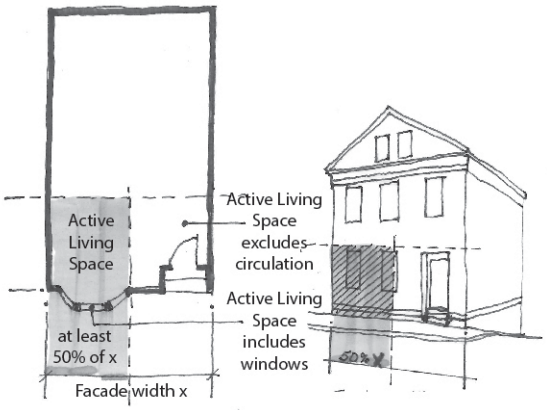
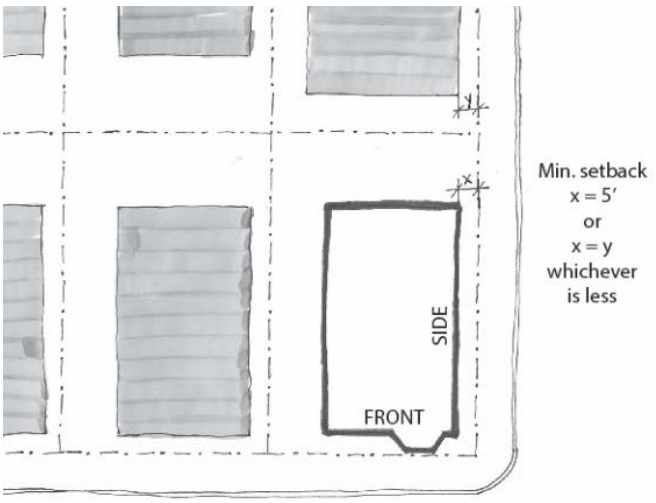


FIGURE 8-H: FRONT FACADE - ACTIVE LIVING SPACE

TABLE 8-E: MUNJOY HILL NEIGHBORHOOD CONSERVATION DISTRICT DIMENSIONAL REQUIREMENTS

	Height (max.)[1]	35 ft. 45 ft. for buildings with 3 or more units on lots over 2,000 SF that include at least one workforce housing unit.[2]
Setbacks (min.)	**Rear**	Buildings up to 35 ft. in height: 10 ft. Buildings over 35 ft. in height: 15 ft. As measured from rear decks, porches, or similar unenclosed space: 7.5 ft. As measured from accessory structures with a ground coverage of 250 SF or less: 5 ft.
	Side	Buildings up to 35 ft. in height: As per underlying zone. Buildings over 35 ft. in height: 10 ft. for all side yards, except that a side yard no less than 5 ft. is permitted when used to continue a documented built pattern of the surrounding streetscape, in which case a proportional increase in another side yard must be provided.
	Side yard on side street	5 ft. or the minimum depth of the immediately abutting street-facing yard, whichever is less. None when demonstrated that reduced setbacks are necessary to facilitate the provision of underground parking. 
	Stepbacks (min.)	None

[1] Rooftop appurtenances other than chimneys shall not exceed permitted heights, except that HVAC equipment is permitted for up to 5 ft. above these maximum heights if (a) out of view from public rights-of-way, screened adequately, and integrated with the building design and (b) set back at least 5 ft. from the building edge. In addition, height limits and placement of alternative energy equipment is permitted as specified in Articles 6 and 7.

[2] Unit can be for sale or rent, as defined in Article 3. Workforce units shall be no smaller than 50% of the average size of the other units in the development, must meet the definition for such units and only be sold or rented to a household at or below the applicable income levels. These requirements shall be deed restricted for affordability for the longest term possible under state and federal law.

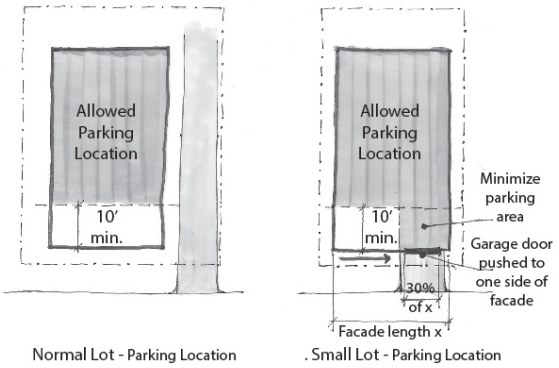


FIGURE 8-I: PARKING LOCATIONS

3. Use of tandem spaces to meet desired parking levels, consistent with the built pattern of the neighborhood, is strongly preferred. Parking shall be located on the side or in the rear of a building, and not within the front 10 feet of depth of the building. The only exception shall be for lots smaller than 2,000 square feet, which shall be permitted one garage door on the front façade no wider than 30% of the building width, but no less than nine feet. In that case, the garage door shall:
   a. Be of high quality design, consistent with the character and pattern of the rest of the façade, including windows as appropriate.
   b. Be located on one side of the façade. (See Figure 8-I.)

B. **Alternative Design Review.** Within the District, developments are only eligible for the R-6 "Alternative Design Review" as outlined by the following process, which shall supersede the process in the City of Portland *Design Manual* in cases of conflict:

1. Any use of Alternative Design Review must be approved by a majority of the Historic Preservation Board after a required public hearing.
2. Alternative Design Review does not permit waivers of the additional design requirements in Subsection 8.7.4(A) above except as explicitly stated.
3. Alternative Design Review is a privilege and is granted at the discretion of the Historic Preservation Board. The applicant has the burden of demonstrating that their proposal meets the criteria for Alternative Design Review Design Certificate.

8.7.5 Demolition review

A. **Purpose.** The purpose of this subsection is to preserve and protect buildings within the District that contribute significantly to one's understanding and appreciation of the architectural, cultural, and/or social history and development pattern of Munjoy Hill and which are outside any designated historic district ("Preferably Preserved Buildings"), encouraging owners of such Preferably Preserved Buildings to explore alternatives to demolition. To achieve this purpose, the issuance of demolition permits for Preferably Preserved Buildings is regulated and may be delayed as provided below.

B. **Definitions.** For the purposes of this subsection, the following words and phrases shall have the meanings set forth below:

1. *Demolition.* Removal of more than 10% of the front façade of any building, removal of the primary roof line, or removal of 50% or more of the building surface, determined cumulatively over a three-year period. In kind replacement or similar replacement (such as new windows or siding that may differ from the original) is not considered demolition.

2. *Preferably Preserved Building.* Any building which is determined to be in the public interest to be preserved or rehabilitated rather than demolished based on findings that the building meets the following criteria:
   a. It was constructed prior to 1930.
   b. It is representative of a building type and/or architectural style that contributes to the identifiable historic visual character of Munjoy Hill.
   c. It retains sufficient integrity of design, materials, condition, and craftsmanship that adaptive reuse is a viable option.
3. *Voluntarily demolished.* Any act(s) done by design or intention, which is proposed, intended, or not accidental, that result in demolition. Results of weather events or natural hazards are not considered voluntary demolition. For the purposes of this subsection, the destruction of a Preferably Preserved Building for failure to properly secure it or by neglect shall be considered voluntary demolition.

C. **Exclusions.** This subsection shall not apply to:
   1. Any building either individually designated as a local landmark or located within the boundaries of any designated historic district.
   2. Accessory structures with a ground coverage of 250 square feet or less.
   3. Buildings that the Building Authority has determined are dangerous to life or property due to fire, accidental catastrophic damage, or a natural disaster.
   4. Buildings that have received a previous determination that they are not Preferably Preserved.

D. **Procedure.** When the Building Authority receives a demolition permit application for a building within the District, the Building Authority shall, within three business days, notify the Planning Authority in writing that a demolition permit application has been received.
   1. *Initial determination.* The Planning Authority shall make an initial written determination as to whether the building that is the subject of the demolition permit application is a Preferably Preserved Building within 30 days of receiving a copy of the application. In making this determination, the Planning Authority may request additional information from the applicant, including photos of the existing building and the surrounding context or other data that may be relevant to making an initial determination. If the Planning Authority determines that the building is not Preferably Preserved, this determination shall be transmitted to the Building Authority and the applicant of record. The applicant will not be required to take any further steps and the permit may be reviewed by the Building Authority under the standards in Chapter 6 of the City of Portland Code of Ordinances.
   2. If the Planning Authority makes an initial determination that the building is Preferably Preserved, it shall notify the Building Authority and the applicant.
   3. If the Planning Authority fails to act in accordance with this subsection or within



the prescribed time periods, the Building Authority may grant the demolition permit, provided that the applicant has met all other required by Chapter 6 for a permit, and shall notify the Planning Authority that the permit has been granted.

4. *Right to appeal Planning Authority determination.* After the Planning Authority's initial determination that a demolition permit application involves a Preferably Preserved Building, the applicant for a demolition permit may appeal the determination to the Historic Preservation Board with any background information regarding the structure and its context that may be deemed relevant to or appropriate for that review. Such material shall include plans for any replacement use of the parcel that may assist in making a determination. Such appeal must be filed with the Planning Authority within thirty days of the Planning Authority's decision.
5. *Public hearing.* The Historic Preservation Board shall conduct a hearing on the appeal of the Planning Authority's decision within 45 days of the Planning Authority's decision. The Board shall give the public notice of the hearing at least 14 days prior to the hearing. The Board shall also mail a notice of the public hearing to the applicant, the building owner, and all property owners within 100 feet of the subject property at least 10 days prior to the hearing.
6. *Final determination of Preferably Preserved Building:* Within 21 days following the conclusion of the public hearing, the Historic Preservation Board shall issue a final determination with the Building Authority. If the Board determines that the demolition of the building would be detrimental to the architectural, cultural, or social heritage of Munjoy Hill, it must uphold the initial determination of the Planning Authority of a Preferably Preserved Building. In a case where the initial decision of the Planning Authority is not timely appealed as outlined in Section 8.7.5(D)(4), that decision shall be considered a final decision with respect to the demolition permit, in which case the Planning Authority shall forward the final decision to the Building Authority.

E. Upon the final determination of Preferably Preserved status, the Building Authority shall not issue a demolition permit for a period of up to 12 months except as specified in (2) below. During this period, the applicant and the owner should actively pursue alternatives to demolition of the Preferably Preserved Building. Should the Historic Preservation Board determine that the building is of sufficient historic and/or architectural significance that it should be designated a landmark or otherwise gain historic designation, that process will proceed as it would for any other building.

1. Upon a determination of Preferably Preserved status, the owner shall be responsible for properly securing the building.
2. Notwithstanding the preceding, the Building Authority may issue a demolition permit for all or any portion of subject building at any time upon authorization from the Planning Authority in the event

the Historic Preservation Board approves a development for the site as consistent with the Historic Resource Design Standards as applied to a new building prior to the conclusion of the 12-month delay period. Examples of such proposals may include but are not limited to:

a. Demolition of a portion of the building while maintaining the principal structure and/or most architecturally significant portion of the building.
b. Demolition of the Preferably Preserved Building but with a replacement proposal that is acceptably contextual in the surrounding neighborhood. In this case, the Board may condition demolition on construction of a project substantively consistent with the approved replacement proposal, and any substantive variation from that plan would be treated as a violation under (G) below.
c. Notwithstanding the initial determination, demonstration by the applicant, substantiated by the written opinion of a licensed engineer with experience in renovation, restoration or rehabilitation and confirmed by the Building Authority, that the structural condition of the building is so severe as to make it infeasible to rehabilitate.

F. **Emergency demolition.** Nothing in this subsection shall interfere with the ability of the Building Authority to permit demolition of buildings determined dangerous to life or property due to a condition that pre-dates the effective date of this subsection or is the result of fire, accidental catastrophic damage, or a natural disaster.

G. **Enforcement**

1. The Planning Authority and Building Authority are each specifically authorized to institute any and all actions and proceedings, in law or in equity, as they deem necessary and appropriate to obtain compliance with the requirements of this subsection, or to prevent a threatened violation thereof.
2. No building permit shall issue for a new building on any premises where a significant building is voluntarily demolished in violation of this ordinance for a period of two years after the date of demolition.

H. **Reporting.** A demolition review shall be reported to the City Council annually as a communication.

8.8 PEDESTRIAN ACTIVITIES DISTRICT (PAD) OVERLAY

The following restrictions shall apply in the Pedestrian Activities District (PAD) Overlay Zone, which shall include street frontages as delineated on the PAD Overlay Zone map.

8.8.1 Permitted uses

A. At least 75% of the street level frontage of a building on a street located within the PAD Overlay Zone must be occupied, and, at minimum, the floor area to be occupied shall be 75% of the street level frontage multiplied by a 20 foot depth, by:

1. Retail as permitted in the B-3 zone.
2. General services.
3. Hotels.

4. Restaurants as permitted in the B-3 zone.
5. Bars.
6. Theaters and performance halls, provided that only ticket and refreshment sales, lobbies, lounges and entrances shall be located within this area.
7. Cultural facilities.
8. Governmental uses.
9. Studios for artists and craftspeople including, but not limited to, carpenters, cabinetmakers, and silk screeners.
10. Other uses where the applicant can demonstrate to the Building Authority that the proposed use will not differ substantially from a required ground floor retail use in its effect on the continuity of pedestrian-oriented use and that the proposal establishes a ground floor use that generates pedestrian interest and activity.

B. For those buildings which have frontage on more than one street located within the PAD overlay zone, the street level area of each such frontage shall meet the above requirements.

8.8.2 Conditional uses

Any use permitted in the B-3 and B-3b zone may be authorized as a conditional use subject to the floor area requirements of Subsection 8.8.1, provided that the Planning Authority shall be substituted for the Board of Appeals as the reviewing authority. Such uses shall meet the following conditions and standards:

A. The applicant can prove by competent evidence (including but not limited to reliable documentation of advertising, real estate brokerage efforts, and other sales mechanisms) that the space has been actively marketed, and, in the case of new construction, available for permitted uses in the PAD Overlay Zone for a period of six months and that it has been unable to market the space for a permitted use in accordance with Subsection 8.8.1.

B. The approval of any conditional use under this subsection shall be for the specific tenant proposed for the conditional use approval and shall not run with the space to subsequent tenants. A conditional use approval shall expire at the end of each tenant's use, and a new approval shall be required for new tenants. However, where a conditional use has been approved under this subsection and the term of the effected tenancy is five years or less, the tenant may sublet the area for the approved conditional use which approval may run with said lease but may not be extended without review by the Planning Authority.

C. The Planning Authority may impose reasonable conditions concerning the design, appearance, use, and extent of use of the space along the street frontage to ensure maximum pedestrian compatibility and interest.

D. Notwithstanding the above, the Planning Authority may authorize a reduction in the percentage of required ground floor pedestrian-oriented uses where the physical limitations of an existing building so require. Any such reduction shall be the least necessary to provide relief and shall include mitigating design factors.

E. The Planning Board shall adopt rules and regulations governing the Planning Authority's review of an applicant's marketing efforts under this subsection.

8.8.3 Prohibited uses

In no event shall any required retail frontage area be used for any of the following:

A. Storage.

B. Service entrances, including loading docks, dumpsters and compactors, except as provided in Subsection 8.8.4.

C. Food preparation areas, unless such preparation areas are visually oriented toward pedestrians on streets located within a PAD Overlay Zone.

8.8.4 Exceptions

For those buildings which have 40 feet or less of frontage on a street within the PAD Overlay Zone, the ground floor area requirements for permitted uses under Subsection 8.8.1 shall be reduced to 50% of the frontage where required to accommodate a service entrance. For buildings which have frontage on more than one street located within a PAD Overlay Zone, only one such frontage shall be permitted to reduce the required retail area to 50% of the frontage.

8.9 STREAM PROTECTION OVERLAY (S-P)

8.9.1 Purpose

The purpose of the Stream Protection Overlay Zone is to preserve and protect significant streams outside of the Shoreland Zone by providing a buffer from land development activities in order to conserve stream channel capacity and to minimize siltation and stream bank erosion.

8.9.2 Applicability

The Stream Protection Overlay Zone includes all land areas within 75 feet, horizontal distance, of the normal high-water line of a stream as shown on the City of Portland zoning map. These standards apply only to areas within the Stream Protection Overlay Zone. Streams within the Shoreland Zone are subject to the provisions of Article 11.

8.9.3 Development standards

A. **Minimum building setback from normal high-water line of stream:** 75 feet. Notwithstanding this requirement, when a lot is a lot of record under Subsection 4.3.1 or cannot otherwise meet the setback requirement of this subsection due to physical limitations of the site, the Planning Board may approve a reduction of the setback requirement for a principal structure to the least amount necessary to achieve a building dimension of 28 feet, provided that the setback is not reduced to less than 40 feet. Structures in existence on June 15, 1992 may be expanded once during the lifetime of the structure up to 25 feet toward a stream or tributary stream, provided that the setback is not reduced to less than forty 40 feet and the floor area or volume is not increased by more than 30%.

B. **Filling of material.** Filling of material within a Stream Protection Zone shall require site plan review under the provisions of Article 14.

C. **Minimum parking setback from normal high-water line of stream:** 75 feet. Notwithstanding this requirement, the Planning Board may reduce the parking setback where the required setback cannot be met to the least extent necessary, provided that such setback shall not be less than the setback of the principal structure from the stream.

8.10 UNIVERSITY OF SOUTHERN MAINE OVERLAY

8.10.1 Purpose

The intention of the University of Southern Maine Overlay Zone is to establish an overlay zone in which an existing university campus can be continued and reasonably expanded within defined boundaries, in addition to those uses permitted in the underlying zone or zones. The purpose of this section is to recognize the unique qualities of a university campus while at the same time protecting the value and integrity of established neighborhoods.

8.10.2 Location and applicability

The University of Southern Maine Overlay Zone is intended to encompass and define the University of Southern Maine campus west of Forest Avenue. Properties in the University of Southern Maine Overlay Zone shall continue to be governed by the regulations applicable to the underlying zone except as specifically modified by this section.

8.10.3 Permitted uses

A. In addition to the permitted uses allowed in the underlying zones and notwithstanding anything to the contrary in the use regulations for the underlying zones, post-secondary schools and university uses are permitted in the University of Southern Maine Overlay Zone, including, but not limited to:
   1. Classrooms.
   2. Laboratory and research facilities.
   3. Student unions.
   4. Dining halls.
   5. Bookstores.
   6. Auditoriums.
   7. Concert and lecture halls.
   8. Gymnasiums.
   9. Libraries.
   10. Outdoor use areas, such as "quads", greens, parks, gardens, art installations, and other active and passive noncommercial recreation spaces.
   11. Faculty and student housing.
   12. Parking lots and garages.
   13. Community meeting spaces.
   14. Administrative and faculty offices.
   15. Transportation facilities.
   16. Maintenance facilities.
   17. Utility buildings.
   18. Student health services.
   19. Daycare facilities, nursery schools and kindergartens operated in conjunction with university programs or serving students, faculty or employees of the university and their families, with associated outside play areas.
   20. Other buildings, structures and uses customarily incidental to a university.

B. On lots fronting on Chamberlain Avenue and Exeter Street, university uses shall be limited to faculty housing, graduate student housing, faculty offices and administrative offices, and buildings containing such uses shall be designed and maintained so as to complement the residential character of the street as required in Subsection 8.10.9

C. No change of use permit shall be required for any of the above uses in actual existence as of the date of enactment of the University of Southern Maine Overlay Zone.

8.10.4 Conditional uses

The following uses are permitted as provided in Section 6.5:

A. Minor wind energy systems, subject to the standards of Subsection 6.4.18.

8.10.5 Dimensional requirements

University buildings and structures shall be subject to the dimensional requirements of the underlying zone, except as follows:

A. **Minimum setbacks.** Minimum setbacks shall be the same as in the underlying zone, except as shown on the University Campus Overlay Setback Map, incorporated herein by reference. Side and rear setbacks shall not be required between buildings on contiguous lots owned by the university on the condition that such contiguous lots shall be considered merged and shall not be separately conveyed unless required setbacks in the underlying zones are provided.

B. **Maximum building height.** Maximum building height shall be the same as in the underlying zone, except as shown on the University Campus Overlay Height Map, incorporated herein by reference.

C. **Minimum building height.** All new freestanding buildings in height zone B and height zone C must be built to a height of at least 35 feet or designed and constructed so that they can be expanded to 35 feet or higher. As used in this paragraph, the term "new freestanding building" means any building which is not an addition to or expansion of a building which existed on the date of enactment of the University of Southern Maine Overlay Zone.

D. **Maximum impervious surface ratio**. A maximum of 66% of the total land area within the University of Southern Maine Overlay Zone, exclusive of public streets, shall be impervious.

E. **Maximum coverage by buildings**. 40% of the total land area within the University of Southern Maine Overlay Zone, exclusive of public streets, shall be covered by building footprint.

8.10.6 Parking

The amount of parking required for any university building or building addition shall be determined by the Planning Board during site plan review, based on an analysis of campus-wide parking demand and supply, pursuant to a comprehensive university parking management plan, and treating all contiguous land (including land on opposite sides of the street) owned by the university as one lot. In determining the amount of parking required for any university building, the Planning Board may take into account such factors as:

A. The availability of off-campus parking and shuttle transportation to and from such off-campus facilities.

B. The ratio of commuter students to resident students.

C. The use of centrally located on-campus parking facilities so situated that students, faculty, staff and visitors arriving on campus can reasonably be expected to park in the central facilities and walk to their various on-campus destinations during the course of a school day.

D. Shared use of a single parking facility by two or more buildings when the peak parking demand period for such buildings do not overlap.

E. Development and implementation of a parking management plan which discourages on-street

parking. On-street parking shall not be used to satisfy the university's parking demand.

F. Development and implementation of programs designed to reduce the number of automobiles parking on campus, such as ride share programs and incentives for use of bicycles and public transportation.

8.10.7 Loading

The amount of loading area required for any university building shall be determined by the Planning Board during site plan review, based on a campus-wide analysis, treating all contiguous lots owned by the university as one lot. In determining the amount of loading space required for any university building, the Planning Board may take into account such factors as:

A. The use of centrally located on-campus loading facilities so situated that vehicles making deliveries can load and unload in the central facilities, provided no single location is overburdened with loading facilities.

B. Shared use of a single loading facility by two or more buildings.

C. Impacts of the loading area on adjacent uses outside the University of Southern Maine Overlay Zone.

8.10.8 Signage

Signs shall comply with the requirements of Article 20, except as those regulations are modified or augmented below:

A. Signs shall be designed in accordance with signage standards promulgated by the university, providing for a unified and ADA-compliant campus-wide system for identification, orientation, and regulatory signage.

B. Banners are allowed as follows:

1. Generic banners containing the logo and colors of the university, used for decorative purposes.
2. Banners used for advertising university events, which can be displayed for a maximum of four weeks prior to and one week following the event.

8.10.9 Design principles and standards

All development in the University of Southern Maine Overlay Zone is subject to the requirements contained within the City of Portland *Design Manual*.

8.10.10 Campus housing

For any development requiring major site plan review, the university shall submit to the Planning Board a campus housing analysis. The analysis shall include a description of housing demand and supply at the time of the application, a projection of housing demand expected to arise from the proposed development and/or as a result of program changes anticipated to occur concurrently with the proposed development, and a description of how the university intends to meet any increased housing demand through on-campus housing, off-campus housing developed by the university, and/or off-campus housing developed by others.

8.10.11 Required review for change of use, additions, and renovations

In the case of properties fronting Chamberlain Avenue, Exeter Street, and the northerly side of Bedford Street from Surrender Street to Deering Avenue, minor site plan review shall be required of all changes of use and all building additions and renovations affecting an area

equivalent to 25% or more of the existing floor area of a structure, unless major site plan review is otherwise required under Article 14.

8.11 WAYNFLETE SCHOOL OVERLAY

8.11.1 Purpose

The intent of this section is to establish a Waynflete School Overlay Zone which protects the value and integrity of established residential neighborhoods, establishes clearly defined boundaries beyond which residential conversions cannot occur and results in no net loss of dwelling units, while allowing Waynflete School, an existing private day school, to continue and reasonably augment its existing uses and programs, thereby maintaining compatible development at medium densities appropriate to the existing neighborhood patterns. As used in this section, the term "Waynflete School" includes any successor institution that operates as a private day school.

8.11.2 Location and applicability

The Waynflete School Overlay Zone, as shown on the zoning map, is intended to encompass and define Waynflete School's principal campus on the Portland peninsula. Properties in the Waynflete School Overlay Zone shall continue to be governed by the regulations applicable to the underlying zone except as specifically modified by this section.

8.11.3 Subdistricts

The Waynflete School Overlay Zone consists of two subdistricts. Except where otherwise specified in this Section 8.11, all provisions of this Waynflete School Overlay Zone apply in both subdistricts. The subdistricts, as shown on the Waynflete School Overlay Zone subdistrict map, incorporated herein by reference, are as follows:

A. The Campus Core subdistrict defines the interior core of the campus and is intended to allow compact development of school uses, with specific space and bulk regulations designed to accommodate school uses.
B. The Campus Edge subdistrict is intended to preserve residential character along the streets bordering the campus by limiting the amount of residential space which can be converted to school uses, by maintaining a number of dwelling units within the subdistrict which equals the number of dwelling units existing in the subdistrict at the time of enactment of this Overlay Zone, and by encouraging mixed-use buildings along the street frontages. The space and bulk regulations of the R-4 zone continue to apply within the Campus Edge subdistrict.

8.11.4 Permitted uses

In addition to the permitted uses allowed in the underlying zones and notwithstanding anything to the contrary in the use regulations for the underlying zones, the following uses are permitted in the Waynflete School Overlay Zone:

A. **School uses.** Elementary, middle and secondary school uses including, but not limited to, the following:
    1. Classrooms.
    2. Laboratory facilities.
    3. Dining halls.
    4. Auditoriums.
    5. Concert and lecture halls.
    6. Gymnasiums.
    7. Libraries.
    8. Outdoor use areas, such as "quads", greens, parks, gardens, art installations, and other active and passive recreation spaces.
    9. Parking lots and structures.

10. Community meeting spaces.
11. Administrative and faculty offices.
12. Transportation facilities.
13. Maintenance facilities.
14. Utility buildings.
15. Student health services.
16. Bookstores.
17. Accessory uses which are customarily incidental and subordinate to the location, function and operation of a private day school.

B. **Residential uses.** Faculty or staff housing, which shall be considered a residential use, and not a school use, for all purposes under this overlay zone.

8.11.5 Prohibited uses

A. Boarding schools.
B. Dormitories.

8.11.6 Residential conversions prohibited

A. Conversions of existing residential buildings within the Waynflete School Overlay zone shall be prohibited.
B. The existing houses at 11 Fletcher Street, 3 Storer Street, 305 Danforth Street, and 299 Danforth Street shall not be relocated from their locations existing as of January 20, 2010. This provision shall not apply to garages.
C. At no time shall the number of dwelling units within the Waynflete School Overlay Zone be reduced below four (the number existing at the time of enactment of this Overlay Zone).

8.11.7 Dimensional requirements

Buildings and structures in the Waynflete School Overlay Zone shall be subject to the applicable dimensional requirements of the underlying zones, except as follows:

A. Minimum setbacks shall be the same as in the underlying zone, except that side and rear setbacks shall not be required between buildings on contiguous lots owned or occupied by Waynflete School on the condition that such contiguous lots shall be considered merged and shall not be separately conveyed unless required yard dimensions in the underlying zones are provided.
B. Minimum street frontage shall be the same as in the underlying zone, except that all the land within the Waynflete School Overlay Zone owned or occupied by Waynflete School shall be considered a single lot for the purpose of complying with minimum street frontage.
C. Maximum coverage by buildings shall be the same as in the underlying zone, except that in the Campus Core subdistrict the maximum coverage by buildings shall be 40% and all the land within the Campus Core subdistrict owned or occupied by Waynflete School shall be considered a single lot for the purpose of calculating maximum coverage by buildings.

8.11.8 Parking

The amount of parking required for any change of use, new building, or building addition within the zone shall be determined during site plan review, based on an analysis of school-wide demand and supply, pursuant to a comprehensive school-wide Transportation Demand Management Plan (TDM), and treating all land owned by Waynflete School within the Waynflete School Overlay Zone as one lot. Any existing parking management or TDM plan approved as part of a previous approval shall remain in effect until revised or updated pursuant to this

section. In determining the amount of parking required for any building within the Waynflete School Overlay Zone, the Planning Authority or the Planning Board may take into account such factors as:

A. The use of centrally located on-campus parking facilities so situated that students, faculty, staff and visitors arriving on campus can reasonably be expected to park in the central facilities and walk to their various on-campus destinations during the course of a school day.
B. Shared use of a single parking facility by two or more buildings when the peak parking demand periods for such buildings do not overlap.
C. Development and implementation of a parking management plan which discourages on-street parking.
D. Development and implementation of a TDM plan subject to the review and approval of the Planning Authority or the Planning Board. The TDM plan shall employee elements such as public transit initiatives, parking cash-out, car sharing, car and van pooling incentives, provision of bicycle and pedestrian commuting accommodations, guaranteed ride home programs, employee surveys, newsletters, alternative transportation information sharing, and other such strategies that reduce single occupancy vehicle trips to and from Waynflete school. Waynflete School shall follow the standards and guidelines for developing a TDM plan found in the TDM section of the City of Portland *Technical Manual*.

8.11.9 Loading

The amount of loading area required for any building within the Waynflete School Overlay Zone shall be determined by the Planning Board during site plan review, based on a campus-wide analysis, treating all land owned by Waynflete School within the Waynflete School Overlay Zone as one lot. In determining the amount of loading space required for any building within the Waynflete School Overlay zone, the Planning Board may take into account such factors as:

A. The use of centrally located on-campus loading facilities so situated that vehicles making deliveries can load and unload in central facilities, provided no single location is overburdened with loading facilities.
B. Shared use of a single loading facility by two or more buildings.
C. Impacts of the loading area on adjacent uses outside the Waynflete School Overlay Zone.

8.11.10 Signage

Signs shall comply with the requirements of Article 20.

8.11.11 Restrictions

Notwithstanding the conditional use provisions for institutional uses within the R-4 or R-6 zones, Waynflete School cannot locate a school use listed in Subsection 8.11.4 on any lot in the R-4 or R-6 zones outside the boundaries of the Waynflete School Overlay Zone that was occupied by a residential use or structure on or after January 20, 2010. This restriction does not prevent Waynflete School from seeking a conditional use permit for a school use, where otherwise allowed by the zoning regulations, on lots outside the Waynflete School Overlay Zone that were not occupied by a residential use or structure on or after January 20, 2010.

9 FORM-BASED ZONES

9.1 INDIA STREET FORM-BASED ZONE

9.1.1 Purpose

The India Street Form-Based Code is different than traditional zoning, placing the primary emphasis on a building's physical form and its relationship to the street, and de-emphasizing land use. The intent of the India Street Form-Based Code Zone is to establish a zone that encourages a vibrant, walkable, mixed-use urban district, preserves and values the existing historic neighborhood fabric, and fosters and supports local businesses and residential areas. The goal of the India Street Form-Based Code is the creation and preservation of an active and human-scale public realm and the reinforcement of existing neighborhood character through good street space design. The components of the form-based code include the guiding principles, Regulating Plan, subdistricts, general development standards, dimensional requirements, building design standards, diagrams, and definitions.

9.1.2 General guiding principles

The general guiding principles set forth here shall be applicable to all subdistricts within the India Street Form-Based Code Zone:

A. The street is a coherent space, with consistent building and streetscape character on both sides of the street. This agreement of buildings and streetscape across the street contributes to a clear public space and district identity.

B. The street wall is visually well defined. Land should be clearly public or private. Buildings contribute to the vital and safe public space while providing a clear boundary to the private, protected realm.

C. Street walls are engaged with the street environment. Buildings are inviting places that interact with and contribute to the street vitality. Inactive edges, vehicle storage, garbage, and mechanical equipment should be kept away from the street. Shared infrastructure, to the extent practicable, including, but not limited to, service alleys, parking areas, stormwater treatment, public transportation facilities, and driveways, shall be utilized.

D. Buildings are designed for the urban environment. Buildings must be designed for the urban situation within the subdistrict which often includes mixed-uses. Buildings are positioned near the street and facades are oriented to the street.

E. Respect historic character. If a property is within the India Street Historic District, Article 17 is applicable. New construction, building additions, or alterations in the India Street Historic District shall reflect and complement the character-defining features and elements of the existing historic development to which it is visually related.

9.1.3 Applicability

A. The requirements set forth in this Section 9.1 shall apply to all new development, primary and accessory structures, including building additions within the India Street Form-Based Code Zone as designated on the India Street Regulating Plan.

B. A partial waiver of the requirements listed below may be granted if it can be demonstrated to the satisfaction of the

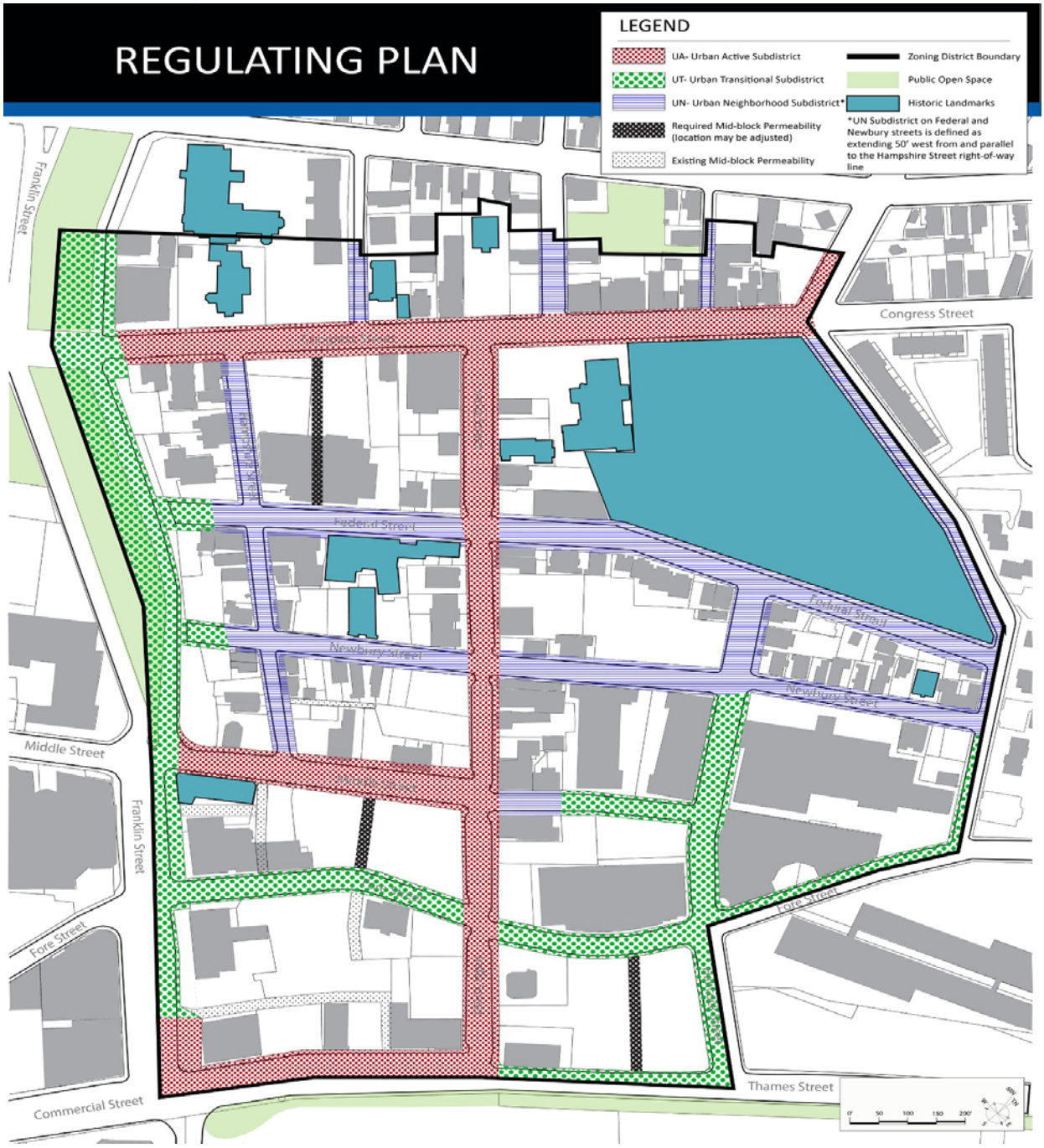


FIGURE 9-A: IS-FBC REGULATING PLAN

Planning Authority that the requirements in Subsection 9.1.3(C) below have been met:

1. Building orientation.
2. Blank façade length (max.).
3. Fenestration, ground floor facade area.
4. Building entry frequency, orientation, or elevation.
5. Garage door setback or width.
6. Additional building length – ground floor partition or module requirements.

C. A partial waiver request must meet the following requirements:

1. The intent of the IS-FBC zone as stated in Subsections 9.1.1 and 9.1.8.
2. Be the least adjustment necessary to satisfy the practical, programmatic, or functional needs of the proposed development.
3. At least one of the following applies:
   a. The proposed zoning alternative better achieves the zone and subdistrict intent.
   b. The zone or subdistrict intent will not be met by applying the requirement in this particular circumstance.
   c. There is a legal or practical necessity or unique conditions.
   d. Unique site factors make the zoning requirement impractical or cost prohibitive.

9.1.4 Establishment of subdistricts

The India Street Form-Based Code Zone as shown on the Regulating Plan is divided into three subdistricts:

A. Urban Neighborhood (UN) Subdistrict.
B. Urban Transitional (UT) Subdistrict.
C. Urban Active (UA) Subdistrict.

9.1.5 Regulating Plan

The Regulating Plan shows the location of the zone boundary and subdistricts subject to regulation by the IS-FBC zone.

9.1.6 Definitions

Terms used throughout this India Street Form-Based Code Zone may be defined in Article 3 or in Article 7. Terms not so defined shall be accorded their commonly accepted meanings. In the event of any conflict between the definitions in this section and those in Article 3, Article 7, or any other local land use ordinances, rules, or regulations, those of this India Street Form-Based Code Zone shall take precedence. For reference, terms are illustrated in Figure 9-B.

Building, accessory. A detached structure that is incidental and subordinate in area and extent, and/or use to the principal building(s) on the property. A lot may have more than one accessory building.

Building addition. Any increase to footprint or volume of an existing structure.

Building, principal. The main structure(s) on a lot having the predominant area and extent, and/or use. A lot may have more than one principal building.

Buildings, attached. Two or more independent buildings that share at least one common party wall but have full building separation and independent principal entries; not free-standing. Attached buildings may or may not have common ownership.

Building Design Standard (BDS). The basic design parameters governing building form, including

intent, guidelines, and standards for architectural elements such as proportion, articulation, fenestration, entries, roof lines, and materials.

Elevation. An exterior wall of a building not along a frontage line.

Entrance, principal. The main point of access for pedestrians into a building. A building may have more than one principal entrance.

Façade. Any exterior wall of a structure exposed to public view from a public right-of-way.

Façade, blank. A building façade that contains expanses of wall area with no windows, no entrances, no articulation, and no other elements or features, or is otherwise undifferentiated.

Green roof. A roof of a building that is partially or completely covered with vegetation and designed to meet the Maine Stormwater Best Management Practices Manual standards and recommendations. A green roof installation must serve the purpose of reducing stormwater runoff through retention or slowing and consist of an assembly that at a minimum includes a root repellent system, a drainage system, a filtering layer, a growing medium and plants, and shall be installed on a waterproof membrane. The vegetated area of a green roof may be considered pervious for zoning impervious calculations.

Mid-block permeability. A continuous, open-air corridor at least 20' in width that connects two streets or public rights-of-way and physically provides a break in the street wall. The corridor must be unobstructed and open to the sky for the majority of its length.

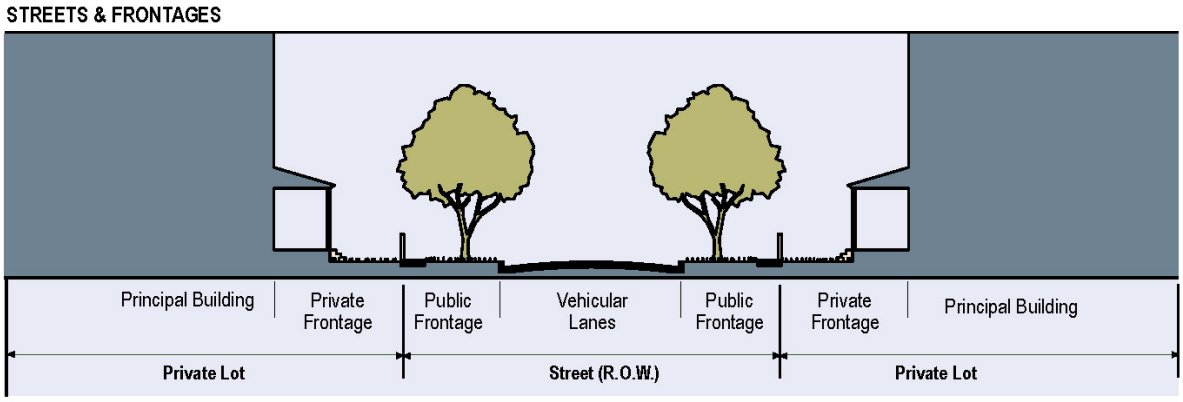
Party wall. Any partition wall common to two adjacent or attached buildings.

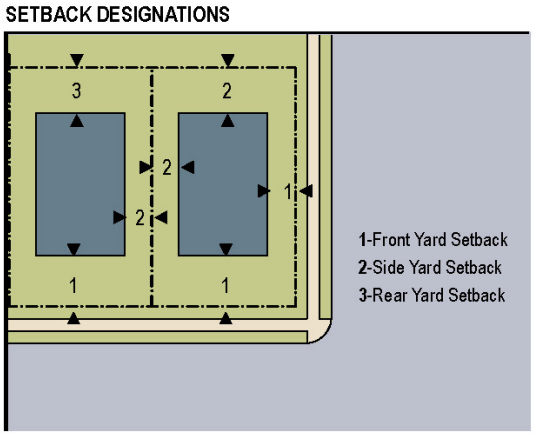
Regulating plan. A zoning map that shows the boundary of the area and subdistricts subject to regulation by the India Street Form-Based Code.

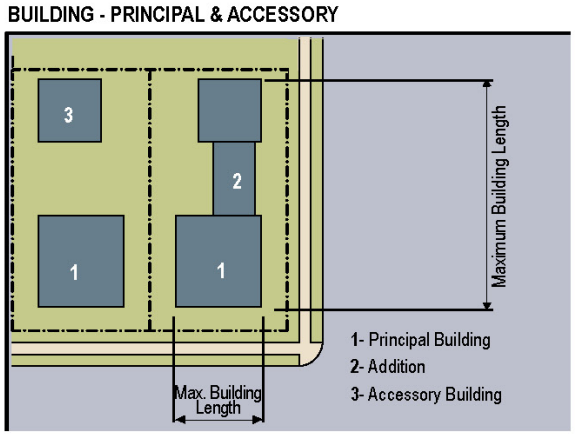
Stepback. A building setback of a specified distance measured from the ground floor building face that occurs at a prescribed number of stories or height above the ground and excludes the minimum necessary housing of elevators, stairways, tanks, fans, or other building operating equipment not intended for human occupancy.

Yard, side. A yard adjoining a side lot line extending from the front yard to the rear yard, the width of which shall be the shortest horizontal distance between the side lot line and any structure. On corner lots, non-frontage yards shall be considered side yards.

Zero lot line. The location of a structure on a lot such that one or more of the structure sides rests directly on a lot line.







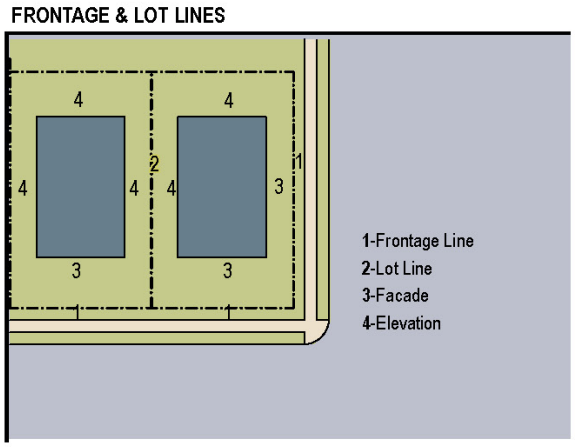


FIGURE 9-B: IS-FBC TERMS ILLUSTRATED

A. Prohibited uses

1. Correctional pre-release facilities.
2. Funeral homes.
3. Drive-through facilities.
4. High-impact industrial uses.
5. Auto service stations.
6. Truck terminals.
7. Recycling and solid waste disposal services.
8. Storage and parking facilities for Class 1 flammable and combustible liquids (having an aggregate total of more than 100 gallons) but excluding storage that is part of a motorized vehicle or pleasure craft facility.

B. Siting standards

1. *Mid-block permeability*
   a. On lots with frontage on two streets roughly parallel to Commercial/Thames Street, for each and every 200 feet in street line length of lot, a full break between structures of at least 20 feet in width shall be provided roughly perpendicular to Commercial/Thames Street and within the middle third of the applicable street frontage. (See Figure 9-G.)
   b. Is encouraged in any location that connects existing public or private alleys, passages, or streets.
   c. Any development providing mid-block permeability with public access between two streets is eligible for one additional story of up to 12 feet in height under the provisions of Subsection 9.1.7(C). Public access shall be defined through a legal agreement such as an easement or license.
   d. Refer to Regulating Plan for identified required mid-block permeability locations.
2. *Frontage requirements*
   a. Minimum street frontage: 30 feet
   b. Building length measurement shall not include porches, decks, or balconies that are appended to the principal structure.
   c. In the case of a corner lot or lot bounded by at least three streets, maximum building lengths may not be exceeded in order to meet front yard setbacks.
   d. Additional building length is allowed beyond the maximum building length under the following circumstances and according to Table 9-A:

TABLE 9-A: ADDITIONAL BUILDING LENGTH

Subdistrict	Attached Buildings	Ground Floor Partitions	Massing Variation	Structured Parking Exception
UN	unlimited run	Not allowed	Not allowed	Not allowed
UT	unlimited run	200 ft. max. length; 2 modules	200 ft. max. length	200 ft. max. length
UA	unlimited run	150 ft. max. length; 3 modules	Not allowed	150 ft. max. length

i. Attached buildings: An unlimited number of attached buildings having up to 30 feet of street-facing building length is allowed. A party wall condition is required at least every 30 feet and for the entire height of each building. (See Table 9-A Additional Building Length – Attached Buildings.)

ii. Ground floor partitions: Additional building length is permitted with the provision of ground floor partitions where the following conditions are met. (See Table 9-A Additional Building Length – Ground Floor Partitions.):

a) Partitions must extend from the facade at least 2/3rds of the building depth.

b) Partitions must be architecturally expressed on the building exterior.

c) Each module created by partition must have at least one functional, street-facing entry.

d) Modules created by partition shall be sized to have reasonable function and proportion in relation to overall building length.

e) In the UA subdistrict, number of modules are required based on building length. In a building with a length greater than 50 feet but less than 100 feet, at least two modules are required. In a building with a length greater than 100 feet but less than or equal to 150 feet, at least three modules are required.

f) Massing Variation: Additional building length is permitted where at least 30% and up to 40% of the total façade building length is set back at least 20 feet. (See Table 9-A Additional Building Length – Massing Variation.)

g) Structured Parking Exception: Additional building length for one facade without partition walls is allowed for the use of ground-level structured parking.

3. *Setbacks*

a. Lots with a street frontage of less than 35 feet are exempt from providing side yards but only where required yard is perpendicular to the frontage that is less than 35 feet.

b. Where new construction or building additions create a side yard of less than five feet, a maintenance easement is required where a combination of the side yard and

easement must be at least five feet. Party wall conditions are exempt from providing a maintenance easement. Corner lots may only apply the side yard reduction to one required side yard.

c. Building facades within 10 feet of a corner are exempt from setback requirements in order to allow special corner architectural treatments.

d. Subdivision developments consisting of horizontally attached buildings on individual lots are not required to have side yards between buildings where a party wall condition will exist, but shall be required to meet the applicable side setbacks at the external and internal subdivision lot boundaries between buildings that are not attached to each other.

4. *Landscaping and screening*

a. Surface parking areas shall be screened from view from sidewalks, public rights-of-way, and public open spaces using landscaping, walls, fencing, or a combination thereof.

b. Walls and fences shall meet the dimensional requirements in Table 9-B.

TABLE 9-B: WALL/FENCE DIMENSIONAL REQUIREMENTS

Location	Height	Visual Permeability
Within front yard	6 ft. max.	Required above 2 ft. from sidewalk grade
Side or rear yard	8 ft. max.	n/a

5. *Building additions*

a. Building additions which exceed the footprint of the existing building to which it is an addition or which exceeds 50,000 square feet shall be subject to major site plan review.

b. Exemptions

i. A building addition may not cause the building to exceed the maximum building length requirement except in the case that the building addition is located between a street frontage and an existing building with a legally non-conforming length. In such an instance, a building addition length may match but not exceed the legally non-conforming length of the existing building to which it is an addition. (See Figure 9-G.)

ii. Building additions are exempt from story minimums or maximums in order to match existing building in number of stories. All other subdistrict height standards shall apply including height minimum and maximums in feet.

TABLE 9-C: HEIGHT BONUSES

Subdistrict	Pre-Bonus Height (max.)	Mid-Block Permeability[1]	Residential Density	Green Roof	Affordable Housing	Height With Bonus (max.)	Bonus Floor Stepback[2] (min.)
UN	45 ft. and 4 stories	n/a	n/a	n/a	1 story up to 12 ft.	57 ft. up to 5 stories	15 ft.
UT	65 ft. and 6 stories	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	77 ft. up to 7 stories	15 ft.
UA (Congress Street and Commercial Street only)	50 ft. and 4 stories	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	62 ft. up to 5 stories	15 ft.

[1] Must be publicly accessible.
[2] Measured from the ground floor building edge facing any public right-of-way.

C. Height standards

1. *Height bonus applicability*
   a. If a frontage faces a UT street, UN street, or allowed UA street according to Table 9-C, then the portion of the building facing that street is eligible for a height bonus. For lots with multiple frontages where a frontage faces an ineligible street, bonus story must be stepped back at least 35 feet from ineligible street line. (See Subsection 9.1.8(D).)
   b. Only one height bonus may be applied per structure.
2. One additional story of up to 12 feet in height is allowed if one of the following provisions is met:
   a. For residential development with residential density equal to or greater than 150 dwelling units per acre (density may be achieved with the bonus floor).
   b. For any development providing a green roof, where:
      i. At least 50% of the cumulative lot area is pervious.
      ii. At least 50% of the cumulative roof area is a green roof. Green roof area may be applied towards the 50% lot area requirement.
   c. For residential development where 20% of the units meet the definition of either "Workforce Housing Unit for Sale" or "Low-income Housing Unit for Rent" as per Article 3.

D. Parking standards

1. Parking shall be provided as per Article 19.
2. Structured parking must meet the Building Design Standard for structured parking. (See City of Portland *Design Manual*.)
3. In the case of a building addition, non-conforming existing surface parking may remain. In the case of new construction, surface parking must be brought into conformance with IS-FBC standards.

9.1.8 Subdistrict dimensional requirements

A. Urban Neighborhood (UN) subdistrict

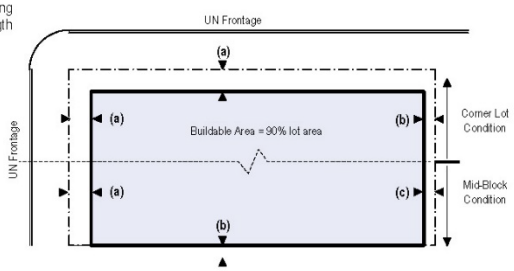
The intent of this subdistrict is to maintain and promote a small-scale, less active urban fabric. Buildings may be more private in character and have smaller footprints with building types including, but not limited to, single-family, rowhouses, duplexes, triple-deckers, and double-triples. Building frontages may be less transparent and entries may be raised above sidewalk level with frontage types including raised, recessed doorways, porches, and stoops. The streetscape has variable setbacks and landscaping with many buildings within one block and streets tend to be narrow.

SITING STANDARDS	
Orientation - Principal Frontage	determined by applicant
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length - Principal facade	50' max.
Building Length - Secondary fac.	50' max.
BLANK FACADE length (max)	15'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	unlimited run
Ground Floor Partitions	not allowed
Massing Variation	not allowed
Structured Parking Exception	not allowed
SETBACKS	
Principal Building	
(a) Front Yard	5' max.
Setback Applicability (see Figure 9-G)	75% of total building length must meet front yard setback
(b) Side Yard*	5' min. - May be reduced provided that the cumulative side yards are not less than 10'
(c) Rear Yard	10' min.
Accessory Building Front Yard	5' min.
Side Yard	5' min.
Rear Yard	5' min.
BUILDING ENTRIES (SEE ALSO BDS)	
Frequency at frontage	at least 35'
Principal Entries	
Orientation	any orientation allowed
Elevated Stoop (> 1 step)	allowed
HEIGHT STANDARDS	
Principal Building	
Building Height Min.	25', at least 2 stories
Building Height Max.	45', up to 4 stories
Accessory Building	
Building Height Max.	25'
PARKING STANDARDS	
Surface Parking Location	35' min. setback from street
Within Side Yard	20' max in width per lot; may not exceed 50% of frontage length
Garage at frontage (attached or detached)	
Garage Door Setback (min)	5'
Garage Door Opening (max)	9' up to 40% of facade length
	20' max. limit
Notes and Exceptions	

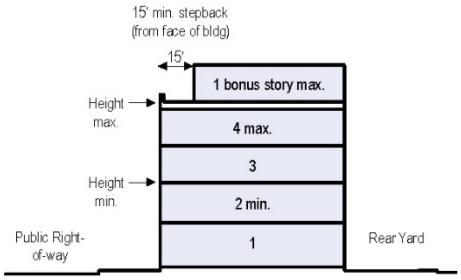
* Reduced side yards and zero lot lines are allowed under certain conditions (see Subsection 9.1.7(B)(3) Setbacks)

UN

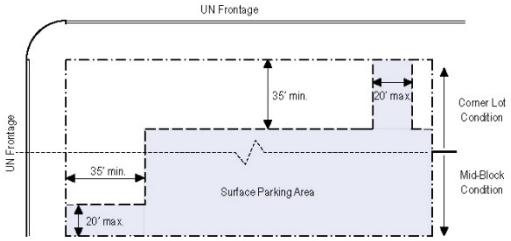
SITING STANDARDS
1. The FACADES and ELEVATIONS of Principal Buildings shall be distanced from the lot lines as shown.
2. FACADES shall be built along the frontage lines to the length specified in the table.



HEIGHT STANDARDS
1. Height shall be measured as specified in Article 7.
2. Number of stories excludes attics and raised basements.



PARKING STANDARDS
1. Surface parking areas may be provided within the shaded area shown.



B. Urban Transitional (UT) subdistrict

The intent of this subdistrict is to encourage higher density, mixed-use building types that accommodate any use. Building frontages are a mix of activity level, have larger footprints, and the most flexibility of height and scale. Building ground floor spaces tend to accommodate flexible and changing uses with frontage types including doorways, forecourts, arcades, and storefronts. The streetscape may be less active than the UA subdistrict with wide sidewalks, street trees, and setbacks and stepbacks providing relief from large building masses.

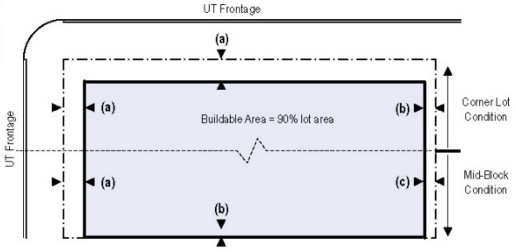
SITING STANDARDS	
Orientation - Principal Frontage	determined by applicant
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length	100' max.
BLANK FACADE length (max)	30'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	unlimited run
Ground Floor Partitions	200' max., 2 modules
Massing Variation	200' max.
Structured Parking Exception	200' max.
SETBACKS	
Principal Building	
(a) Front Yard	10' max.
Setback Applicability (see Figure 9-G)	75% of total building length must meet front yard setback
(b) Side Yard*	10' min. - May be reduced provided that the cumulative side yards are not less than 20'
(c) Rear Yard	10' min.
(d) STEPBACK (adjacent to UN)	10' min. stepback after 45' height
Accessory Building Front Yard	5' min.
Side Yard	5' min.
Rear Yard	5' min.
BUILDING ENTRIES (SEE ALSO BDS)	
Frequency at frontage	at least 95'
Principal Entries	
Orientation	any allowed
Elevated Stoop (>1 step)	allowed
HEIGHT STANDARDS	
Principal Building	
Building Height Min.	3 stories
Building Height Max.	65', up to 6 stories
Ground Story Height	n/a
Accessory Building	
Building Height Max.	25'
PARKING STANDARDS	
Surface Parking Location	35' min. setback from street
Garage at frontage (attached or detached)	
Garage Door Setback (min)	10'
Garage Door Opening (max)	9' up to 40% of facade length
	20' max. limit
Notes and Exceptions	

* Reduced side yards and zero lot lines are allowed under certain conditions (see Subsection 9.1.7(B)(3) Setbacks)

UT

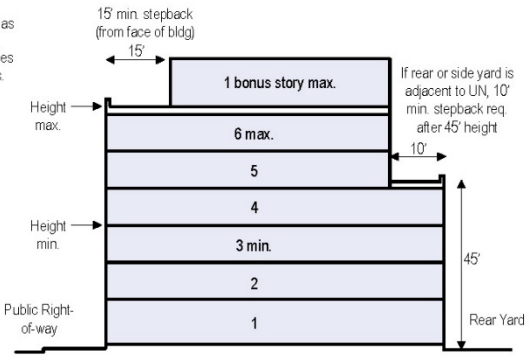
SITING STANDARDS

1. The FACADES and ELEVATIONS of Principal Structures shall be distanced from the lot lines as shown.
2. FACADES shall be built along the frontage lines to the length specified in the table.



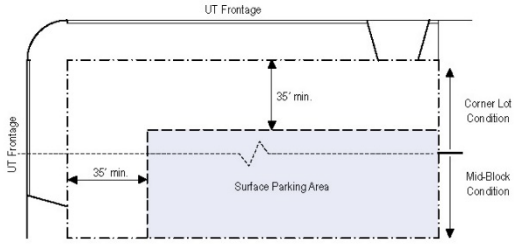
HEIGHT STANDARDS

1. Height shall be measured as specified in Article 7.
2. Number of stories excludes attics and raised basements.



PARKING STANDARDS

1. Surface parking areas may be provided within the shaded area as shown.



C. Urban Active (UA) subdistrict

The intent of this subdistrict is to maintain and promote a moderate-scale, diverse, mixed-use neighborhood with vibrant streets and active ground floor spaces. Buildings are more active and engage the street at the ground level. Building frontages are transparent and entries are at sidewalk level with frontage types including storefronts and recessed doorways. The streetscape has steady street planting, and buildings set close to the street providing a consistent street wall.

UA

SITING STANDARDS	
Orientation - Principal Frontage	face a UA street
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length	50' max.
BLANK FACADE length (max)	15'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	unlimited run
Ground Floor Partitions	150' max., up to 3 modules
Massing Variation	not allowed
Structured Parking Exception	150' max.
Fenestration, ground floor	60-90% (see BDS) facade area
SETBACKS	
Principal Building	
(a) Front Yard*	5' max.
Setback Applicability (see Figure 9-G)	75% of total building length must meet front yard setback
(b) Side Yard**	5' min. - May be reduced provided that the cumulative side yards are not less than 10'
(c) Rear Yard	10' min.
Accessory Building Front Yard	5' min.
Side Yard	5' min.
Rear Yard	5' min.
BUILDING ENTRIES (SEE ALSO BDS)	
Frequency at frontage	at least 40'
Principal Entries	
Orientation	at least 1 facing UA street or corner
Elevated Stoop (>1 step)	not allowed
HEIGHT STANDARDS	
Principal Building	
Building Height Min.	3 stories
Building Height Max.	50', up to 4 stories
Accessory Building	
Building Height Max.	25'
PARKING STANDARDS	
Surface Parking Location	35' from street
Garage at frontage (attached or detached)	
Garage Door Setback	20' min. from street
Garage Door Opening (max)	n/a

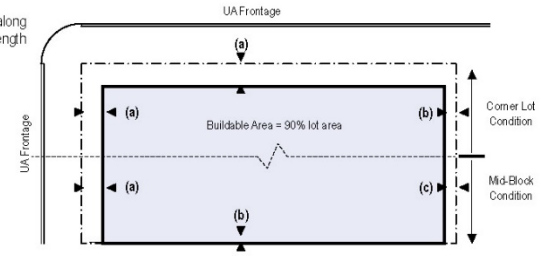
Notes and Exceptions

* Up to 10'0" max. front yard setback is allowed if ground plane at frontage is a continuation of the accessible public right-of-way

** Reduced side yards and zero lot lines are allowed under certain conditions (see Subsection 9.1.7(B)(3) Setbacks)

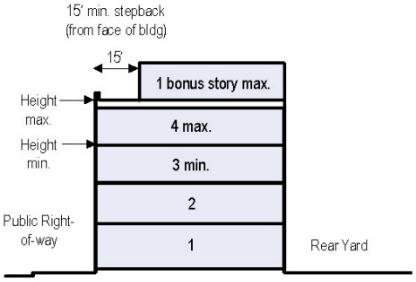
SITING STANDARDS

1. The FACADES and ELEVATIONS of Principal Buildings shall be distanced from the lot lines as shown.
2. FACADES shall be built along the frontage lines to the length specified in the table.



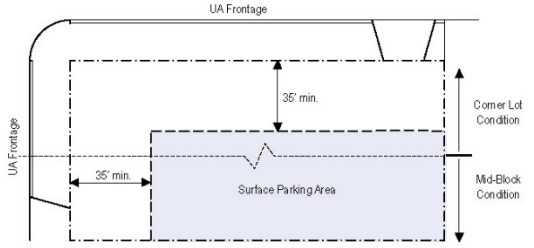
HEIGHT STANDARDS

1. Height shall be measured as specified in Article 7.
2. Number of stories excludes attics and raised basements.



PARKING STANDARDS

1. Surface parking areas may be provided within the shaded area as shown.



D. Corner conditions

For corner lots where two subdistricts intersect at a street corner, the dimensional requirements and building design standards of the "dominant" subdistrict shall apply 35 feet deep into the lot measured from the dominant lot line along its associated street frontage or public ways including required mid-block permeability. Otherwise, dimensional requirements shall be according to the subdistrict onto which the building façade faces.

ORIENTATION

- Corner lots shall be treated as having street frontage on all streets regardless of building orientation
- Principal Building shall designate a Principal Frontage and Secondary Frontage*
- In the case of a corner lot having UA frontage, the Principal Frontage must face a UA street*

SETBACKS

(a) Front Yard (1st Lot Layer)	according to subdistrict
(b) Side Yard	according to subdistrict

Building facades within 10' of a corner are exempt from setback requirements in order to allow special architectural treatments.

UA INTERSECTS UT

Dominant Subdistrict (35' deep)	UA
Orientation - Principal Frontage	UA street
Dominant Building Design Standards (applicable 35' deep)	
Ground Story Height	12' min. clear
Fenestration, ground floor	60-90% (see BDS) facade area

(measured as a percentage of the FACADE that is 2' above sidewalk grade)

UA INTERSECTS UN

Dominant Subdistrict (35' deep)	UA
Orientation - Principal Frontage	UA street
Building Length - UN FACADES	100' max.
Dominant Building Design Standards (applicable 35' deep)	
Ground Story Height	12' min. clear
Fenestration, ground floor	60-90% (see BDS) facade area

(measured as a percentage of the FACADE that is 2' above sidewalk grade)

UT INTERSECTS UN

Dominant Subdistrict (35' deep)	UN
Orientation - Principal Frontage	determined by applicant

- Corner lots shall be treated as having street frontage on all streets regardless of building orientation

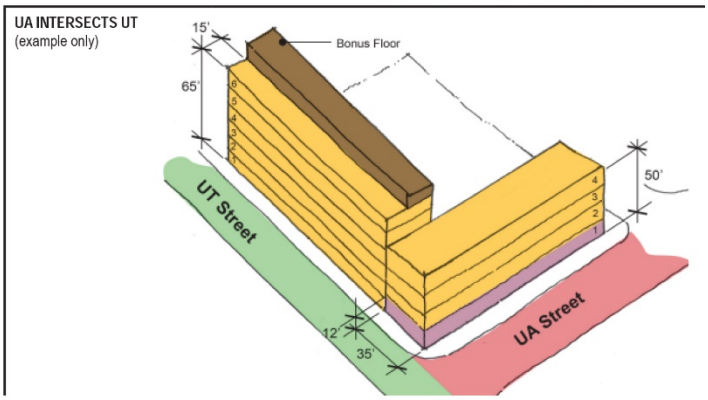
UN INTERSECTS UN

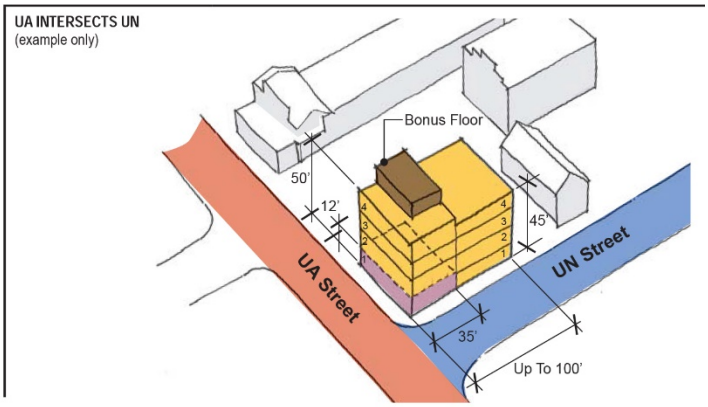
Building Length maximums:	
Principal Frontage	30' max.
Secondary Frontage	50' max.

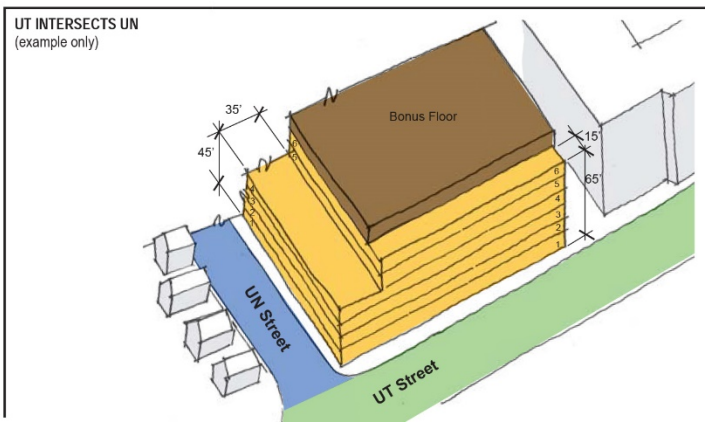
Notes and Exceptions

* Does not have to correspond to legal building address

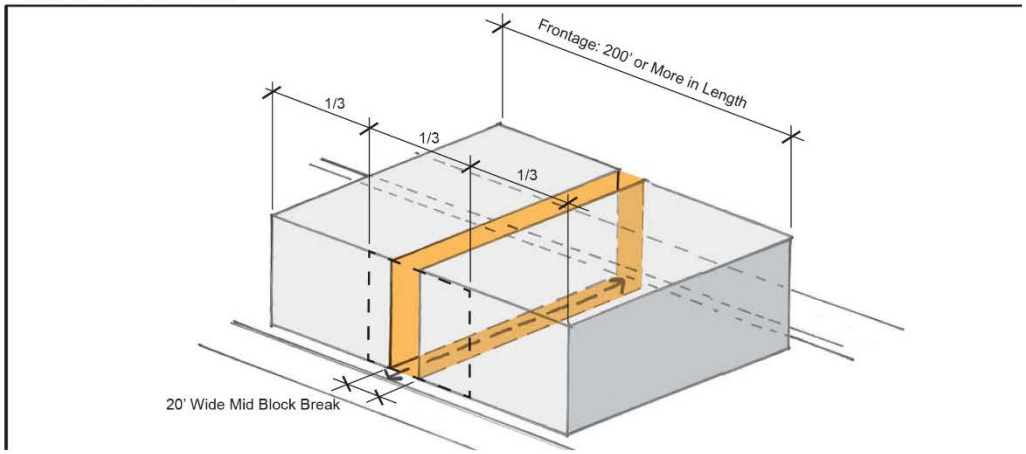
CORNER



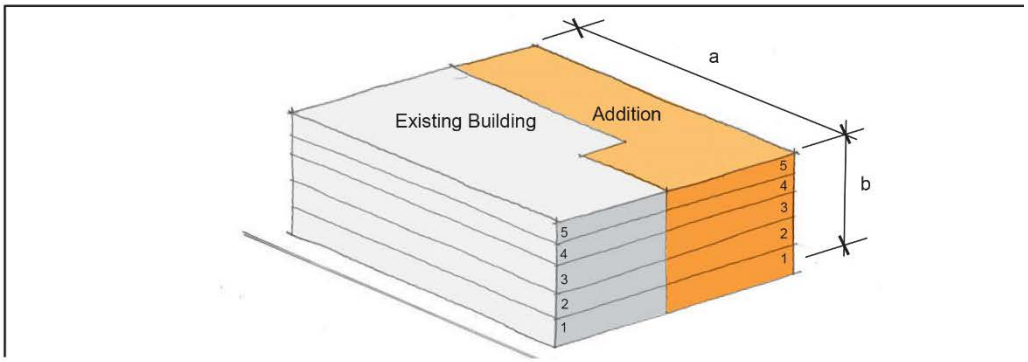




MID-BLOCK PERMEABILITY



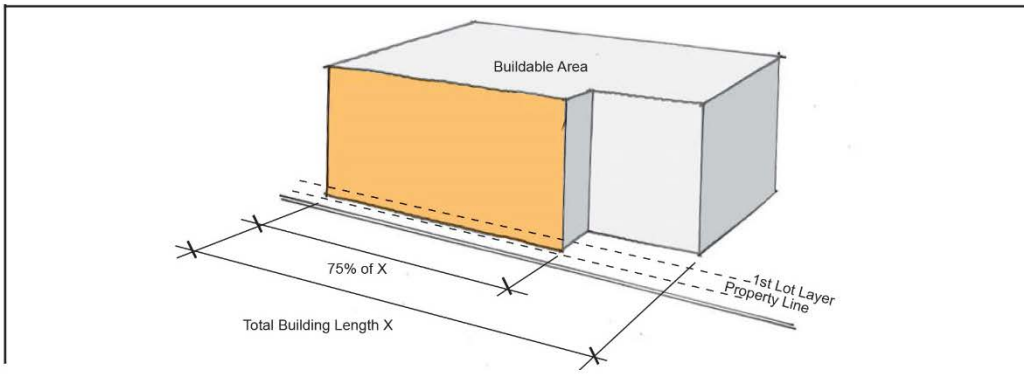
ADDITION



a - Addition length may match but not exceed the length of existing building to which it is an addition. All other Subdistrict Dimensional Requirements apply.

b - Addition height may match existing building in number and height of stories. All other Subdistrict Height Standards apply.

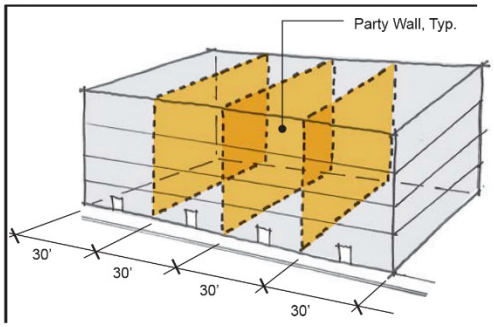
BUILDING LENGTH - 1st LOT LAYER



At least 75% of the total building length must be within the 1st LOT LAYER.

FIGURE 9-G: DIMENSIONAL REQUIREMENTS ILLUSTRATED

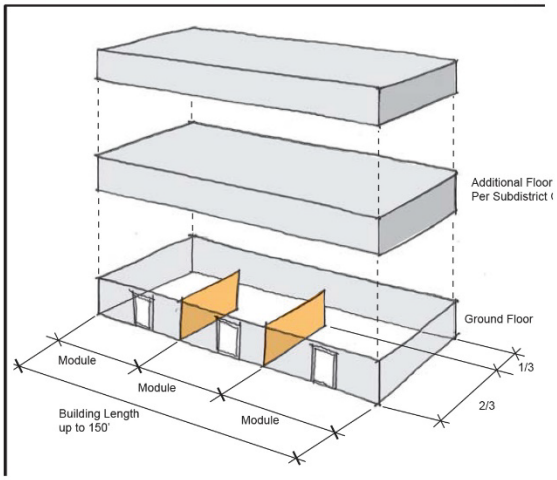
ADDITIONAL BUILDING LENGTH - ATTACHED BUILDINGS



An unlimited number of ATTACHED BUILDINGS having up to 30' street-facing building length is allowed.

A PARTY WALL condition is required at least every 30' and for the entire height of each building.

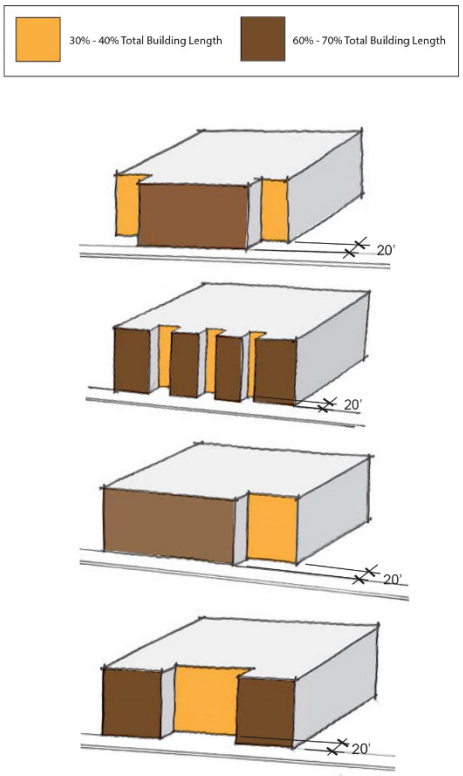
ADDITIONAL BUILDING LENGTH - GROUND FLOOR PARTITIONS (UA)



Additional Building Length is permitted up to 150' with the provision of a least two Ground Floor Partitions

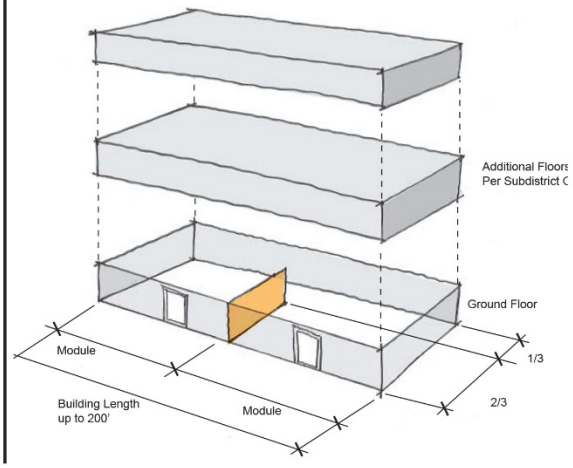
See General Development Standards and BDS for additional requirements.

ADDITIONAL BUILDING LENGTH - MASSING VARIATION (UT)



Additional building length is permitted where at least 30% and up to 40% of the total building length is setback to the 3rd LOT LAYER (20').

ADDITIONAL BUILDING LENGTH - GROUND FLOOR PARTITIONS (UT)



Additional Building Length is permitted up to 200' with the provision of at least one Ground Floor Partition.

See General Development Standards and the BDS for additional requirements.

FIGURE 9-G (CONT.): DIMENSIONAL REQUIREMENTS ILLUSTRATED



10 WATERFRONT ZONES

10.1 IN GENERAL

Portland's waterfront zones were developed to support a wide range of industries unique to the city's maritime environment that rely upon access to the working waterfront. Competing demands for limited access require a more exhaustive use list, specialized performance standards, and a unique set of dimensional restrictions that are unlike those of other zones. Given this high degree of specialization, Article 10 should generally be viewed in isolation from other articles within the Land Use Code, with the exception of waterfront-specific definitions, listed within Article 3. Uses specific to Article 10 may feature some degree of overlap with other defined uses allowed elsewhere within the city. However, in such instances, the use as referenced within this article shall control.

10.2 EASTERN WATERFRONT PORT ZONE (EWPZ)

10.2.1 Purpose

A. The Eastern Waterfront Port Zone is created to nurture deepwater-dependent activity within the context of the established waterfront. The transport of goods and passengers by water is an important component of both the local and regional economies and this transport and other forms of marine industry are dependent upon land and piers with direct access to Portland Harbor. Given the existing pier infrastructure, proximity to deep water, and urban context, Portland's Eastern Waterfront is uniquely situated to support a wide range of water-dependent industry and commerce through a variety of marine activities.

B. The support and expansion of Portland's marine industry requires piers, uplands, and circulation consistent with the transportation purpose and use of marine facilities. The growth of Portland's marine passenger industry also requires supporting services and activities to provide a safe, convenient, and enjoyable travel experience for users of marine passenger facilities. Non-marine uses that complement the marine passenger industry, are compatible with existing and future water-dependent uses, and provide opportunities for residents and visitors alike to enjoy the Eastern Waterfront throughout the year, are encouraged.

C. The primary use of the deep-water resources must be for the berthing and support of large vessels. Non-marine uses that complement and support the deepwater infrastructure and do not conflict or compete for limited space with existing or anticipated deepwater-dependent uses are encouraged. Existing and future pier infrastructure and upland support areas should be designed and maintained to support a variety of marine uses and be responsive to future technologies and trends in the marine industry.

D. Given the need to nurture and support deepwater-dependent uses and the need for non-deepwater-dependent uses to complement the marine passenger industry and to support the maintenance and repair of pier infrastructure, the Eastern Waterfront Port Zone recognizes the following hierarchy of uses:

1. The first priority of this zone is to protect and nurture existing and potential deepwater-dependent uses (those uses

requiring a minimum of 15 feet of water depth).

2. The second priority is to allow shallow water-dependent and other permitted marine uses, so long as they do not interfere with deepwater-dependent uses, either directly by displacement or indirectly by placing incompatible demands on the zone's infrastructure.
3. Other uses specified herein are allowed only if they do not interfere with and are not incompatible with higher priority uses.

10.2.2 No adverse impact on marine uses

No use shall be permitted, approved or established in this zone if it will have an impermissible adverse impact on future marine development opportunities. A proposed non-water-dependent component of a development will have an impermissible adverse impact if it will result in any one or more of the following:

A. The proposed use will displace an existing water-dependent use.
B. The proposed use will reduce existing commercial vessel berthing space.
C. The proposed use, structure or activities, including but not limited to access, circulation, parking, dumpsters, exterior storage or loading facilities, and other structures, will unreasonably interfere with the activities and operation of existing water-dependent uses or significantly impede access to vessel berthing or other access to the water by water-dependent uses.
D. The siting of a proposed use will substantially reduce or inhibit existing public access to marine or tidal waters.

10.2.3 Permitted uses

Subject to a determination that the proposed use meets the standards of Subsection 10.2.2, the following uses are permitted in the Eastern Waterfront Port Zone:

A. Marine passenger
   1. Intermodal marine passenger facilities.
   2. Cruise ship home port and port-of-call berthing and support.
   3. International and domestic ferries.
B. Marine commercial
   1. Transient and long-term commercial berthing.
   2. Marine-related warehousing.
   3. Marine-related construction, manufacturing, fabrication, salvage, and repair.
   4. Storage and repair of fishing equipment.
   5. Ship and other marine vessel construction, building, servicing, and repair.
   6. Boat and marine equipment storage.
   7. Harbor and marine supplies and services, chandleries, and ship supply such as fueling and bunkering of vessels.
   8. Public, non-profit, or commercial marine transportation and excursion services, including captained charter services, sport fishing and water taxis.
   9. Ship and off-shore support services, including but not limited to tug boats, pilot boats, and chandleries.
   10. Facilities for marine pollution control, oil spill cleanup, and servicing of marine sanitation devices.
   11. Marinas located east of the eastern boundary of the parcel of land owned by the City of Portland pursuant to a deed from the State of Maine dated February

1982 and recorded in the Cumberland County Registry of Deeds at Book 4916, Page 26.

12. Marine office, including but not limited to offices of owners of marinas, wharves or their agents, and naval architects, and seafood brokers.

C. Commercial

1. Professional, business, government, and general office located in upper floors of structures existing as of September 18, 2006.

**Editor's Note - On-site parking for non-marine commercial uses are permitted as conditional uses subject to the provisions of Subsection 10.2.4.*

2. Temporary events, except festivals as otherwise governed under paragraph (3) listed below. Buildings, piers and lands within the EWPZ may be used for temporary public and private events including but not limited to exhibitions, conferences, meetings, and trade shows under the following conditions:
   a. Temporary events occupying more than 10,000 square feet of building or outdoor space shall not exceed a combined total of 60 days between May 1st to October 31st.
   b. No temporary event may continue for more than 14 days of continuous operation.
   c. Any temporary event that anticipates more than 5,000 people in attendance on any single day must provide and be subject to a parking management plan. The parking management plan must be submitted for the review and approval of the public works authority at least 60 days prior to the first day of the event.
3. Festivals subject to City license.
4. Street vendors licensed pursuant to Chapter 19 of the City of Portland Code of Ordinances.

D. Public

1. Fire, police, and emergency services.
2. Governmental agency emergency operations/crisis centers.
3. Research, military and visiting attraction vessel berthing.
4. Landscaped pedestrian parks, plazas and other similar outdoor pedestrian spaces, including without limitation pedestrian and/or bicycle trails.

E. Other

1. A facility for non-profit organizations whose facility may include offices, classrooms, equipment, equipment rentals, storage, and bathrooms for the public.

10.2.4 Conditional uses

A. The following uses shall be permitted as conditional uses in the Eastern Waterfront Port Zone, provided that, notwithstanding Subsection 6.5.1, or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the review authority, and provided further that in addition to the provisions of Subsection 6.5.2, such uses will not impede or preclude existing or potential water-dependent development within the zone, will allow for adequate right-of-way access to the water, are compatible with marine uses, and meet all additional standards set forth below.

B. Conditional use standards

1. *Marine compatibility.* The proposed use shall be compatible with existing and potential marine uses in the vicinity, as required by Subsection 10.2.8(M) and (N).
2. *Parking and traffic circulation.* All applications for conditional use in the EWPZ shall submit a parking and circulation plan for review and approval by the Planning Board. The parking and circulation plan shall show the location of all existing and proposed structures, travel ways, and parking under the common ownership and/or control of the subject pier or property. The plan shall demonstrate that the parking and circulation of the conditional use does not interfere with the functional marine utility of the property and otherwise meets the standards and conditions of the EWPZ.

C. Conditional uses

1. *Marine*
   a. Marine products, wholesaling, and retailing.
   b. Ice-making services.
   c. Marine freight facilities providing service for, and/or intermodal transfer of, container and breakbulk freight.
   d. Marine educational facilities.
   e. Seafood retailing, wholesaling, packaging, and shipping.
   f. Seafood processing for human consumption, subject to the performance standards applicable to the I-L zone as listed in Section 6.8.
   g. Commercial marinas serving commercial and recreation boats located west of the eastern boundary of the parcel of land owned by the City of Portland pursuant to a deed from the State of Maine dated February 1982 and recorded in the Cumberland County Registry of Deeds at Book 4916, Page 26, provided that such facilities are located in areas that do not conflict with the navigation and handling of deepwater-dependent vessels accessing existing or potential deepwater berthing.
   h. Fish byproducts processing, provided that:
      i. Any fish byproducts processing facility has a valid rendering facility license under Chapter 12 of the Portland City Code of Ordinances.
      ii. Any fish byproducts facility shall employ current and appropriate odor control technology to eliminate or minimize detectable odors from such a process, and in no case shall odors exceed the odor limitation performance standards of the IM zone in Subsection 6.8.10.
      iii. The processing other material wastes or byproducts shall not be deemed a lawful accessory use permitted herein.
2. *Commercial*
   a. Structured parking available to the general public.
   b. Professional, business, government and general offices uses in upper floors of structures constructed after September 18, 2006.



c. Passenger support services supporting a marine passenger use listed under Subsection 10.2.3(A). The total ground floor area occupied by any combination of the following uses (regardless of ownership) shall not exceed 35% of the gross floor area of the principal associated marine passenger use and no more than 35,000 square feet cumulative within the EWPZ:
   i. Retail.
   ii. Restaurants/food service other than street vendors.
   iii. Retail service.
   iv. Passenger information services.

3. *Industrial.* The following industrial uses are permitted provided that such uses shall conform to the IM zone performance standards set forth in Section 6.8 in addition to the performance standards of Subsection 10.2.8. Where redundant or contradictory performance standards exist, the more restrictive standard applies.
   a. Non-marine-related warehousing in structures existing as of September 18, 2006.
   b. Facilities for combined marine and general construction.
   c. Low impact industrial uses as permitted in the IL zone in structures existing as of September 18, 2006, excluding all auto repair service facilities.

4. *Public*
   a. Utility substations. Public utility substations, including but not limited to electrical transformers, sewage and stormwater pumps and telecommunication switching stations, are permitted under the following conditions:
      i. The facility is located more than 100 feet from the water's edge.
      ii. The facility occupies no more than 50 square feet of structure above ground.
      iii. The facility provides no dedicated on-site parking and all subsurface elements of the facility are installed and operated such that land occupied by the facility is otherwise useable and made available for marine-related uses, including but not limited to parking, travel ways, and/or storage.
      iv. The facility shall be sized, sited and screened to minimize visual impact and prominence from public ways.
   b. Maritime museums, limited to 5,000 square feet of ground floor footprint.

**Editor's Note - On-site parking for non-marine commercial and industrial uses are permitted as conditional uses subject to the following provisions.*

5. *Parking for non-marine uses.* Notwithstanding Subsection 19.1.6 and Article 14 of this Land Use Code, no parking shall be allowed in this zone for non-marine uses unless the applicant can demonstrate that the number of parking spaces on-site exceeds the number of parking spaces needed to accommodate the demand for marine and water-

dependent uses that are permitted by Subsections 10.2.3 and 10.2.4 which are or may be located on the subject property. (See editor's note below.) The remainder of parking required, if any, for such non-marine uses shall be provided off-site.

**Editor's Note - Vacant ground floor space should be considered to have a parking demand similar to other space housing an existing water-dependent use elsewhere on the subject property or on a comparable property.*

D. The following use shall be permitted only upon the issuance of a conditional use permit subject to the provisions of Section 6.5, and any special provisions, standards, or requirements specified below:
   1. Wind energy systems.
   2. Solar energy systems.

10.2.5 Prohibited uses

Uses, whether floating or fixed to land, which are not enumerated in Subsections 10.2.3 or 10.2.4 as permitted or conditional uses are prohibited. Those uses that are specifically prohibited shall include, without limitation:

A. Residential uses.
B. Amusement/theme parks.
C. Bulk freight facilities.
D. On-site gambling casinos not accessory to and located aboard either a ferry or inter-port cruise ship.

10.2.6 Contract or conditional rezoning

In addition to those marine and non-marine uses authorized in Subsections 10.2.3 and 10.2.4, an applicant may apply to locate a non-marine use not otherwise permitted, if the reviewing body finds the applicant has met the standards of Subsection 10.2.2, the performance standards of Subsection 10.2.8, the applicable standards of contract/conditional rezoning contained in Section 5.3, and conforms to the following requirements:

A. Standards for contract or conditional rezoning:
   1. All non-marine uses are either permitted or conditionally permitted in the B-5 zone, and are not specifically prohibited in Subsection 10.2.5 above. Any hotel, inn, or other similar transient lodging establishment proposed must be located landward of the spring tide line and westerly of the extension of the India Street right-of-way.
   2. The aggregate ground floor area of any development permitted hereunder located within 100 feet of the pier edge or working edge of the hardened shoreline shall be occupied by at least 50% of one or more marine uses set forth in Subsections 10.2.3 and 10.2.4. Note: the circulation areas and areas occupied for accessory parking serving marine uses shall not be used as the basis for calculating the 50% provision above.
   3. The development is consistent with the Comprehensive Plan and without the non-marine use component authorized herein, the site could not otherwise support an economically viable water-dependent use.
   4. The project's public benefits outweigh its potential negative impacts, provided that such public benefits include one or more of the following: protection of existing water-dependent uses, preservation of future water-dependent use development opportunities, contribution to the development of and/or on-going

maintenance of the marine infrastructure for commercial vessels, and visual and physical access to the waterfront for the general public.

5. The non-marine portion of the development will not significantly restrict air or light for marine uses located in the immediate vicinity; will not create significant adverse local climatic effects on marine uses such as an undue increase of winds or shadowing; and will not adversely affect the efficient operation of marine uses, such as by producing less efficient traffic, parking or circulation patterns.
6. The rezoning contains adequate provisions and/or conditions to ensure that on-site water-dependent infrastructure remains occupied by commercial marine use(s) listed in Subsections 10.2.3 and 10.2.4 and that said use is not abandoned after the project is developed.

B. Notwithstanding Subsection 10.2.8(H) and off-street parking standards of Article 14, all on-site parking constructed or used for non-marine uses allowed only by contract or conditional rezoning shall be subject to the conditional use provisions Subsection 10.2.4(C)(5). Additionally, the total amount of parking shall be established by the City Council in the conditional or contract rezoning agreement after consideration of the Planning Board's recommendation on the same.

10.2.7 Dimensional requirements.

In addition to the generally applicable provisions of Section 7.5 of this Land Use Code, lots in the EWPZ shall be subject to the following requirements:

A. Minimum lot size: None

B. Minimum frontage: None

C. Minimum yard dimensions:

1. *Front setback:* None
2. *Side setback:* None
3. *Rear setback:* None
4. *Setback from pier line:* Notwithstanding the above requirements, a minimum setback of 25 feet from the edge of any pier, wharf or working edge of the hardened shoreline shall be required for any structure, provided that marine offices, as defined in Section 10.2.3(B)(12), may be located up to five feet from the edge of any pier, wharf, or working edge of the hardened shoreline. The setback area may be utilized for water-dependent uses and public uses and activities, subject to the provisions of Subsections 10.2.2 and 10.2.4, and shall not be utilized for restaurant, drinking, or other non water-dependent uses or for off-street parking. The edge of any pier, wharf or bulkhead shall include any attached apron(s).

D. Maximum impervious surface: 100%

E. Maximum building height: 45 feet, except as follows:

1. For purposes of this subsection only, moveable elements such as cranes and gantries, connection devices such as conveyors or bridges, and floating vessels shall not be subject to the space and bulk requirements, but shall be subject to a determination by the Federal Aviation Administration that the location of such equipment will not create a hazard to air traffic.

2. Rooftop appurtenances may exceed the maximum height limits of 45 feet providing that their design and placement is either fully screened or integrated into the architecture of the structure on which they sit.
3. The applicant must provide a determination from the Federal Aviation Administration that structures and equipment in excess of 45 feet will not exceed the applicable height guidelines for the runway approach and will not create a conclusive evidence that the proposed development will not create a hazard.

10.2.8 Performance standards

Development in the Eastern Waterfront Port Zone shall comply with the following standards:

A. **Outdoor storage of materials.** Outdoor storage of commodities and materials accessory to normal conduct of business shall be entirely contained, including runoff contaminants and residual material, within a designated area.

B. **Noise**

1. The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the EWPZ between the hours of 7:00 p.m. and 7:00 a.m. from facilities or operations commenced on or after July 1, 1988, shall not exceed 55 decibels on the A scale at or within the boundaries of any residential zone, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices, and maritime navigation signals.
2. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).
3. In addition to the sound level standards otherwise established, facilities or operations established or built in the EWPZ on or after July 1, 1988, shall employ best practicable sound abatement techniques to prevent tonal sounds and impulse sounds or, if such tonal and impulse sounds cannot be prevented, to minimize the impact of such sounds in residential zones. Tonal sound is defined as a sound wave usually perceived as a hum or which because its instantaneous sound pressure varies essentially as a simple sinusoidal function of time. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with a duration of less than one second.

C. **Vibration.** Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not



apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile-supported pier.

D. **Federal and state environmental regulations**. All uses shall comply with federal and state environmental statutes and regulations regarding emissions into the air, except where provisions of this code are more stringent.

E. **Discharges into harbor areas.** No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the Department of Public Works in accordance with Chapter 24, Article III of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24, Article II of the City of Portland Code of Ordinances and federal and state environmental statutes and regulations regarding wastewater discharges.

F. **Storage of vehicles.** Storage of any unregistered automotive vehicle on the premises for more than 10 days shall not be permitted.

G. **Landfill of docking and berthing areas.** Landfill of docking and berthing areas shall be governed by 38 M.R.S. § 471-478, and permitted only if the landfill does not reduce the amount of linear berthing areas or space, or berthing capacity. If approved, construction shall be undertaken using methods approved by the Department of Public Works and shall be accomplished in a manner so as to ensure that a stable and impermeable wall of acceptable materials will completely contain the fill material and will not permit any fill material to leach into docking areas or navigable waters.

H. **Off-street parking and loading**. Off-street parking and loading is subject to provisions as provided in Article 19.

I. **Shoreland and Flood Plain Management regulations.** Any lot or a portion of a lot located in a Shoreland Zone as identified on the City zoning map or in a flood hazard area shall be subject to the requirements of Articles 11 and 12.

J. **Lighting.** All lighting on the site shall be shielded such that direct light sources shall not interfere with vessels transiting the harbor, nor have an unreasonable adverse impact on adjacent residential zones, and shall be compliant with the site lighting standards of the City of Portland *Technical Manual*.

K. **Signs.** Signs shall be permitted as set forth in Article 20.

L. **Storage of pollutants and oily wastes**. On-premises storage of pollutants and oily wastes shall not be permitted for more than 45 days.

M. **Compatibility of non-marine uses with marine uses.** Non-marine uses, structures, and activities, including but not limited to access, circulation, parking, dumpsters, exterior storage, and loading facilities or other structures shall neither unreasonably interfere with the existence or operation of marine uses nor significantly impede access to vessel berthing or other access to the water by existing or potential marine uses.

N. **Functional utility of piers and access to the water's edge.** All development, whether for marine or non-marine uses, must anticipate current and future needs of water-dependent uses to functionally access the water's edge for

the transfer of goods, materials, and passengers between berthed vessels and land bound vehicles. Provisions for the storage and movement of goods, materials, and passengers must be designed into all waterside development and internal circulation routes must be maintained or otherwise provided as an element of any development.

10.3 WATERFRONT CENTRAL ZONE (WCZ)

10.3.1 Purpose

A. The Waterfront Central Zone was created to protect and nurture water-dependent and marine-related support uses so that they may grow and prosper in the present and into the future in an environment and area dedicated to this purpose. The following priority of uses is recognized:

1. The first priority of this zone is to protect and nurture existing and potential water-dependent uses in a setting that enforces their continued economic viability.
2. The second priority is to encourage other marine and marine-related support uses so long as they do not interfere with water-dependent uses, either directly by displacement or indirectly by placing incompatible demands on the zone's infrastructure.
3. Non-marine uses are encouraged provided that they do not interfere with and are not incompatible with first and second priority uses. Non-marine uses are beneficial to the waterfront economy because they provide the financial return to property owners necessary for the maintenance and improvement of the marine infrastructure.

B. Water-dependent and marine-related support uses by their nature have activities and operational needs that are unique to this area and are not shared by other commercial and industrial uses in the city. These first and second priority uses and related activities may result in noise, odor, dust, hours of operation, parking, and traffic patterns and traffic control needs that are necessary for the convenient and successful conduct of such uses. Other uses may not be compatible with these types of effects. Other specified uses are permitted in the Waterfront Central Zone, provided that they do not significantly interfere with the activities and operation of water-dependent and marine-related support uses. Such uses must be, and are assumed to be, aware of the impacts associated with marine uses and therefore must accept and be tolerant of them. Other specified uses in the zone shall accommodate to those patterns and needs of the higher priority uses so long as those higher priority uses are not detrimental to public health and safety and the higher priority activities are conducted in accordance with sound practices or practices customary in the trade.

C. Commercial Street is recognized as an important economic center for the city and region. Marine-compatible uses are encouraged to locate and grow along Commercial Street while higher priority marine uses are protected on the waterfront.

10.3.2 Definitions

For the purposes of the Waterfront Central Zone only, the following terms shall have the following definitions:

Common circulation drives. Private driveways, roadways and circulation areas accessible to all on-site tenants and/or occupants of a lot within the Waterfront Central Zone providing access from/to the public street network.

Lot. Any abutting property under common ownership.

Commercial Street Overlay Zone (CSOZ). The Commercial Street Overlay Zone (CSOZ) is a portion of the Waterfront Central Zone, as described below, where new and existing development may be occupied with 100% non-marine use tenants listed under Subsection 10.3.3(B), subject to the standards and use limitations provided in Subsection 10.3.7(B). The geographic limits of the CSOZ are defined by parcels of land and piers within the Waterfront Central Zone located on the landward side of a line established 125 feet south of the southerly sideline of Commercial Street and modified as follows: the seaward limit of the CSOZ extends to a line 300 feet south of the southerly sideline of Commercial Street in the area between the easterly and westerly sideline of Long Wharf. Additionally, all areas subject to this provision are set back landward at least 25 feet from the average high tide line of Portland Harbor and associated coastal wetlands. Where the 125 foot offset intersects with the footprint of a building existing as of May 2019 and such intersection leaves 75% or more of the building within the CSOZ, the entire building shall be considered included in the CSOZ. All offset distances are measured horizontally. All applicants for development within the CSOZ are responsible for demonstrating their location within CSOZ according to the findings of a site specific land survey conducted by a professional land surveyor licensed by the State of Maine. The limits of the CSOZ shall be shown on all site plans and subdivision plats for proposed development within the CSOZ.

On-site. That portion of any lot included within or directly impacted by a proposed development.

10.3.3 Permitted uses

Subject to a determination that the proposed use meets the standards of Subsection 10.3.7, as applicable, the following uses listed under Subsection 10.3.3(A), (B), (C), and (D) are permitted anywhere in the Waterfront Central Zone. Uses listed under Subsection 10.3.3(E) are only permitted in the CSOZ.

A. Marine

1. Marine products wholesaling, distribution and retailing.
2. Marine repair services and machine shops.
3. Tugboat, fireboat, pilot boat and similar services.
4. Harbor and marine supplies and services, chandleries, and ship supply such as fueling and bunkering of vessels.
5. Marine industrial welding and fabricating.
6. Shipbuilding and facilities for construction, maintenance, and repair of vessels.
7. Commercial marine transport and excursion services, including ferries, captained charter services, sport fishing, and water taxis.
8. Cargo handling facilities, including docking, loading, and related storage.
9. Boat repair yards.

10. Boat storage facilities, excluding rack storage facilities (Boat rack storage facilities are included as a conditional use).
11. Seafood processing and retailing.
12. Seafood packing and packaging.
13. Seafood loading and seafood distribution.
14. Fabrication, storage, and repair of fishing equipment.
15. Ice-making services.
16. Facilities for marine construction and salvage.
17. Facilities for marine pollution control, oil spill cleanup, and servicing of marine sanitation devices.
18. Fabrication of marine-related goods.
19. Fishing and commercial vessel berthing.
20. Non-commercial berthing of a maximum of 50 linear feet per pier. A non-commercial berth may not displace a commercial berth. Parking for any non-commercial berthing is subject to the provisions of Subsection 10.3.9(G).
21. Marine office, including but not limited to offices of owners of wharves or their agents, and naval architects, and seafood brokers.
22. Public landings.
23. Marine research, education, and laboratory facilities.
24. Bait sales and processing.
25. Harbor security and emergency response services including but not limited to Harbor Master, Marine Patrol and Coast Guard.
26. Commercial parking for water-dependent use business owners and employees.

B. Non-marine commercial and industrial uses. Non-marine uses permitted by this subsection are subject to the standards listed in Subsection 10.3.7.
   1. Professional, business, government, and general offices, except for offices for health care practitioners or health clinics which are only permitted in the CSOZ.
   2. Cabinet and carpentry shops, studios for artists and crafts people.
   3. Intermodal transportation facilities.
   4. Cold storage facilities.
   5. Commercial kitchens.
   6. Outside accessory activities.

C. Public
   1. Landscaped pedestrian parks, plazas, and other similar outdoor pedestrian spaces, including without limitation pedestrian and/or bicycle trails.

D. Other
   1. Interior accessory uses customarily incidental and subordinate to the location, function, and operation of permitted uses. Food service establishments, newsstands, and other similar retail and service support uses shall only be permitted as accessory uses if they are part of and located within the lot lines of a use set forth in Subsections 10.3.3(A)(1), (7), (11) or (22); such uses do not exceed 2,000 square feet in total floor area of the building, or 25% of the total floor area of the building, whichever is less, and each individual accessory use does not exceed 1,000 square feet in total floor area of the building; and further provided that such accessory uses provide goods or services that are supportive of the principal use and



its clientele. Exterior accessory uses shall be otherwise subject to the provision of Subsection 10.3.7(A).

2. Interior meeting or classroom space accessory to uses permitted in Subsection 10.3.3(A)(23) may be rented out for meeting use by marine-related or non-marine-related groups or organizations, or the general public, and such accessory uses shall not be subject to the limitations contained in (B) above, but shall only be permitted as accessory uses if the total of all support uses, including interior meeting or classroom space, does not exceed 3,000 square feet in total floor area per building, or 15% of the total floor area per building, whichever is less.

E. **Uses permitted only within the Commercial Street Overlay Zone (CSOZ).** Uses permitted by this subsection are subject to the standards listed in Subsection 10.3.7(B).

1. Retail and service establishments, including craft and specialty shops.
2. Restaurants provided that full course meal food service and consumption shall be the primary function of the restaurant, and full course meal service shall be continued up until the hours of closing.
3. Banking services without drive-up services.
4. Museums and art galleries.
5. Street vendors licensed pursuant to Chapter 19.
6. Offices of health care practitioners or health care clinics.
7. Personal service establishments.

10.3.4 Conditional use

The uses listed herein shall be permitted as conditional uses in the Waterfront Central Zone, provided that, notwithstanding Section 6.5, or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the review authority, and further provided that in addition to the provisions of Subsection 6.5.2, they shall also meet the applicable Waterfront Central Zone development standards in Subsection 10.3.7:

A. **Commercial marine conditional uses**

1. Fish by-products processing, provided that:
   a. Any fish by-products processing facility has a valid rendering facility license under Chapter 12 of the City of Portland Code of Ordinances.
   b. Any existing fish by-products facility shall employ current and appropriate odor control technology (and any new fish by-product use shall employ current, available odor control technology) to eliminate or minimize detectable odors from such a process, and in no case shall odors exceed the odor limitation performance standards of the I-M zone.
   c. The processing of other material wastes or by-products shall not be deemed a lawful accessory use under any other provision of this article.
2. Boat rack storage facilities, provided that:
   a. Parking shall be provided for 100% of the demand generated by the use (nothwithstanding Subsection 10.3.9(G), and such parking shall be provided off-site, in another zone permitting such use.

b. Boat rack structures shall not exceed 10,000 square feet of building footprint.

B. **Utility substations.** Public utility substations, including but not limited to electrical transformers, sewage, and stormwater pumps, and telecommunication switching stations, are permitted under the following conditions:
   1. The facility is located more than 100 feet from the water's edge.
   2. The facility occupies no more than 50 square feet of structure above ground.
   3. The facility provides no dedicated on-site parking and all subsurface elements of the facility are installed and operated such that land occupied by the facility is otherwise usable and made available for marine uses, including but not limited to parking, travel ways, and/or storage.
   4. The facility shall be sized, sited and screened to minimize visual impact and prominence from public ways.

C. **Wind energy systems.**

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10.3.5 Prohibited uses

Uses which are not enumerated in either Subsections 10.3.3 or 10.3.4 as permitted or conditional uses are prohibited. Uses enumerated in Subsection 10.3.3(E) shall be considered prohibited uses outside of the CSOZ. Those uses that are prohibited shall include, without limitation:

A. Residential uses.
B. Hotels, motels, hostels, bed and breakfasts, inns, lodging houses, tourist homes, short-term rentals, or boatels.
C. Auditoriums, civic centers, convention centers, or other meeting facilities not accessory to an otherwise permitted use.
D. Drinking establishments, private clubs, or non-profit social and recreational clubs.
E. Ground mounted telecommunication towers, antennas, and/or disks.
F. Drive-up services for any use other than a permitted use listed under Subsections 10.3.3(A) or 10.3.4(A)(1).
G. Auto service stations.
H. Laundry and dry-cleaning services.
I. Convenience stores with gas pumps.
J. Commercial parking for non-marine uses.

10.3.6 Dimensional requirements

In addition to the generally applicable provisions of Section 7.5 of this Land Use Code, lots in the Waterfront Central Zone shall be subject to the following requirements:

A. **Minimum lot size:** None
B. **Minimum frontage along Commercial Street:** 75 feet
C. **Minimum lot width within the CSOZ:** 50 feet measured parallel with Commercial Street and such lot width shall be continuous for the full depth of the lot located within the CSOZ.
D. **Minimum yard dimensions:**
   1. *Front setback:* None
   2. *Side setback:* None
   3. *Rear setback:* None
   4. *Setback from pier edge:* Notwithstanding the above requirements, a minimum first-floor setback of 10 feet from the edge of any pier, wharf, or bulkhead shall be required for any structure, exclusive of structurally necessary posts supporting upper floors, and deck-mounted equipment for loading and unloading vessels. The edge of any pier, wharf, or bulkhead shall include any attached



apron(s). Floats, rafts, and/or barges not structurally integral to the pier, wharf, or bulkhead may not be used to satisfy this requirement. Parking for non-marine uses shall not occupy the 10-foot setback.

E. **Maximum lot coverage:** 100%

F. **Maximum building height:** 50 feet. Except as provided in (H) below, a structure in the Waterfront Central Zone shall provide no more than three habitable floors, however, typical rooftop appurtenances and/or enclosed or open mechanical installations shall be allowed over the third floor.

G. **Minimum ground floor clearance:** Any new building proposed to be larger than 300 square feet and located more than 35 feet from the southerly sideline of Commercial Street shall provide no less than 15 feet of first floor to ceiling vertical clearance to promote marine industrial use potential. New buildings less than 300 square feet or additions to existing multistory buildings are exempt from this provision but shall provide the maximum ground floor clearance practicable.

H. **New non-marine use building exception for usable floors and minimum ground floor clearance:** Notwithstanding provisions (F) and (G) above, for new non-marine use buildings permitted within the CSOZ, four usable floors are allowed and ground floor clearance minimums do not apply.

10.3.7 Development standards

A. **Standards for non-marine uses located outside of the CSOZ.** Non-marine uses listed above in Subsection 10.3.3(B) and 10.3.4(B) that are located outside of the CSOZ shall be subject to the performance standards listed in Subsection 10.3.9 as well as the following standards:

1. *55% marine use required on ground floors.* At least 55% of the leasable ground floor area of all buildings on a lot (defined in Subsection 10.3.2 above), shall be occupied by marine uses, as listed under Subsection 10.3.3(A) or 10.3.4(A)(1).
2. *55% marine use required for all open areas.* After subtracting areas used for common circulation drives (defined in Subsection 10.3.2 above), at least 55% of unbuilt area (meaning area not occupied by a building) on the lot, when calculated using the aggregate of all such unbuilt areas, shall be occupied by marine uses as listed under Subsection 10.3.3(A) or 10.3.4(A)1.
3. *Ground floor vacancies and change of occupancy offered to water-dependent/marine uses.* Ground floor vacant space and areas proposed for a change of occupant outside of the CSOZ shall not be filled with any non-marine use without adequate opportunity for marine uses to occupy the space.
    a. Ground floor vacancy and change of occupant outside of the CSOZ advertised to marine users: In any lot or portion of lot outside of the CSOZ, each time a ground floor occupant departs or gives notice to depart from the lot, the space, along with any associated parking spaces to be vacated, must be made available to new marine occupants. Prior to renting to a non-marine user the property owner shall advertise for a new marine occupant for not less than

a 180-day period in targeted media and by other means reasonably calculated to reach marine users (e.g. local marine trade publications, marine trade websites, waterfront bulletins.) Should one or more marine users apply, the property owner shall make the space available to a marine occupant, in accordance with terms and rates generally consistent with comparable space in the 55% marine use portion of the zone (outside of the CSOZ.) The property owner may stop advertising sooner than the end of the 180-day period if a lease is signed with a marine user. Should no marine user apply by the end of the 180-day period, the owner may fill the space with a non-marine user provided that the new non-marine occupant will not cause the lot to exceed the non-marine use occupancy maximum of 45% of the ground floor area or open area.

b. Uses inventoried: To demonstrate adherence to the 55% marine use requirement, the applicant shall submit to the Planning Authority, upon request, an inventory which lists each occupant (tenant or otherwise), as well as a map which depicts the location of each occupant. The map shall show all ground level space, including buildings, parking, open areas and submerged lands associated with the subject lot. For each occupant, the property owner must indicate the square footage of area occupied and whether the occupant is a marine use as defined herein. For vacant space, the last previous occupant shall be listed, along with the date of departure.

c. Prior to changes of occupancy and/or as part of applications for new development outside of the CSOZ, the property owner or applicant shall provide proof of compliance with the requirements of this section as a condition of approval.

4. *Pier or bulkhead edge reserved for marine uses.* Notwithstanding any provision of this ordinance to the contrary, excepting only the portion of any pier which might be used for non-commercial berthing pursuant to Subsection 10.3.3(A)(20), all berthing and/or dockage space and associated floats plus the entire linear edge of that portion of every pier or bulkhead which is adjacent to greater than zero feet of water depth at mean low water, to a minimum setback line of at least 10 feet from the edge of the pier, bulkhead, or engineered shoreline may only be used or occupied by one or more marine uses as defined in Subsection 10.3.3(A) or 10.3.4(A). Said edge shall be the seaward extent of any engineered shoreline or working deck of any pier or wharf.

B. CSOZ standards. Non-marine uses listed under Subsections 10.3.3(B), 10.3.3(E) and 10.3.4 located within the CSOZ, as defined in Subsection 10.3.2, shall be subject to the performance standards listed in Subsection 10.3.9 as well as the following standards:

1. *Vessel access.* Non-marine uses allowed under this provision shall not disrupt or block access to vessel berthing and shall otherwise adhere to the performance standards of this zone described in Subsection 10.3.9.
2. *Maximum setback for new development on lots with 75 or more feet of Commercial Street frontage.* Any new non-marine development constructed subject to this provision which is located on a lot with 75 or more feet of frontage along the Commercial Street right-of-way shall be located with its front façade no further than 35 from the southerly sideline of the Commercial Street right-of-way. Furthermore, any such development shall orient its front façade and its primary pedestrian entrance toward Commercial Street and no vehicular circulation or parking may occupy the land or pier area between the front façade of the building and Commercial Street. Non-marine development subject to this provision on lots with fewer than 75 feet of frontage along the Commercial Street right-of-way, changes of use within existing buildings, and/or building additions of less than 5,000 square feet of new development to existing buildings are exempt from the maximum setback provisions established herein.
3. *Investment in marine infrastructure.* All applicants for site plan review or a change of use permit for non-marine development in the CSOZ are required to invest in marine infrastructure as a condition of development, provided that the total project costs exceed $250,000. The value of the investment shall be not less than 5% of total project costs over $250,000 for constructing non-marine space and associated site improvements in the CSOZ. Required investment may occur by one or both the following methods:
   a. Direct investment in marine infrastructure located on the same lot: Investment shall be for the benefit of marine uses listed in Subsection 10.3.3(A) within the same lot as the proposed non-marine development. Investment may include dredging, pile replacement, new or replaced structural decking (but not pavement resurfacing), new or replaced fendering systems, new or replaced floats, pier expansions, permanent conversions of recreational berthing to commercial berthing, bulkhead or seawall repair or improvements, or any combination of similar improvements. Plans for the marine infrastructure investment shall be submitted to the Planning Authority with the application for site plan review or change of use permit and shall include details and a commitment as to how the marine infrastructure will be utilized by marine users. The marine infrastructure improvements shall be completed prior to the issuance of a certificate of occupancy for the non-marine development project.
   b. Financial contribution: If direct investment in marine infrastructure is

not made, the developer shall make a financial contribution to the City's Waterfront Loan and Investment Fund.

10.3.8 No contract or conditional rezoning permitted

A. This section is intended to accomplish goals from *Portland's Plan 2030.* Specifically, these changes will:
   1. Prioritize and promote Portland's unique mix of water-dependent, marine-related and compatible non-marine uses.
   2. Recognize and reinforce the respective roles of the Eastern, Central, and Western Waterfronts.
   3. Celebrate, promote, and protect Portland's lobster and fishing industry as a foundation of the region's economy and a feature of civic pride.

B. In light of these goals and the significance of the Central Waterfront to the City's future, no contract or conditional rezoning applications may be approved in the Waterfront Central Zone.

10.3.9 Performance standards

All uses in the Waterfront Central Zone shall comply with the following standards:

A. **Outdoor storage of materials.** Outdoor storage of commodities and materials accessory to normal conduct of business, except pilings and/or cranes, shall be permitted to a maximum height of 45 feet, and such materials shall be entirely contained, including runoff contaminants and residual material, within a designated area within the lot boundaries.

B. **Noise**. The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the Waterfront Central Zone shall not exceed 75 decibels on the A scale at the boundaries of any lot, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, and sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).

C. **Vibration.** Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile supported pier.

D. **Discharges into harbor areas**. No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the



Department of Public Works in accordance with Chapter 24, Article III of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24, Article II of the City of Portland Code of Ordinances and federal and state environmental statutes and regulations regarding wastewater discharges.

E. **Storage of vehicles**. Storage of any unregistered automotive vehicle on the premises for more than 60 days shall not be permitted.

F. **Landfill of docking and berthing areas**. Landfill of docking and berthing areas shall be governed by 38 M.R.S. § 480-A through 480-HH, and permitted only if the landfill does not reduce the amount of linear berthing areas or space, or berthing capacity. If approved, construction shall be undertaken using methods approved by the Department of Public Works and shall be accomplished in a manner so as to ensure that a stable and impermeable wall of acceptable materials will completely contain the fill material and will not permit any fill material to leach into docking areas or navigable waters.

G. **Off-street parking and loading.** No off-street parking or loading shall be required under Article 19.

H. **Lighting**. All lighting on the site shall be shielded such that direct light sources shall not unreasonably interfere with vessels transiting the harbor nor have an unreasonable adverse impact on adjacent residential zones.

I. **Storage of pollutants and oily wastes**. On-premises storage of pollutants and oily wastes shall not be permitted for more than 45 days.

J. **Urban design**. Construction of new structures located within 35 feet of the southerly edge of Commercial Street between Maine Wharf and the easterly property line of the City fish pier shall conform to the guidelines set forth in the Downtown Urban Design Guidelines, unless such structures are also located within 100 feet of the water. Such structures that are also located within 100 feet of the water shall conform to the extent practicable to the Downtown Urban Design Guidelines.

K. **Pier and wharf expansions.** In addition to meeting Harbor Commission and Coast Guard requirements for navigation, any expansion or extension of a pier and or wharf in the Waterfront Central Zone shall demonstrate its compatibility with fixed route ferry service and emergency vessel operations.

L. **Public view protection**

1. Any new development in the Waterfront Central Zone shall perform a public view impact analysis for review and approval by the Planning Board or Planning Authority as a condition of site plan approval. The analysis shall:
   a. Demonstrate the project's adherence to the Portland View Corridor Protection Plan (City of Portland Comprehensive Plan, 2002) to the extent practicable.
   b. Promote the public's visual access to the water through sensitive building placement.

2. The Planning Board or Planning Authority shall find at a minimum that the proposed development:
    a. Retains street corridor views as extended across Commercial Street from the Portland peninsula.
    b. Retains panoramic views of the water from Commercial Street to the extent practicable.
    c. Where loss of existing public views to the water is shown to be necessary for the reasonable development of the site, the developer provides alternative public views to the water through newly established view corridors or publicly accessible pedestrian ways. Such pedestrian ways shall not interfere with existing or potential water-dependent uses, nor shall they endanger the public through uncontrolled proximity to industrial activity.

M. Operations and access management plan

1. Any new development, including changes of use or expansion of uses in the Waterfront Central Zone, shall submit a scaled plan and accompanying narrative that demonstrates waterfront access and functional accommodation for water-dependent uses. In accordance with *Portland's Plan 2030,* the plan shall demonstrate consistency with the hierarchy of waterfront uses, as further detailed in Subsection 10.3.1, with non-marine and marine-related uses being subordinate in placement and disposition to water-dependent uses, and designed so as not to impede access to the pier edge and vessel berthing nor interfere with marine operations.
2. The plan shall, at a minimum, illustrate the following information:
    a. Location of all existing and proposed structures, rights-of-way, common circulation drives as defined in Subsection 10.3.2, access-ways, sidewalks, pier edges, floats, and docks, showing the entire lot in the context of its respective pier.
    b. Existing and proposed off-street parking, labeled with associated uses.
    c. Facilities for the loading and unloading of goods and materials.
    d. Regularly occurring exterior activities including but not limited to the storage of material, equipment and vehicles, yard area, outdoor seating, and on-site waste management.
    e. Signage showing parking use, wayfinding, and posted operational restrictions.
    f. Plan narrative detailing how the standards listed below are achieved, tenant/landlord communication protocols, private enforcement actions to be employed to ensure plan compliance, and the responsible parties representing the property owner.
3. The operations and access management plan shall be reviewed by the Planning Authority.
4. In addition to the information above, the plan shall demonstrate compliance with the following standards:

a. Off-street parking is subject to the limitations described in Subsection 10.3.7 (A)("55% Rule"). Off-street parking spaces intended for use by water-dependent uses shall be sited as close as reasonably possible to associated vessels and/or ground-floor lease area.
b. Proposals for new non-marine parking, accessory to an otherwise permitted use in the WCZ, shall submit a parking analysis for all uses on the subject lot, justifying the number of non-marine spaces based upon the proposed use and demonstrating sufficient parking supply for marine uses. If sufficient parking is not available to marine uses, off-street parking for non-marine uses shall not be permitted.
c. Off-street parking, loading facilities, and access ways designated for water-dependent uses shall be exclusive to such uses, except that, if not being occupied by water-dependent tenants, such parking may be made available to non-marine uses between the hours of 5:00 p.m. and 2:00 a.m. Any such shared parking arrangements shall be documented in the operations and access management narrative described above, and clearly signed on-site.
d. All properties providing commercial berthing shall demonstrate reasonable opportunities to load and unload vessels from the subject lot.
e. Facilities for the loading and unloading of goods shall account for the frequency of use and vehicle type and, to the extent possible, minimize impacts to pedestrian and vehicle circulation patterns.
f. Provisions for the storage and movement of goods and materials shall be designed into all pier edge development. Circulation routes must be maintained or otherwise provided as an element of all development. The siting, design, and circulation of non-marine uses, particularly those allowed on first floors, shall accommodate reasonable access for pedestrians, vehicles, and freight transfer to and from berthed vessels.
g. Non-marine uses shall provide a dedicated pedestrian route between the proposed use and Commercial Street, and shall seek to minimize conflict with vehicle traffic.

10.4 WATERFRONT PORT DEVELOPMENT ZONE (WPDZ)

10.4.1 Purpose

Transport of goods by water to and from Portland is an important component of both the local and regional economy. This commerce is dependent upon land with direct access to the dredged deep-water channel of the Fore River and Portland Harbor. The Port of Portland is integral to the City's economic, cultural and fiscal health. This zone exists to ensure the continued viability of the Port of Portland. Uses in the Waterfront Port Development Zone, while governed by the similar performance standards as other industrial zones, are primarily

limited to those uses which are dependent upon deep water and which contribute to port activity. Non-marine activity may be allowed to the extent it will not have any adverse impact on marine uses.

10.4.2 No adverse impact on marine uses

No use shall be permitted, approved or established in this zone if it will have an impermissible adverse impact on future marine development. A proposed development will have an impermissible adverse impact if it will result in any one or more of the following:

A. The proposed non water-dependent use will displace an existing water-dependent use.
B. The proposed use will reduce existing commercial vessel berthing space.
C. The proposed nonwater-dependent use, structure, or activities, including but not limited to access, circulation, parking, dumpsters, exterior storage, or loading facilities, and other structures, will unreasonably interfere with the activities and operation of existing water-dependent uses or significantly impede access to vessel berthing or other access to the water by water-dependent uses.
D. The siting of a proposed nonwater-dependent use will substantially reduce or inhibit existing public access to marine or tidal waters.

10.4.3 Permitted uses

Subject to a determination that the proposed use meets the standards of Subsection 10.4.2, the uses in Table 10-A are permitted (●) or conditional (◐) in the Waterfront Port Development Zone.

10.4.4 Conditional use standards

Conditional uses shall be permitted in the Waterfront Port Development Zone, provided that, notwithstanding Section 6.5 or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the review authority. In addition to the provisions of Section 6.5, such uses will:

A. Not impede or preclude existing or potential water-dependent development on other lots.
B. Allow for adequate access to the water.
C. Be compatible with water-dependent and marine uses.
D. Operationally support one or more water-dependent use(s), or be located in a building or structure that is physically adaptable or relocatable to make way for future development of water-dependent uses.
E. Meet any additional performance and dimensional standards set forth below.

10.4.5 Prohibited uses

Uses which are not enumerated in Table 10-A as permitted or conditional uses are prohibited. Those uses that are prohibited shall include, without limitation:

A. Residential uses.
B. Hotels, motels, or boatels.
C. Auditoriums, civic centers, convention centers, or other meeting facilities.
D. Restaurants and drinking establishments.
E. Marinas, including marina associated boat storage facilities.
F. Truck terminals.



TABLE 10-A: WPDZ PERMITTED AND CONDITIONAL USES

Marine	Marine repair services and machine shops	●
	Tugboat, fireboat, pilot boat, and similar services	●
	Harbor and marine supplies and services and ship supply, such as fueling and bunkering of vessels	●
	Shipbuilding and facilities for construction, maintenance, and repair of vessels	●/◐[1]
	Marine cargo handling facilities, including docking, loading and related storage	●/◐[1]
	Boat repair yards	●/◐[1]
	Facilities for marine construction and salvage	●/◐[1]
	Facilities for marine pollution control, oil spill cleanup, and servicing of marine sanitation devices	●
	Marine retail and wholesale sales, including yacht brokerage	◐
	Boat storage facilities	●/◐[1]
	Seafood processing	◐
	Seafood packing and packaging	◐
	Fabrication, storage, and repair of fishing equipment	◐
	Ice-making services	◐
	Fabrication of marine-related goods	◐
	Fish by-products processing, provided that any fish by-product processing facility has a valid rendering facility license under Chapter 12 and the processing of other material wastes or by-products shall not be deemed a lawful accessory use under any other provision of this article.	◐
	Commercial berthing	●
Industrial	Intermodal transportation facilities principally for vessels with regularly scheduled destination service or for railroad transportation service	●/◐[1]
	Marine cargo container and chassis maintenance and repair	●
	Facilities for combined marine and general construction	◐[1]
	Cold storage facility, warehousing, and storage of goods which are awaiting shipment via cargo carriers	◐[1]
	Low impact industrial uses, including but not limited to bakeries, breweries, bottling, printing and publishing, pharmaceuticals, machine shops, manufacture of products, assembly of electrical components, tool and die shops, and the packaging of food, provided that such uses shall be subject to the performance standards of the I-M zone	◐
Public	Public uses including pedestrian and bicycle trails	●
	Utility substations, including sewage collection and pumping stations, water pumping stations, transfer stations, telephone electronic equipment enclosures and other similar structures, provided that such structures are located more than 100 feet from the water.	◐
Other	Off-street parking lots, excluding parking structures	◐
	Accessory uses customarily incidental and subordinate to the location, function, and operation of permitted uses[2]	●
	Minor solar energy systems	●
	Minor wind energy systems	◐

[1] Uses that may be located in buildings that exceed the maximum permitted height. Uses marked ●/◐ will be considered permitted uses when occupying buildings with a maximum height equal to or less than the maximum applicable height allowable under the permitted use dimensional standards, and conditional Uuses when above that height.

[2] Food service establishments, including food trucks and other similar retail and service support uses shall only be permitted as accessory uses if all such uses do not exceed 2,000 SF in total floor area of the building and each individual use does not exceed 1,000 SF in total floor area of the building; and further provided that such accessory uses provide goods or services that are supportive of the principal use and its clientele.



TABLE 10-B: WPDZ DIMENSIONAL REQUIREMENTS

	Permitted Use Dimensional Standards	Conditional Use Dimensional Standards
Setbacks (min.)	N/A	N/A
Lot size (min.)	N/A	5 acres, limited to 1 building greater than the maximum applicable height allowed under the permitted use dimensional standards.
Setback from pier line, wharf, or bulkhead (including any attached aprons)(min.)[1]	5 ft.	5 ft.
Lot coverage (max.)	50% east of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.	50% east of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.
	100% west of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.	100% west of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.
Building height (inclusive of roof forms and rooftop appurtenances)(max.)[2]	55 ft. east of a line projected due south from the centerline intersections of West Commercial Street and the easterly most Cassidy Point Drive and west of Casco Bay Bridge.	60 ft. west of the Casco Bay Bridge[7], except as follows: 75 ft. in the area east of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive and west of Casco Bay Bridge, on lots 5 contiguous acres or larger. [4] 130 ft. for bulk storage[3] facilities west of the projection of the westerly most Cassidy Point Drive segment.
	60 ft. west of a line projected due south from the centerline intersections of West Commercial Street and the easterly most Cassidy Point Drive.	
	In no case may any permitted heights exceed 50ft within 100ft of W.Commercial Street and all area of the WPDZ east of the Casco Bay Bridge. [5]	In no case may any conditionally permitted heights exceed 50ft within 100ft of W. Commercial Street and all area of the WPDZ east of the Casco Bay Bridge.[5]
Building length (max.)[6]	450 ft.	450 ft.
		300 ft. within 100ft of W. Commercial Street and all area of the WPDZ east of the Casco Bay Bridge.
	300 ft. within 100 ft. of W. Commercial Street and all area of the WPDZ east of the Casco Bay Bridge.	300 ft. for buildings or portions of buildings exceeding the maximum applicable height allowed under the permitted use dimensional standards.

[1] The setback area may be used for activities related to the principal uses in the structure, but shall not be used for off-street parking.
[2] Buildings and/or structures shall be limited to an absolute height measured from average grade with no portion of the structural roof system or roof top appurtenances exceeding the limits set forth under Table 10-B with the exception of moveable elements or connection devices as listed under Subsection 10.4.7
[3] Bulk storage dedicated to materials delivered or awaiting transportation to a site by waterborne transportation.
[4] A projection of the street centerline shall consist of an extension of the centerline to the water side boundary of the WPDZ.
[5] Height limitations east of the Casco Bay Bridge are intended to protect vistas of the harbor from public open space.
[6] As measured by a line parallel with the southern edge of the West Commercial Street right-of-way.
[7] Only those conditional uses so designated in Note 1 of the Waterfront Port Development Zone Use Table 10-A may be located in buildings taller than 60 ft.

10.4.6 Dimensional requirements

In addition to the generally applicable provisions of Section 7.5 of this Land Use Code, lots in the Waterfront Port Development Zone shall be subject to the requirements of Table 10-B.

10.4.7 Additional bulk, height, and location standards.

A. For structures exceeding the maximum applicable height allowed under the permitted use dimensional standards:
   1. Moveable elements such as cranes and gantries, and connection devices such as conveyors or bridges shall not be subject to the space and bulk requirements, but shall be subject to a determination by the Federal Aviation Administration that the location of such equipment will not create a hazard to navigation.
   2. The applicant must provide a determination from the Federal Aviation Administration that structures and equipment will not exceed the applicable height guidelines for the runway approach and will not create a hazard to navigable airspace. Such a determination shall be accepted as conclusive evidence that the proposed development will not create a hazard.
   3. For each lot, at least one view corridor of at least 90 feet in width shall be left unbuilt to preserve a clear line of sight between West Commercial Street and the water.

10.4.8 Performance standards

Proposals in the Waterfront Port Development Zone that qualify for site plan review shall submit, in addition to site plan submission requirements (if applicable), an impact mitigation narrative summarizing how the project meets the applicable performance standards. All uses in the Waterfront Port Development Zone shall comply with the following standards:

A. **Outdoor storage of materials.** Outdoor storage of commodities and materials accessory to normal conduct of business, except pilings and/or cranes, shall be permitted to a maximum height of 45 feet, and such materials shall be entirely contained, including runoff contaminants and residual material, within a designated area within the lot boundaries.

B. **Noise.**
   1. The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the Waterfront Port Development Zone between the hours of 7:00 p.m. and 7:00 a.m. from industrial facilities or operation commenced on or after July 1, 1988, shall not exceed 55 decibels on the A scale at or within the boundaries of any residential zone, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, and sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices.
   2. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a

sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).

3. In addition to the sound level standards otherwise established, facilities or operations established or built in the Waterfront Port Development Zone on or after July 1, 1988, shall employ best practicable sound abatement techniques to prevent tonal sounds and impulse sounds or, if such tonal and impulse sounds cannot be prevented, to minimize the impact of such sounds in residential zones. Tonal sound is defined as a sound wave usually perceived as a hum or which because its instantaneous sound pressure varies essentially as a simple sinusoidal function of time. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with a duration of less than one second.

C. **Vibration.** Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile supported pier.

D. **Federal and state environmental regulations.** All uses shall comply with federal and state environmental statutes and regulations regarding emissions into the air, except where provisions of this Land Use Code are more stringent.

E. **Discharges into harbor areas.** No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the Department of Public Works in accordance with Chapter 24, Article III of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24, Article II of the City of Portland Code of Ordinances and federal and state environmental statutes and regulations regarding wastewater discharges.

F. **Storage of vehicles.** Storage of any unregistered automotive vehicle on the premises for more than 60 days shall not be permitted.

G. **Landfill of docking and berthing areas.** Landfill of docking and berthing areas shall be governed by 38 M.R.S. § 471 through 478, and permitted only if the landfill does not reduce the amount of linear berthing areas or space, or berthing capacity. If approved, construction shall be undertaken using methods approved by the Department of Public Works and shall be accomplished in accordance with the provisions of this Land Use Code and in a manner so as to ensure that a stable and impermeable wall of acceptable materials will completely contain the fill material and will not permit any fill material to leach into docking areas or navigable waters.

H. **Off-street parking.** Off-street parking is required as provided in Article 19.

I. **Shoreland and Flood Plain Management regulations.** Any lot or portion of a lot located in a Shoreland Zone as identified on the City



zoning map or in a flood hazard area shall be subject to the requirements of Articles 11 and 12.

J. **Lighting.** All lighting on the site shall be shielded such that direct light sources shall not unreasonably interfere with vessels transiting the harbor nor have an unreasonable adverse impact on adjacent residential zones.

K. **Signs.** Signs shall be permitted as set forth in Article 20.

L. **Storage of pollutants and oily wastes.** On-premises storage of pollutants and oily wastes shall not be permitted for more than 45 days.

M. **Compatibility of non-marine uses with marine uses.** Non-marine uses, structures and activities, including but not limited to access, circulation, parking, dumpsters, exterior storage and loading facilities or other structures shall neither unreasonably interfere with the existence or operation of marine uses nor significantly impede access to vessel berthing or other access to the water by existing or potential marine uses.

N. **Design.** Design and visual character shall:

1. In building design, including placement and screening of mechanical equipment, take into consideration long views to minimize negative visual impact and provide visual interest, and architecturally integrate exposed industrial systems and equipment where practical.
2. Organize massing to emphasize certain parts of the building such as entries, corners, or different uses.
3. Treat all facades, including the roof, with equal level of detail and articulation.
4. Vary and articulate building facades to add scale and avoid large monotonous walls. Treatments such as texture, color, material changes, or shadow lines or murals must be used to add visual interest and avoid dull, flat, repetitive facades.
5. Use a scaling or articulation element such as stepback, canopy, or fenestration as required for any street-facing façade within 50 feet of West Commercial Street.

11 SHORELAND ZONE

11.1 PURPOSE

The purpose of this article is to further the maintenance of safe and healthful conditions; prevent and control water pollution; protect fish spawning grounds, aquatic life, bird and other wildlife habitat; protect buildings and lands from flooding and accelerated erosion; protect archaeological and historic resources; protect commercial fishing and maritime industries; protect freshwater and coastal wetlands; control building sites, placement of structures, and land uses; conserve shore cover and visual as well as actual points of access to inland and coastal waters and natural beauty, as appropriate in an urbanized environment; and to anticipate and respond to the impact of development in shoreland areas.

11.2 APPLICABILITY

A. This article applies to all land areas, uses, structures, and land use activities within:
   1. 250 feet, horizontal distance, of the normal high-water line of any river.
   2. 250 feet, horizontal distance, of the upland edge of a coastal wetland, including all areas affected by tidal actions.
   3. 250 feet, horizontal distance, of the upland edge of a freshwater wetland.
   4. 75 feet, horizontal distance, of the normal high-water line of a stream.

B. This article also applies to any structure built on, over or abutting a dock, wharf, or pier, or other structure extending beyond the normal high-water line of a water body, meaning for the purposes of this article any river or stream, or within a wetland.

C. For the purposes of this article, wetlands shall include coastal and freshwater wetlands as defined in Article 3.

D. The regulations and controls of this article apply to all land areas, uses, structures, and land use activities cited within this subsection in all zones of the city.

11.3 REVIEW PROCEDURE

Development activities within the Shoreland Zone are reviewed by the Building Authority for compliance with the requirements of Section 11.4. Submission of plans for such development activity shall be prepared by qualified professionals, based upon a boundary survey.

11.4 USE-SPECIFIC LAND USE STANDARDS

11.4.1 Principal and accessory structures

A. All principal and accessory structures shall be set back at least 75 feet horizontal distance from the normal high-water line of water bodies, the upland edge of a wetland or associated tributary streams within a Shoreland Zone, except that in the following zones the setback shall be as indicated below:
   1. *B 3, B-5/B-5b, I-L on-peninsula, and I-M on-peninsula:* 25 feet.
   2. *I-B, WCZ, WPDZ, EWPZ:* No setback required. However, pier edge setbacks apply in the EWPZ, the WCZ, and the WPDZ.

B. For principal structures, setback measurements shall be taken from the top of a coastal bluff that has been identified on coastal bluff maps as being "highly unstable" or "unstable" by the Maine Geological Survey, as adopted on the City of Portland zoning map.

C. Notwithstanding this requirement, when a lot is a lot of record as defined in Subsection 4.3.1 or cannot otherwise meet the setback requirement of this subsection due to physical limitations of the site, the Planning Board may approve a reduction of the setback requirement for a principal structure to the least amount necessary to achieve a building dimension of 28 feet, provided that the setback is not reduced to less than 40 feet. Structures in existence on June 15, 1992, may be expanded once during the lifetime of the structure up to 25 feet toward a freshwater wetland, stream or tributary stream, provided that the setback is not reduced to less than 40 feet and the floor area or volume is not increased by more than 30%. In no event shall the setback from a coastal wetland be reduced to less than 75 feet, except as set forth in Subsection 11.4.1(A), above.

D. In all cases, accessory detached structures of less than 100 square feet of floor area shall be permitted with no setback, provided that such structures shall be used only for the storage of fish, bait, and related equipment. No setback shall be required for piers, docks, retaining walls, or any other structures which require direct access to the water as an operational necessity.

E. The lowest floor elevation or openings of all buildings and structures including basements shall be elevated at least one foot above the elevation of the 100-year flood, the flood of record, or in the absence of these, the flood as defined by soil types identified as recent flood plain soils.

F. Notwithstanding the requirements of this section, stairways or similar structures may be allowed with a permit from the Building Authority to provide shoreline access in areas of steep slopes or unstable soils, provided that:

1. The structure is limited to a maximum of four feet in width.
2. The structure does not extend below or over the normal high-water line of a water body or upland edge of a wetland, unless permitted by the Department of Environmental Protection pursuant to 38 M.R.S. § 480 C.
3. The applicant demonstrates that no reasonable access alternative exists on the property.

11.4.2 Piers, docks, wharves, bridges, and other structures and uses extending over or below the normal high-water line of a water body or within a wetland

A. Access from shore shall be developed on soils appropriate for such use and constructed so as to control erosion.

B. The location shall not interfere with existing developed or natural beach areas.

C. The facility shall be located so as to minimize adverse effects on fisheries.

D. The facility shall be no larger in dimension than necessary to carry on the activity and shall be consistent with surrounding character and uses.

E. New permanent structures, and expansions thereof, projecting into or over water bodies shall require a permit from the Department of Environmental Protection pursuant to the National Resources Protection Act, 38 M.R.S. § 480-C. Permits may also be required from the Army Corps of Engineers and Board of Harbor Commissioners if located in navigable waters.

F. Except in the WCZ, EWPZ, WPDZ, and I-B zones, no new structure shall be built on, over or abutting a pier, wharf, dock or other structure extending beyond the normal high-water line of a water body or within a wetland unless the structure requires direct access to the water as an operational necessity.

G. No existing structures built on, over or abutting a pier, dock, wharf, or other structure extending beyond the normal high-water line of a water body or within a wetland shall be converted to residential dwelling units in any zone.

11.4.3 Clearing or removal of vegetation

A. In all shoreland areas in Resource Protection Zones, the cutting or removal of vegetation shall be limited to that which is necessary for uses expressly authorized in that zone.

B. The clearing or removal of vegetation standards of this subsection shall not apply to the following zones: EWPZ, WCZ, WPDZ, B-3, B-5/B-5b, B-6, B-7, I-L (on-peninsula), and I-M zones (on-peninsula).

C. The clearing or removal of vegetation standards of this subsection shall not apply to those portions of public recreational facilities adjacent to public swimming areas. Cleared areas in these locations shall be limited to the minimum amount necessary.

D. Other than cutting or removal of vegetation as provided for in this subsection, timber harvesting shall not be permitted. For purposes of this subsection, timber harvesting is defined as the cutting and removal of timber for the primary purpose of selling or processing forest products. The cutting or removal of trees in the Shoreland Zone on a lot that has less than two acres within the Shoreland Zone shall not be considered timber harvesting. Cutting or removal of such trees shall be regulated pursuant to this subsection.

E. For purposes of this subsection, vegetation is defined as all live trees, shrubs, and other plants including without limitation, trees both over and under 4 inches in diameter, measured at 4 ½ feet above ground level.

F. In all areas other than the Resource Protection Zone, a buffer strip of vegetation shall be preserved, except where clearance is required for development of permitted uses, within a strip of land extending 75 feet, horizontal distance, from the normal high-water or upland edge of a coastal wetland, river, stream, or tributary stream within a Shoreland Zone, in accordance with the following:

1. There shall be no cleared opening greater than 250 square feet in the forest canopy or other existing vegetation if a forested canopy is not presented as measured from the outer limits of the tree or shrub crown. Notwithstanding this limitation, a footpath not to exceed six feet in width as measured between tree trunks and/or shrub stems is allowed provided that a cleared line of sight to the water through the buffer strip is not created.
2. Selective cutting of trees within the buffer strip is allowed provided that a well distributed stand of trees and other vegetation is maintained. For the purposes of this subsection, a "well distributed stand of trees" adjacent to a water body, tributary stream or wetland shall be defined as maintaining a minimum rating

TABLE 11-A: SHORELAND TREE STAND RATING SYSTEM

Diameter (at 4½ ft. above ground level)	Points
2 in. ≤ 4 in.	1
4 in. ≤ 8 in.	2
8 in. – 12 in.	4
12 in. or greater	8

score of 16 or more in any 25-foot by 50-foot rectangle area as determined by the rating system in Table 11-A. The following shall govern in applying the point system in Table 11-A:

a. The 25-foot by 50-foot rectangular plots must be established where the landowner or lessee proposes clearing within the required buffer;

b. Each successive plot must be adjacent to, but not overlap a previous plot.

c. Any plot not containing the required points must have no vegetation removed except as otherwise allowed by this ordinance.

d. Any plot containing the required points may have vegetation removed down to the minimum points required or as otherwise allowed by this ordinance.

e. Where conditions permit, no more than 50% of the points on any 25-foot by 50-foot rectangular area may consist of trees greater than 12 inches in diameter.

For the purposes of this subsection, "other natural vegetation" is defined as retaining existing vegetation under three feet in height and other ground cover and retaining at least five saplings less than two inches in diameter at 4 ½ feet above ground level for each 25-foot by 50-foot rectangular area. If five samplings do not exist, no woody stems less than two inches in diameter can be removed until five samplings have been recruited into the plot. Notwithstanding the above provisions, no more than 40% of the total volume of trees four inches or more in diameter, measured at 4 ½ feet above ground level may be removed in any ten-year period.

3. In order to protect water quality and wildlife habitat, existing vegetation under three feet in height and other groundcover, including leaf litter and the forest duff layer, shall not be cut, covered, or removed, except to provide a footpath or other permitted uses as described in this subsection.

4. Pruning of tree branches on the bottom one third of the tree is allowed.

5. In order to maintain a buffer strip of vegetation when the removal of storm damaged, diseased, unsafe or dead trees results in the creation of cleared openings, these openings shall be replanted with native tree species unless existing new tree growth is present.

G. Selective cutting of not more than 40% of the volume of trees four inches or more in diameter, measured at 4 1/2 feet above ground level, shall be allowed within any ten-year period at distances greater than 75 feet, horizontal distance, from the normal high-water line of any other water body, tributary

stream, or the upland edge of a wetland, except to allow for the development of permitted uses. Tree removal in conjunction with the development of permitted uses shall be included in the 40% calculation. For the purposes of these standards, volume may be considered to be equivalent to basal area. In no event shall cleared openings for any purpose, including but not limited to, principal and accessory structures, driveways, lawns, and sewage disposal areas, exceed in the aggregate 25% percent of the lot area within the Shoreland Zone, including land previously cleared.

H. Legally existing nonconforming cleared openings may be maintained but shall not be enlarged, except as allowed by this article.

I. Fields and other cleared openings which have reverted to primarily shrubs, trees, or other woody vegetation shall be regulated under the provisions of this subsection.

11.4.4 Erosion and sedimentation control

A. All activities which involve filling, grading, excavation or other similar activities which result in unstabilized soil conditions and which require a permit shall require a written soil erosion and sedimentation control plan in accordance with Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, published by the Cumberland County Soil and Water Conservation District and the Maine Department of Environmental Protection and the City of Portland *Technical Manual*. The plan shall be submitted to the Building Authority for approval and shall include, where applicable, provisions for:

1. Mulching and revegetation of disturbed soil.
2. Temporary runoff control features such as hay bales, silt fencing, or diversion ditches.
3. Permanent stabilization structures such as retaining walls or riprap.

B. In order to create the least potential for erosion, development shall be designed to fit with the topography and soils of the site. Areas of steep slopes where high cuts and fills may be required shall be avoided wherever possible, and natural contours shall be followed as closely as possible.

C. Erosion and sedimentation control measures shall apply to all aspects of the proposed project involving land disturbance and shall be in operation during all stages of the activity. The amount of exposed ground area at every phase of construction shall be minimized to reduce the potential for erosion.

D. Any exposed ground area shall be temporarily or permanently stabilized within one week from the time it was last actively worked, by use of riprap, sod, seed, and mulch, or other effective measures. In all cases, permanent stabilization shall occur within nine months of initial exposure. The following standards shall also be met:

1. Where mulch is used, it shall be applied at a rate of at least one bale per 500 square feet and shall be maintained until a catch of vegetation is established.
2. Anchoring the mulch with netting, peg, and twine or other suitable method may be required to maintain the mulch cover.
3. Additional measures shall be taken where necessary in order to avoid siltation into



the water. Such measures may include the use of staked hay bales, and/or silt fences.

E. Natural and man-made drainage ways and drainage outlets shall be protected from erosion from water flowing through them. Drainage ways shall be designed and constructed in accordance with the City of Portland *Technical Manual*.

11.4.5 Soils

All land uses shall be located on soils in or upon which the proposed uses or structures can be established or maintained without causing adverse environmental impacts, including severe erosion, mass soil movement, improper drainage, and water pollution, either during or after construction. Proposed uses requiring subsurface wastewater disposal and commercial or industrial development or other similar intensive land uses shall require a soils report based on an on-site investigation and prepared by state certified professionals. Certified persons may include Maine Certified Soil Scientists, Maine Registered Professional Engineers, Maine State Certified Geologists and other persons who have training and experience in the recognition and evaluation of soil properties. The report shall be based upon the analysis of the characteristics of the soil and surrounding land and water areas, maximum ground water elevation, presence of ledge, drainage conditions, and other pertinent data which the evaluator deems appropriate. The soils report shall include recommendations for a proposed use to counteract soil limitations where they exist.

11.4.6 Water quality

No activity shall deposit on or into the ground or discharge to the waters of the state any pollutant that by itself or in combination with other activities or substances will impair designated uses or the water classification of the water body, tributary stream or wetland.

11.4.7 Archaeological sites

Any proposed land use activity involving structural development or soil disturbance on or adjacent to sites listed on, or eligible to be listed on, the National Register of Historic Places, as determined by the Department of Planning and Urban Development, shall be submitted by the applicant to the Maine Historic Preservation Commission for review and comment at least 20 days prior to action being taken by the Planning Authority. The Planning Authority shall consider comments received from the commission prior to rendering a decision on the application. Such sites shall also comply with all applicable provisions of Article 17 of this chapter.

11.4.8 Installation of public utility service

No public utility of any kind shall install services to any new structure located in the Shoreland Zone unless written authorization attesting to the validity and currency of all local permits required under this Code has been issued by the appropriate municipal authorities. Following installation of service, the public utility shall forward the written authorization to the appropriate municipal authorities, indicating that installation has been completed.

11.4.9 Essential services

Where feasible, the installation of essential services shall be limited to existing public ways and existing service corridors. The installation of essential services, other than road-side distribution lines and within existing service corridors, is not allowed in a Resource Protection or Stream Protection Zone,

except where the applicant demonstrates that no reasonable alternative exists. Damaged or destroyed public utility transmission and distribution lines, towers, and related equipment may be replaced or reconstructed without a permit.

11.4.10 Roads and driveways

A. Roads and driveways shall be setback a minimum of 75 feet from the normal high-water or upland edge of a coastal wetland, freshwater wetland, river or tributary stream within a Shoreland Zone, except:
   1. In the EWPZ, WCZ, WPDZ, B-3, B-5/B-5b, I-L (on-peninsula) and I-M (on-peninsula) roads and driveways shall be setback as established for structures in those zones as specified in Subsection 11.4.1(A).
   2. If no other reasonable alternative exists, the Planning Board may reduce the road and/or driveway setback requirement to no less than 50 feet, horizontal distance, upon clear showing by the applicant that appropriate techniques will be used to prevent sedimentation of the water body, tributary stream or wetland. Such techniques may include, but are not limited to, the installation of settling basins, and/or effective use of additional ditch relief culverts and turnouts place so as to avoid sedimentation of the water body, tributary stream, or wetland.

B. Existing public roads may be expanded within the legal road right of way regardless of their setback from a waterbody, tributary stream, or wetland.

C. New roads and driveways are prohibited in a Resource Protection Zone except that the Planning Board may grant a permit to construct a road or driveway to provide access to permitted uses within the district. A road or driveway may also be approved by the Planning Board in a Resource Protection Zone, upon a finding that no reasonable alternative route or location is available outside the district. When a roadway or driveway is permitted in a Resource Protection Zone the road and/or driveway shall be setback as far as practicable from the normal high-water line of a water body, tributary stream, or upland edge of wetland.

D. Road and driveways banks shall be no steeper than slope of two horizontal to one vertical and shall be graded and stabilized in accordance with the provisions for erosion and sedimentation control contained in Subsection 11.4.4.

E. Road and driveway grades shall be no greater than 10% except segments of less than 200 feet.

F. In order to prevent road and driveway surface drainage from directly entering water bodies, tributary streams, or wetlands, roads and driveways shall be designed, constructed, and maintained to empty onto an unscarified buffer strip at least 50 feet plus two times the average slope, in width between the outflow point of the ditch or culvert and the normal high-water line of a water body, tributary stream, or upland edge of a wetland. Surface drainage which is directed to an unscarified buffer strip shall be diffused or spread out to promote infiltration of the runoff and to minimize channelized flow of the drainage through the buffer strip.

G. Ditch relief (cross drainage) culverts, drainage dips, and water turnout shall be installed in a manner effective in directing drainage onto

unscarified buffer strips before the flow gains sufficient volume or head to erode the road, driveway, or ditch. To accomplish this, the following shall apply:

1. Ditch relief culverts, drainage dips, and associated water turnouts shall be spaced along the road or driveway at intervals no greater than indicated in Table 11-B.
2. Drainage dips may be used in place of ditch relief culverts only where the grade is 10% or less.
3. On sections having slopes greater than ten 10%, ditch relief culverts shall be placed at approximately a 30 degree angle downslope from a line perpendicular to the centerline of the road or driveway.
4. Ditch relief culverts shall be sufficiently sized and properly installed in order to allow for effective functioning, and their inlet and outlet ends shall be stabilized with appropriate materials.
5. Ditches, culverts, bridges, dips, water turnouts, and other storm water runoff control installations associated with roads and driveways shall be maintained on a regular basis to assure effective functioning.

TABLE 11-B: DRAINAGE SPACING

Grade (%)	Spacing
0-2	250 ft.
3-5	200-135 ft.
6-10	100-80 ft.
11-15	80-60 ft.
16-20	60-45 ft.
21+	40 ft.

11.4.11 Parking areas

Parking areas shall be set back a minimum of 75 feet from the normal high-water or upland edge of a coastal wetland, freshwater wetland, river, or tributary stream within a Shoreland Zone except:

A. In the EWPZ, WCZ, WPDZ, B-3, B-5/B-5b, I-L, and I-M zones, parking setbacks shall be as established for structures in those zones, as specified in Subsection 11.4.1(A).

B. Where the Planning Board finds that no other reasonable alternative exists further from the shoreline or tributary stream, the board may reduce the parking setback requirement to no less than 50 feet in the R-OS and I-B zones to the least amount necessary for construction, provided that the applicant proves by a preponderance of the evidence that appropriate techniques will be used to prevent sedimentation of the water body.

11.4.12 Septic waste disposal

All subsurface sewage disposal systems shall be installed in conformance with the State of Maine Subsurface Wastewater Disposal Rules and the following:

A. Clearing or removal of woody vegetation necessary to site a new system and any associated fill extensions, shall not extend closer than 75 feet, horizontal distance, from the normal high-water line of a water body or the upland edge of a wetland.

B. A holding tank is not allowed for a first-time residential use in the Shoreland Zone.

11.4.13 Stormwater runoff

All new construction and development shall be designed to be in compliance with the City of Portland *Technical Manual* to minimize stormwater

runoff from the site in excess of the natural predevelopment conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces, and wooded areas shall be retained in order to reduce runoff and encourage infiltration of stormwater. Stormwater runoff control systems shall be maintained as necessary to ensure proper functioning.

11.4.14 Agriculture

A. All spreading or disposal of manure shall be accomplished in conformance with the Manure Utilization Guidelines published by the Maine Department of Agriculture on November 1, 2001, and the Nutrient Management Law (7 M.R.S. §§ 4201-4209).
B. Manure shall not be stored or stockpiled within 75 feet, horizontal distance, of water bodies, tributary streams, or wetlands. All manure storage areas within the Shoreland Zone must be constructed or modified such that the facility produces no discharge of effluent or contaminated stormwater.
C. Agricultural activities involving tillage of soil greater than 40,000 square feet in surface area within the Shoreland Zone shall require a conservation plan to be filed with the Planning Authority.
D. There shall be no new tilling of soil within 75 feet, horizontal distance, from water bodies and coastal wetlands or within 25 feet, horizontal distance, of tributary streams and freshwater wetlands when such new tilling, by itself or combined with all other contiguous tillage, shall exceed 40,000 square feet in surface area. Operations in existence on the effective date of this section and not in conformance with these provisions may be maintained but shall not be expanded. When the new tilling, by itself or combined with all other contiguous tillage, shall total 40,000 square feet or less, the tillage shall be set back a minimum of 25 feet from all water bodies, tributary streams, or wetlands.
E. Newly established livestock grazing areas shall not be permitted within 75 feet, horizontal distance, of water bodies and coastal wetlands or within 25 feet, horizontal distance, of tributary streams and wetlands. Livestock grazing associated with ongoing farm activities and which are not in conformance with the above setback provisions may continue, provided such grazing is conducted in accordance with a soil and water conservation plan filed with the Planning Authority.

11.5 SUPPLEMENTAL SITE PLAN STANDARDS

11.5.1 Site plan standards

The Planning Board or Planning Authority shall approve a site plan located within a Shoreland Zone if it finds that the following standards, in addition to the standards set forth in Article 14, are met:

A. The proposal will maintain safe and healthful conditions.
B. The proposal will not result in water pollution, erosion, or sedimentation to surface waters.
C. The proposal will adequately provide for the disposal of all wastewater.
D. The proposal will not have an adverse impact on spawning grounds, fish, aquatic life, bird, or other wildlife habitat.
E. The proposal will conserve shore cover and visual, as well as actual, points of access to inland and coastal waters.
F. The proposal will protect archaeological and historic resources.



G. The proposal will not adversely affect existing commercial fishing or maritime activities.

H. The proposal will avoid problems associated with flood plain development and use.

I. The proposal is in conformance with the standards set forth in this article.

12 FLOOD PLAIN MANAGEMENT

12.1 PURPOSE

The City of Portland, Maine, elects to comply with the 42 USC Section 4001 et seq. requirements of the National Flood Insurance Act of 1968, as amended from time to time. The National Flood Insurance Program, established in the aforesaid act, provides that areas of the city having a special flood hazard be identified by the Federal Emergency Management Agency and that flood plain management measures be applied in such flood hazard areas. This article establishes a Flood Hazard Development Permit system and review procedure for development activities in the designated flood hazard areas of the city. The purposes of this article are to reduce future flood risks and losses, protect against financial and human loss resulting from flood disasters, and to control the placement of structures, construction materials, and methods used to minimize potential property damage due to flooding.

12.2 APPLICABILITY

This article applies to all land areas, uses, structures, and land use activities lying in the special flood hazard areas as identified by the Federal Emergency Management Agency in a report entitled *Flood Insurance Study - City of Portland, Maine, County of Cumberland,* with accompanying "flood insurance rate map" and "flood boundary and floodway map," dated July 17, 1986. This *Flood Insurance Study* with accompanying maps, and any subsequent amendments thereto, is hereby adopted by reference and declared to be a part of this Land Use Code.

12.3 DEFINITIONS

Area of special flood hazard. The land in the flood plain having a 1% or greater chance of flooding in any given year as specifically identified in the most recently adopted FEMA Flood Insurance Study for the City of Portland.

Base flood. The flood having a 1% chance of being hereof or exceeded in any given year (i.e., a 100-year storm).

Coastal high hazard area. The area subject to high velocity waters, including but not limited to, hurricane wave wash or tsunamis. The area is designated on the flood insurance rate map as zone V1 30.

Development. Any man-made change to improved or unimproved real estate, including but not limited to, the construction of, alteration to, or addition to any buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations, or storage of equipment or materials.

Flood boundary and floodway map. The official map issued by the Federal Emergency Management Agency (FEMA) on which the boundaries of the flood have been designated. This may alternatively be referred to as a flood hazard boundary map.

Flood insurance rate map. The official map (FIRM) on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the city.

Floodproofing. Any combination of structural or nonstructural additions, changes, or adjustments to

structures which reduce or eliminate flood damage to real estate or improved real estate, to water and sanitary facilities, structures, and their contents.

Floodway. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot as designated on the flood boundary and floodway map. When not designated on the flood boundary and floodway map, it is considered to be the channel of a river or other watercourse and the adjacent land areas to a distance of 1/2 the width of the flood plain, as measured from the normal high-water mark to the upland limit of the flood plain.

Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this division.

Mean high tide. The mean height of tidal high waters at a particular point or station over a period of time to such length that increasing its length does not appreciably change this mean. For tidal waters, the cycle of change covers a period of 19 years, and mean high tide is defined as the average of the high waters over a 19 period.

Mean sea level. For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on the city's FIRM are referenced.

Structure. A walled and roofed building, including a gas or liquid storage tank, that is principally above ground, or manufactured housing. "Principally above ground," as used above, means either that at least 2/3 of its floor to ceiling height is above the average adjoining ground level, or at least 51% of the actual cash value of the structure, less land value, is above ground.

Substantial improvement. Any repair, reconstruction, addition to or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure either before the improvement or repair is started or, if the structure has been damaged and is being restored, before the damage occurred. For purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or for any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

12.4 FLOOD HAZARD DEVELOPMENT PERMIT

12.4.1 Permit required

Before any development begins within any areas of special flood hazard, a Flood Hazard Development Permit shall be obtained from the Building

Authority. This permit shall be required prior to issuance of a building permit, if one is required, and shall be in addition to any other permit, site plan, and subdivision review which may be required pursuant to the codes and ordinances of the City. If only a site plan is required for a development, the Flood Hazard Development Permit shall be obtained prior to approval of the site plan.

12.4.2 Filing of application

The application for a Flood Hazard Development Permit shall be submitted in writing to the Building Authority and shall include the following:

A. A final site plan, where applicable, showing information as required by Article 14.

B. A final subdivision plat, where applicable, providing information as required in Article 15.

C. For any development which does not meet the minimum threshold as a development requiring site plan review, the following information shall be provided:

1. The name, address, and phone number of the applicant, owner, and contractor.
2. A map with address indicating the location of the development site.
3. A site plan showing the location of existing and proposed development, including but not limited to specific dimensions of existing and proposed structure(s), wastewater disposal facilities, water supply facilities, areas to be developed, and the dimensions of the lot.
4. A statement of the intended use of any structure and/or other development.
5. A statement of the cost of the development including all materials and labor.
6. A statement of the type of wastewater disposal system proposed.

D. The elevation in relation to the National Geodetic Vertical Datum (NGVD), or to a locally established datum for Zone A only, of the:

1. Base flood at the proposed site of all new or substantially improved structures, which is determined in Zones A1-30, AE, AO, AH, V1-30, and VE from data contained in the *Flood Insurance Study — City of Portland, Maine*, or in Zone A, to be the elevation of the ground at the intersection of the flood plain boundary and a line perpendicular to the shoreline which passes along the ground through the site of the proposed building.
2. Highest and lowest grades at the site adjacent to the walls of the proposed building.
3. Lowest floor, including basement, and whether or not such structures contain a basement.
4. Level, in the case of nonresidential structures only, to which the structure will be floodproofed.

E. A description of an elevation reference point established on the site of all new or substantially improved structures.

F. Either an elevation certificate (FEMA Form 81 31, 03/97, as amended) completed by a professional land surveyor, registered professional engineer, or architect, or, for nonresidential structures to be floodproofed, a floodproofing certificate (FEMA Form 81 65, 05/93, as amended) completed by a registered professional engineer or architect. These certificates verify that the elevations shown on the application are accurate.

G. Certifications by a registered professional engineer or architect that structures meet the review standards of Subsection 12.4.5.

H. A description of the extent to which any watercourse will be altered or relocated as a result of the proposed development.

I. A statement of construction plans describing in detail how each applicable development standard in Subsection 12.4.5 will be met.

J. Cross section(s) of the site acceptable to the Public Works Authority.

12.4.3 Fee

A nonrefundable Flood Hazard Development Permit fee as established by the City Council shall be paid to the Building Authority, and a copy of a receipt for the same shall accompany the application.

12.4.4 Review procedure

A. Upon determination by the Building Authority that an application is complete, the Building Authority shall coordinate review of the application by the City. No permit shall be issued until the Building Authority finds that the development proposal is in compliance with the standards of this article. Compliance with the provisions of this article shall be required prior to beginning any development as defined herein.

B. The Building Authority shall, when reviewing subdivisions and other proposed developments that require review under federal law, state law, or local ordinances or regulations and all projects on five or more acres, or in the case of manufactured home parks divided into two or more lots, assure that:

1. All such proposals are consistent with the need to minimize flood damage.
2. All public utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damages.
3. Adequate drainage is provided so as to reduce exposure to flood hazards.
4. All proposals include base flood elevations, flood boundaries and, in a ravine flood plain, floodway data. These determinations shall be based on engineering practices recognized by the Federal Emergency Management Agency.
5. Any proposed development plan must include a condition of plan approval requiring that structures on lots in the development be constructed in accordance with Subsection 12.4.5 of this article. The condition shall clearly articulate that the municipality may enforce any violation of the construction requirement. The construction requirement shall also be clearly stated on any map, plat, or plan as part of the approval process.

C. In the review of all Flood Hazard Development Permit applications for compliance with the standards herein:

1. The Building Authority shall utilize the base flood data contained in the *Flood Insurance Study* as described in Section 12.2. In special flood hazard areas where base flood elevation data are not provided in the above cited study, the Planning Authority, or Planning Board as appropriate, shall obtain, review, and reasonably utilize any base flood elevation data available from federal, state, or other

reasonably reliable sources in order to administer this article.

2. Prior to approval of issuance of the Flood Hazard Development Permit, the Building Authority shall determine that all necessary permits have been obtained from those federal, state, and local authorities from which prior approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1334 as may be amended from time to time), provided, however, that conditional approval may be granted pending proof of receipt of any required permits, but no Flood Hazard Development Permit shall be finally issued until proof of issuance of all such other permits is received by the Building Authority.
3. The Building Authority shall notify adjacent municipalities, the Maine Department of Environmental Protection and the Maine Flood Plain Management Program, prior to any alteration or relocation of a watercourse, and submit copies of such notifications to the Federal Emergency Management Agency.
4. The Building Authority shall maintain, as a permanent record, copies of all Flood Hazard Development Permit applications, corresponding permits issued, and data relevant thereto, including reports of the Board of Appeals on variances granted under the provisions of Section 12.6 of this article, and copies of elevation certificates, floodproofing certificates, certificates of compliance, and certifications of design standards required under the provisions of Sections 12.4 and 12.5.

12.4.5 Review standards

A. **All development.** All development shall:
   1. Be designed or modified and adequately anchored to prevent flotation (excluding piers and docks), collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
   2. Use construction materials that are resistant to flood damage.
   3. Use construction methods and practices that will minimize flood damage.
   4. Use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during flooding conditions.

B. **Water supply.** All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.

C. **Sanitary sewage systems.** All new and replacement sanitary sewage systems shall be designed and located to minimize or eliminate infiltration of flood waters into the system and discharges from the system into flood waters.

D. **On-site waste disposal systems.** On site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during floods.

E. **Altered or relocated watercourses.** All development associated with altered or relocated portions of a watercourse shall be

constructed and maintained in such a manner that no reduction occurs in the flood carrying capacity of the watercourse.

F. **Residential.** New construction or substantial improvement of any residential structure located within:

1. Zones A1-30, AE, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.
3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
    a. At least two feet higher than the depth specified in feet on the community's Flood Insurance Rate Map, or
    b. At least three feet if no depth number is specified.
4. Zone A shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation utilizing information obtained pursuant to Subsections 12.4.2(D)(2), 12.4.4(B)(4), or 12.4.4(C)(1).
5. Zones V1-30 and VE shall meet the requirements of Subsection 12.4.5(P).

G. **Nonresidential.** New construction or substantial improvement of any nonresidential structure located within:

1. Zones A1-30, AE, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation, or together with attendant utility and sanitary facilities shall:
    a. Be floodproofed to at least two feet above the base flood elevation so that below that elevation the structure is watertight with walls substantially impermeable to the passage of water.
    b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
    c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a Flood Hazard Development Permit, as required by Subsection 12.4.2(G) and shall include a record of the elevation above mean sea level to which the structure is floodproofed.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.
3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
    a. At least two feet higher than the depth specified in feet on the community's flood insurance rate map, or
    b. At least three feet if no depth number is specified, or
    c. Together with attendant utility and sanitary facilities be floodproofed to

meet the elevation requirements of this subsection and floodproofing standards of Subsection 12.4.5(G).

4. Zone A shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation utilizing information obtained pursuant to Subsections 12.4.2(D)2, 12.4.4(B)(4), 12.4.4(C)(1).
5. Zones V1-30 and VE shall meet the requirements of Subsection 12.4.5(P).

H. **Manufactured homes.** New or substantially improved manufactured homes located within:

1. Zones A1-30, AE, and AH shall:
   a. Be elevated on a permanent foundation such that the lowest floor is at least two feet above the base flood elevation.
   b. Be securely anchored to an adequately anchored foundation system to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to:
      i. Over the top ties anchored to the ground at the four corners of the manufactured home, plus two additional ties per side at intermediate points (manufactured homes less than 50 feet long require one additional tie per side).
      ii. Frame ties at each corner of the home, plus five additional ties along each side at intermediate points (manufactured homes less than 50 feet long require four additional ties per side).
      iii. All components of the anchoring system shall be capable of carrying a force of 4,800 pounds.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.
3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
   a. At least two feet higher than the depth specified in feet on the community's Flood Insurance Rate Map, or
   b. At least three feet if no depth number is specified, and
   c. Meet the requirements of Subsection 12.4.5(H)(1)(b).
4. Zone A shall:
   a. Be elevated on a permanent foundation such that the lowest floor is at least two feet above the base flood elevation utilizing information obtained pursuant to Subsection 12.4.2(D)(2), 12.4.4(B)(4), or 12.4.4(C)(1).
   b. Meet the requirements of Subsection 12.4.4(B)(2).
5. Zones V1-30 and VE shall meet the requirements of Subsection 12.4.5(P).

I. **Recreational vehicles.** Recreational vehicles located within:

1. Zones A1-30, AH, and AE shall either:
   a. Be on the site for fewer than 180 consecutive days, or
   b. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or

jacking system, is attached to the site only be quick disconnect type utilities and security devices, and has no permanently attached additions.

2. Zones V1-30 and VE shall meet the requirements of either Subsection 12.4.5(I)(1)(a), 12.4.5(I)(1)(b), or 12.4.5(P).

J. **Accessory structures.** Accessory structures located within Zones A1-30, AE, AO, AH, and A shall be exempt from the elevation criteria required in Subsection 12.4.5(F) and 12.4.5(G) if all other requirements of Subsection 12.4.5 and all the following requirements are met. Accessory structures shall:

1. Be 500 square feet or less and have a value less than $3,000.
2. Have unfinished interiors and not be used for human habitation.
3. Have hydraulic openings, as specified in Subsection 12.4.5(L), in at least two different walls of the accessory structure.
4. Be located outside the floodway.
5. When possible be constructed and placed on the building site so as to offer the minimum resistance to the flow of flood waters and be placed further from the source of flooding than is the primary structure.
6. Have only ground fault interrupt electrical outlets. The electric service disconnect shall be located above the base flood elevation and when possible outside the special flood hazard area.

K. Floodways

1. In Zones A1-30 and AE, encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted in ravine areas, for which a regulatory floodway is designated on the community's flood insurance rate map or flood boundary and floodway map, unless a technical evaluation certified by a registered professional engineer is provided demonstrating that such encroachments will not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
2. In Zones A1-30 and AE riverine areas, for which no regulatory floodway is designated, encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted in the floodway as determined in (3) below, unless a technical evaluation certified by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing development and anticipated development:
   a. Will not increase the water surface elevation of the base flood more than one foot at any point within the community.
   b. Is consistent with the technical criteria contained in Chapter 5 entitled "Hydraulic Analyses," *Flood Insurance Study — Guidelines and Specifications for Study Contractors* (FEMA 37/January 1995, as amended).
3. In Zones A1-30, AE, and A riverine areas for which no regulatory floodway is designated, the regulatory floodway is determined to be the channel of the river

or other watercourse and the adjacent land areas to a distance of 1/2 the width of the flood plain as measured from the normal high-water mark to the upland limit of the flood plain. Encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted unless a technical evaluation certified by a registered professional engineer is provided meeting the requirements of (2) above.

L. **Enclosed areas below the lowest floor.** New construction or substantial improvement of any structure in Zones A1-30, AE, AO, AH, and A that meets the development standards of Subsection 12.4.5, including the elevation requirements of Subsection 12.4.5(F), (G), or (H) and is elevated on posts, columns, piers, piles, "stilts," or crawl spaces may be enclosed below the base flood elevation requirements provided all the following criteria are met or exceeded:

1. Enclosed areas are not basements.
2. Enclosed areas shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood water. Designs for meeting this requirement must either:
    a. Be engineered and certified by a registered professional engineer or architect, or
    b. Meet or exceed the following minimum criteria:
        i. A minimum of two openings having a total net area of not less than one square inch for every square foot of the enclosed area.
        ii. The bottom of all openings shall be no higher than one foot above the lowest grade.
        iii. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the entry and exit of flood waters automatically without any external influence or control such as human intervention, including the use of electrical and other non-automatic mechanical means.
3. The enclosed area shall not be used for human habitation.
4. The enclosed areas are usable solely for building access, parking vehicles, or storing of articles and equipment used for maintenance of the building.

M. **Bridges**. New construction or substantial improvement of any bridge in Zones A1-30, AE, AO, AH, A, V1-30, and VE shall be designed such that:

1. When possible, the lowest horizontal member (excluding the pilings, or columns) is elevated to at least two feet above the base flood elevation.
2. A registered professional engineer shall certify that:
    a. The structural design and methods of construction shall meet the elevation requirements of this section and the floodway standards of Subsection 12.4.5(K).
    b. The foundation and superstructure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind

and water loads acting simultaneously on all structural components. Water loading values used shall be those associated with the base flood.

N. **Containment walls.** New construction or substantial improvement of any containment wall shall meet the following requirements by zone:

1. Zones A1-30, AE, AH, V1-30, and VE shall have the containment wall elevated to at least two feet above the base flood elevation, have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy, and be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a Flood Hazard Development Permit, as required by Subsection 12.4.2.
2. Zones AO and AH shall have adequate drainage paths around containment walls on slopes, to guide flood water away from the proposed walls.
3. Zone AO shall have the top of the containment wall elevated above the highest adjacent grade at least two feet higher than the depth specified in feet on the community's flood insurance rate map, or at least three feet if no depth number is specified.
4. Zone A shall have the containment wall elevated to at least two feet above the base flood elevation utilizing information obtained pursuant to Subsections 12.4.2(D)(2), 12.4.4(B)(4), or 12.4.4(C)(1).

O. **Wharves, piers, and docks.** New construction or substantial improvement of wharves, piers, and docks are permitted in Zones A, A1-30, AE, AO, AH, V1-30, and VE, in and over water and seaward of the mean high tide if the following requirements are met:

1. Wharves, piers, and docks shall comply with all applicable local, state, and federal regulations.
2. Commercial wharves, piers, and docks involving fill shall adhere to the design and construction standards contained in the U.S. Army Corps of Engineers' Shore Protection Manual.

P. **Coastal flood plains**

1. All new construction located within Zones A1-30, AE, A, V1-30, and VE shall comply with all applicable local, state, and federal regulations.
2. New construction or substantial improvement of any structure located within Zones V1-30 or VE shall be elevated on posts or columns such that:
   a. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to two feet above the base flood elevation.
   b. The pile or column foundation and the elevated portion of the structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

c. Water loading values used shall be those associated with the base flood. Wind loading values used shall be those required by applicable state and local building standards.

3. New construction or substantial improvement of any structure located within Zones V1-30 or VE shall have the space below the lowest floor:
   a. Free of obstructions, or
   b. Constructed with open wood lattice work, or insect screening intended to collapse under wind and water without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting piles or columns, or
   c. Constructed with non-supporting breakaway walls which have a design safe loading resistance of not less than 10 or more than 20 pounds per square foot.
4. A registered professional engineer or architect shall develop or review the structural design, specifications, and plans for the construction, which must meet or exceed the technical criteria contained in the *Coastal Construction Manual* (FEMA 55/February, 1986).
5. A registered professional engineer or architect shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the criteria of Subsections 12.4.5(P)(2) and (3).
6. The use of fill for structural support in Zones V1-30 and VE is prohibited.
7. Human alteration of sand dunes within Zones V1-30 and VE is prohibited unless it can be demonstrated that such alterations will not increase potential flood damage.
8. The enclosed areas may be used solely for parking vehicles, building access, and storage.
9. Lobster sheds and fishing sheds located seaward of mean high tide shall be exempt from the elevation requirement in Subsection 12.4.5(G) only upon review and approval by the Planning Authority or Planning Board and if all the following requirements of Subsections 12.4.5(A), (K), and (L) are met:
   a. The conditional use shall be limited to low value structures such as metal or wood sheds 200 square feet or less and shall not exceed more than one story.
   b. The structure shall be securely anchored to the wharf or pier to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.
   c. The structure will not adversely increase wave or debris impact forces affecting nearby buildings.
   d. The structure shall have unfinished interiors and shall not be used for human habitation.
   e. Any mechanical, utility equipment and fuel storage tanks must be anchored and either elevated or floodproofed to two-feet above the base flood elevation.

All electrical outlets shall be ground fault interrupt type. The electrical service disconnect shall be located on shore above the base flood elevation and when possible outside the special flood hazard area. If a flood hazard permit application is granted, the applicant shall be notified in writing that flood insurance is not available for structures located entirely over water or seaward of mean high tide.

12.4.6 Permit

Upon determination that the development or substantial improvement plan is in compliance with this article, the Building Authority shall issue one of the following Flood Hazard Development Permits based on the type of development:

A. **Two-part Flood Hazard Development Permit for elevated structures.** Part I shall authorize the applicant to build a structure to and including the first horizontal floor only above the base flood level. At that time the applicant shall provide the Code Enforcement Officer with a second elevation certificate completed by a professional land surveyor, registered professional engineer or architect based on the Part I permit construction, "as built," for verifying compliance with the elevation requirements of Subsections 12.4.5(F), (G), (H), or (P). Following review of the elevation certificate data, which shall take place within 72 hours of receipt of the application, or as soon as practicable thereafter, the Code Enforcement Officer shall issue Part II of the Flood Hazard Development Permit. Part II shall authorize the applicant to complete the construction project.

B. **Flood Hazard Development Permit for floodproofing of nonresidential structures.** This permit shall apply for nonresidential structures that are new construction or substantially improved nonresidential structures that are not being elevated but that meet the floodproofing standards of Subsection 12.4.5(G)(1). The application for this permit shall include a floodproofing certificate signed by a registered professional engineer or architect.

C. **Flood Hazard Development Permit.** This permit shall apply for all other development and building permits that are not new construction or a substantial improvement, such as repairs, maintenance, renovations, or additions, whose value is less than 50% of the market value of the structure. This includes, but is not limited to: accessory structures as provided for in Subsection 12.4.5(J), mining, dredging, filling, grading, paving, excavation, drilling operations, storage of equipment or materials, deposition or extraction of materials, public or private sewage disposal systems or water supply facilities that do not involve structures, and nonstructural projects such as bridges, dams, towers, fencing, pipelines, wharves, and piers.

12.5 CERTIFICATE OF COMPLIANCE

No land in an area of special flood hazard shall be occupied or used in violation of this article, and no structure in such an area which is developed or substantially improved shall be occupied until a Certificate of Compliance is issued by the Building Authority. Said Certificate of Compliance shall be issued only after the Building Authority has received all permits and certificates from the applicant as

required by this article. For structures in Zones V1-30 and VE and for floodproofed structures, a written certification by a registered professional engineer or architect shall be provided to the Building Authority stating that the design and methods of construction used are in compliance with the applicable provisions of Subsection 12.4.5. Within 30 working days, the Building Authority shall review the elevation certificate and the applicant's written notification and, upon determination that the development conforms with the provisions of this article, shall issue a certificate of compliance.

12.6 VARIANCES

12.6.1 Authority

The Board of Appeals may authorize variances from the provisions of this article as authorized in Subsection 2.3.11 except:

A. As otherwise expressly provided in Subsection 2.3.11(E).

B. Variances shall not be granted within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.

12.6.2 Standards

Subsection 2.3.11 notwithstanding, variances from the requirements of this article shall be granted only upon:

A. A showing of good and sufficient cause.

B. A determination that should a flood comparable to the base flood occur, the granting of a variance will not result in increased flood heights, additional threats to public safety, or public expense, or create nuisances, cause fraud or victimization of the public, or conflict with existing local laws or ordinances.

C. A showing that the issuance of the variance will not conflict with other state, federal, or local laws or ordinances.

D. A determination that failure to grant the variance would result in "undue hardship," which in this subsection means:

1. That the land in question cannot yield a reasonable return unless a variance is granted.
2. That the need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood.
3. That the granting of a variance will not alter the essential character of the locality.
4. That the hardship is not the result of action taken by the applicant or a prior owner.

E. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

12.6.3 Standards for specific variances

A. Variances may be issued for the repair, reconstruction, rehabilitation, or restoration of historic structures upon the determination that:

1. The development meets the criteria of Subsection 12.6.2.
2. The proposed repair, reconstruction, rehabilitation, or restoration will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

B. Variances may be issued for new construction, substantial improvements, or other development for the conduct of a functionally dependent use provided that:
   1. The criteria of Section 12.6 and Subsection 12.4.5 are met.
   2. The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

12.6.4 Notice to applicants

A. Any applicant who meets the criteria of this section shall be notified by the Board of Appeals in writing with the signature of the Chair of the Board of Appeals that:
   1. The issuance of a variance to construct a structure below the base flood level will result in greatly increased premium rates for flood insurance up to amounts as high as $25 per $100 of insurance coverage.
   2. Such construction below the base flood level increases risks to life and property.
   3. The applicant agrees in writing that the applicant is fully aware of all the risks inherent in the use of land subject to flooding, assumes those risks and agrees to indemnify and defend the municipality against any claims filed against it that are related to the applicant's decision to use land located in a flood plain and that the applicant individually releases the municipality from any claims the applicant may have against the municipality that are related to the use of land located in a flood plain.

B. The above Subsections 12.6.4(A)(1), (2), and (3) shall be included with or on all applications for a variance hereunder, as well as the following statements:
   1. The applicant understands and is fully aware of all of the risks inherent in the use of land subject to flooding and understands and agrees that they are fully assuming any potential or actual liability resulting therefrom. Applicant agrees to indemnify and defend the municipality against any claims filed against it that are related to the applicant's decision to use the land located in a flood plain and that the applicant individually releases the municipality from any claims the applicant may have against the municipality that are related to the use of land located in a flood plain. Applicant further understands and agrees that the City has no responsibility therefore, and in the event a variance is granted to applicant, applicant agrees to inform any purchaser, assignee, or other transferee of applicant of the existence of said variance and of this agreement.
   2. Applicant shall signify in writing that they have read, understands, and agrees to all of the stipulations in this Subsections 12.6.4(A) and (B).

12.6.5 Record of variances

The Board of Appeals shall submit to the Building Authority a report of all variance actions, including justification for the granting of the variance and an authorization for the Building Authority to issue a Flood Hazard Development Permit, which includes any conditions to be attached to said permit.

12.7 RECORDS & REPORTING

A. The Building Authority shall maintain, as a permanent record, copies of all Flood Hazard Development Permits issued, certificates of compliance and data relevant thereto, including reports of the Board of Appeals on variances granted hereunder.

B. The Building Authority shall be responsible for filing such annual reports regarding participation in the National Flood Insurance Program as may be required by FEMA. Said annual reports shall include, but not be limited to, a report on implementation of this article and on any variances granted hereunder. A copy of such annual reports shall also be sent to the Maine Flood Plain Management Program.

12.8 PENALTIES

It shall be the duty of the Building Authority to enforce the provisions of this ordinance pursuant to Title 30-A M.R.S. § 4452. The penalties contained in Title 30-A M.R.S. § 4452 shall apply to any violation of this ordinance. In addition to any other actions, the Building Authority, upon determination that a violation exists, shall submit a declaration to the Administrator of the Federal Insurance Administration requesting a denial of flood insurance. The valid declaration shall consist of:

A. The name of the property owner and address or legal description of the property sufficient to confirm its identity and location.

B. A declaration that the property is in violation of a cited state or local law, regulation, or ordinance.

C. A clear statement that the public body making the declaration has authority to do so and a citation to that authority.

D. Evidence that the property owner has been provided notice of the violation and the prospective denial of insurance.

E. A clear statement that the declaration is being submitted pursuant to Section 1316 of the National Flood Insurance Act of 1968, as amended.

13 RESOURCE PROTECTION ZONE

13.1 USE

No building shall be erected, altered, enlarged, rebuilt or used, and no premises shall be used, in a Resource Protection Zone except for the following uses:

A. Non-intensive recreational uses not requiring structures, such as fishing and hiking.
B. Motorized and non-motorized vehicular traffic on existing roads, trails, and rails, as appropriate.
C. Bikeways, pedestrian trails, and walkways.
D. Fire prevention activities.
E. Wildlife management activities.
F. Soil and water conservation activities.
G. Surveying and natural resource analysis.
H. Emergency operations as defined in Article 3.
I. Harvesting of wild crops.
J. Nonresidential structures for educational, scientific, or nature interpretation purposes, containing a maximum floor area of not more than 10,000 square feet.
K. Public and private parks and recreational areas, including one or more structures containing a total maximum floor area of not more than 10,000 square feet.
L. Permanent and temporary piers, docks, wharves, bridges and uses projecting into water bodies, as allowed in Subsection 11.4.2.
M. Storehouses for fishermen's gear.
N. Essential services as defined in Article 3 accessory to the uses permitted herein.
O. Signs, as allowed in Article 20.
P. Road construction, in accordance with the provisions of Section 11.4.
Q. Parking facilities for uses permitted under this section.
R. Landfill and other earth-moving activity, as allowed in Subsection 11.4.4.

13.2 DIMENSIONAL REQUIREMENTS

No building or structure shall be erected, altered, enlarged, rebuilt, or used in a Resource Protection Zone which does not comply with the following requirements:

TABLE 13-A: RPZ DIMENSIONAL STANDARDS

Lot area (min.)		20,000 SF
Lot width (min.)		100 ft.
Lot frontage on street or shoreline (min.)		100 ft.
Front setback (min.)		25 ft.
Rear setback (min.)		75 ft.[1]
Side setback (min.)	**Principal**	15 ft.
	Accessory	5 ft.
Side setback on side street (min.)		20 ft.
Shoreline setback (min.)		75 ft.[2]
Structure height (max.)	**Principal**	2 stories or 25 ft.
	Accessory	1 story or 15 ft.
Building area (max.)		10% of lot area[3]

[1] Does not apply to boathouses or storehouses for fishing gear.
[2] Does not apply to permitted piers, docks, wharves, breakwaters, causeways, bridges, boathouses, and storehouses for fishing gear.
[3] For principal building or group of buildings.

13.3 OFF-STREET PARKING

Any off-street parking in a Resource Protection Zone is required as provided in Article 19.

13.4 SHORELAND AND FLOOD PLAIN MANAGEMENT REGULATIONS

Any lot or portion of a lot located in a Shoreland Zone as identified on the City zoning map or in a flood hazard area shall be subject to the requirements of Articles 11 and 12.



14 SITE PLAN

14.1 PURPOSE

Pursuant to Portland's Comprehensive Plan, this article advances the vision for a sustainable city with shared goals for the environment, community, and economy. This article complements the zoning and subdivision regulations of this Land Use Code.

14.2 APPLICABILITY

14.2.1 Site plan approval required

All development meeting the thresholds of Table 14-A shall require site plan approval prior to commencing any work or undertaking any alteration or improvement of the site. A final, approved site plan is a prerequisite to issuance of building, street opening, or certificate of occupancy permits for development subject to the provisions of this article. No such permit shall be issued until such permit is determined to be consistent with the final, approved site plan and any conditions of approval. In the event of any inconsistency between the approved site plan and any permit issued, the approved site plan shall control, provided, however, site plan approval shall not excuse failure to meet any independent requirement of any other law or ordinance. Neither the acceptance of any application nor any determination or approval hereunder shall authorize the issuance of a permit under Chapter 6 of the City of Portland Code of Ordinances for any use which would violate the provisions of Articles 6 and 7 of this Land Use Code.

14.2.2 Exceptions

The Planning Authority may grant written authorization for the release of a demolition or interior building permit for a development subject to this article upon written request of the applicant describing the extent of proposed work. Any exterior demolition requires a performance guarantee for site stabilization.

14.3 PROJECT CLASSIFICATION

14.3.1 Site plan classifications

The Planning Authority shall classify each development proposal as a major or minor site plan application according to the classifications in Table 14-A. The Planning Authority may, due to the scope or anticipated impacts of a project, classify any project a review level higher than otherwise indicated in Table 14-A.

14.3.2 Master development plan

A. An applicant may elect to submit a master development plan application for a large, multi-phase development program consisting of multiple buildings and site improvements on a site of one acre or more of total land area which is designed as a cohesive and integrated whole. The master development plan option shall not apply in residential zones, except for institutional, multi-family, congregate care, and intermediate, extended, and long-term care uses in the R-5a and R-6a zones.

B. A master development plan approval, including an approval of waivers, establishes the general parameters for the development, including the general development program, massing, open space plan, and infrastructure plan. A master development plan approval shall not be construed as final authorization of the development. Approval shall confer pending proceeding status upon the development with the effect of maintaining the applicability of regulations in effect at the time of approval for as long as the master development plan



SITE PLAN

TABLE 14-A: SITE PLAN CLASSIFICATIONS

	Minor[1]	Major
New construction or additions[2]	Single- or two-family structures 500 – 10,000 SF 500 – 20,000 SF in industrial zones 500 – 50,000 SF in IS-FBC zone	Multi-family development of 3 or more units[3, 4] > 10,000 SF > 20,000 SF in industrial zones > 50,000 SF in IS-FBC zone
Stripping, grading, grubbing, filling, or excavation	1,000 SF - 3 ac.	> 3 ac.
Site alterations	Alteration of watercourse or wetland	
Creation of impervious surface	1,000 SF – 1 ac.	> 1 ac.
Construction or paving of existing parking	5 – 75 parking spaces	> 75 vehicles
Construction of structures[5] in the Shoreland Zone	Rehabilitation, reconstruction or new construction	
Change of use[6]	10,000 – 20,000 SF	> 20,000 SF
Other	Auto service station	Development with drive-through facilities

[1] For purposes of fee assignment and submission requirements, the minor application includes two exceptions: "minor residential" and "low-impact site development." See Section 16 of the *Technical Manual* for more information.
[2] Includes cumulative expansion of building floor area within a three-year period.
[3] Includes any division of a new or existing structure into 3 or more dwelling units whether the division is accomplished by sale, lease, development, or otherwise.
[4] Addition of one or two units to any residential development shall trigger minor site plan review.
[5] Includes piers, docks, wharves, bridges, retaining walls, and other structures
[6] Includes any change in use of an existing building, whether or not alterations are involved, from any use in the following list to any other uses on the list:

A. Industrial
B. Residential
C. Institutional
D. Commercial/Service
E. Water-dependent use and marine use

approval remains valid, including permissible extensions if granted. Subsequent site plan approvals shall be required.

14.4 REVIEW AND APPROVAL AUTHORITY

The review and approval authority for site plans and master development plans shall be determined based on the classification of the project as shown in Table 14-B. At any point in the review process, the applicant may request that Planning Authority reclassify the application to the next highest review level.

14.5 REVIEW PROCEDURES

14.5.1 Pre-application meeting

Applicants for site plan or master development plan review are encouraged to schedule a pre-application meeting. The purpose of this meeting is to familiarize the applicant with the City of Portland, site plan submittal requirements, review procedures, and applicable review standards. A pre-application meeting shall not confer pending proceeding status under Title 1 MRSA 302. No decisions relative to the plan shall be made at the pre-application meeting, nor shall any advice or information provided by the City be construed as a decision.

TABLE 14-B: REVIEW AND APPROVAL AUTHORITY

Plan Classification	Review Authority
Minor	Planning Authority
Major	Planning Board
Master Development Plan	Planning Board

14.5.2 Application, plans, and submittals

All applicants shall submit a site plan or master development plan application to the Planning Authority in such form as prescribed by the Planning Authority. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application.

14.5.3 Staff completion check

A. The Planning Authority shall determine whether the application, plans, and submittals meet the submittal requirements of the *Technical Manual*. If the application is deemed incomplete or not in compliance with Articles 6

TABLE 14-C: SITE PLAN REVIEW PROCEDURES

	Minor	Major	Master Development Plan	Public Notice Requirement
Pre-application meeting	◐	◐	◐	
Site plan, application, plans, and submittals	●	●	●	
Staff completion check	●	●	●	●
Staff review	●	●	●	
Neighborhood outreach		●	●	●
Planning Board workshop		◐	●	●
Revised plans and submittals	●			
Final staff review & recommendation	●*	●	●	
Planning Board public hearing		●*	●*	●

● Required ◐Recommended * Decision point: approve/approve with conditions/deny

or 7, the Planning Authority shall inform the applicant in writing of the finding and the additional plans or submittals required to complete the application. A review of the application will not be conducted until the application is found complete.

B. Once the application is determined to be complete, receipt of application notices shall be sent to all property owners within 500 feet of the subject property lines, unless the Planning Authority, in its discretion, chooses to notice a larger area and incur the additional expense for the expanded notification. Notices shall be sent to all others, including neighborhood organizations, as may be required by the Planning Authority.

14.5.4 Staff review

When the application is determined to be complete, the plans and submittals shall be reviewed by the Planning Authority and other departments of the City of Portland as appropriate against the review standards of this article. Written comments from reviewers shall be provided to the applicant and shall include a staff recommendation to either provide a revised plan and submittals, schedule a Planning Board workshop, or schedule a public hearing.

14.5.5 Neighborhood meeting

Applicants for major site plan and master development plan review shall conduct at least one neighborhood meeting in accordance with the following:

A. **Timing and location.** The meeting shall be conducted within 30 calendar days of an application being deemed complete and no less than seven calendar days before a public hearing. The meeting shall be held at a convenient location within the City of Portland neighborhood surrounding the proposed site. All costs associated with the neighborhood outreach shall be borne by the applicant.

B. **Notice.** The applicant shall mail notice to all property owners within 500 feet of the subject property lines, and to all others, including neighborhood organizations, as may be required by the Planning Authority at least 10 calendar days prior to the neighborhood meeting or event. The notice shall contain a brief description of the proposal and the date, time, and place of the neighborhood meeting or event. A digital copy of the neighborhood notice shall be sent to the Planning Authority, which shall be distributed to the City's list of interested citizens.

C. **Meeting procedures**

1. *Record of participants.* The applicant shall keep a record of neighborhood participants in the outreach. A copy of this record shall be submitted to the Planning Authority prior to final review.
2. *Record of presenters and/or representatives.* The applicant shall keep a record of all presenters and/or representatives of the applicant participating in the outreach.
3. *Content.* The neighborhood outreach shall include an explanation of the proposal and provide an opportunity for public questions and comment.
4. *Record of feedback.* The applicant shall keep a record of feedback generated through the neighborhood outreach. In addition to any comments, questions, data, or other feedback collected, this record

shall also include the start and end time(s) of the outreach and a list of the specific plans, documents, or drawings that were shared. A copy of this record shall be submitted to the Planning Authority prior to final review. Any other individual or entity also may submit comments on the neighborhood meeting to the Planning Authority.

14.5.6 Review costs

A. Applicants shall pay a fee to cover the review costs and administrative costs incurred by the City. The fee shall be based upon the actual hours of review time and prevailing hourly rate for reimbursement of City costs, and shall be invoiced periodically by the City.

B. No land use permits or applications of any kind shall be processed, reviewed or issued, and no building permits of any kind shall be issued, for any project whose permit fee is governed by this article unless all charges due under this article have been paid and the developer is otherwise in compliance with the City Code of Ordinances.

14.5.7 Notice of public meeting

A. For all applications that are subject to Planning Board review, the applicant shall be responsible for posting a notice of public meeting sign on the property where the development is to occur. The dimensions, construction, and content of the sign shall be in accordance with standards established by the Planning Authority.

B. The sign shall be posted at least ten days prior to the public workshop or hearing date, and shall be removed from the site no more than three days following the date of the meeting.

C. Once the required notice of public meeting signage is posted, the applicant shall submit a completed certification of posting form to the Planning Authority.

D. In the event that a required notice of public meeting sign is knocked over or made illegible, it shall be the responsibility of the applicant to promptly reset or replace the sign, though failure to do so shall not invalidate the review.

14.5.8 Planning Board workshop

Applicants for major site plan and master development plan review may request a workshop with the Planning Board. The workshop will be scheduled on a date that follows the neighborhood meeting and initial staff review. The workshop shall be informational and shall not result in any formal approval or disapproval of the project. At the workshop, the Planning Board shall discuss the plans and submittals, consider the staff review with respect to the review standards of this article, hear public comments and questions, and provide direction to the applicant regarding issues to be addressed.

14.5.9 Revised plans and submittals

All applicants shall provide revised plans and submittals to the Planning Authority. The Planning Authority shall determine whether the revised plans and submittals meet the submittal requirements of the City of Portland *Technical Manual*.

14.5.10 Final staff review and recommendation

When determined to be complete, the revised plans and submittals shall be reviewed by the Planning Authority and other City departments as

appropriate against the review standards of this article. Written comments from reviewers shall be provided to the applicant. In the case of a major site plan or master development plan review, comments shall include a staff recommendation to either approve, approve with conditions, or deny the revised site plan and submittals. In the case of a minor site plan application, following staff review, the Planning Authority shall approve, approve with conditions, or deny the revised site plan application based on the review standards of this article.

14.5.11 Planning Board public hearing

Applicants for major site plan or master development plan review must appear before the Planning Board for a public hearing. The hearing shall be scheduled on a date that meets all public noticing requirements contained in Article 2. At the hearing, the Planning Board shall approve, approve with conditions, or deny an application, based upon the review standards of this article.

14.5.12 Lapse in application

A site plan or master development plan application must be diligently pursued from the date of submission. Notwithstanding the submission of a complete application, any applicant shall provide additional information, studies, or reports from qualified professionals when determined by the Planning Board or the Planning Authority to be reasonably necessary to make any of the determinations required by this article. Failure to submit required information within 120 days of the date upon which the written request was made shall cause the application to expire and be deemed null and void.

14.6 SITE PLAN REVIEW STANDARDS

The reviewing authority shall not approve a site plan application unless the development proposal meets applicable standards of the City of Portland *Technical Manual* and the City of Portland *Design Manual* and the criteria below.

14.6.1 Transportation standards

A. **Impact on surrounding street systems.** The provisions for vehicular loading and unloading, parking, and vehicular and pedestrian circulation on the site and onto adjacent public streets and ways and the incremental volume of traffic will not:
   1. Create or aggravate any significant hazard to safety on the surrounding street network.
   2. Substantially increase congestion on any street which is already at a level of service below Level "D" without mitigation proportionate to the level of impact.

B. **Access and circulation**
   1. *In general*
      a. All development subject to this article shall provide safe and reasonable access and internal circulation for all users of the site and shall comply with the transportation systems and street design standards of the *Technical Manual*.
      b. Continuous internal walkways shall be provided between existing or planned public sidewalks adjacent to the site, transit stops and street crossings, and building entrances on the site.
      c. Points of access and egress shall be located to avoid conflicts with turning movements and traffic flows.



d. The site must have stacking capacity for vehicles waiting to use these service features without impeding on-site vehicular circulation or creating hazards to vehicular circulation on adjoining streets.

2. *Loading and servicing*. All developments served by delivery or other service vehicles shall provide access that permits safe turning and backing for all vehicles that would service the development. Loading and servicing access shall not impede vehicle circulation, bicycle or pedestrian movements, or parking.
3. *Curb and sidewalks*
   a. All development shall provide curb and sidewalks along all frontages, installed to specifications as described in the transportation systems and street design standards of the *Technical Manual*.
   b. Where sidewalks already exist but are in substandard condition, they shall be repaired or replaced in conformance with Chapter 25 of the City of Portland Code of Ordinances and the transportation systems and street design standards of the *Technical Manual*
   c. An applicant may request a waiver from sidewalk installation requirements if they meet two or more applicable waiver criteria as listed below:
      i. There is no reasonable expectation for pedestrian usage coming from, going to, and traversing the site.
      ii. There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of pedestrian-oriented infrastructure.
      iii. A safe alternative walking route is reasonably available, for example, by way of a sidewalk on the other side of the street that is lightly traveled.
      iv. The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program (CIP) or has been funded through an earlier CIP or through other sources.
      v. The street has been constructed or reconstructed without sidewalks within the last 24 months.
      vi. Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.
   d. An applicant may request a waiver from curb installation requirements if they meet two or more applicable waiver criteria as listed below:
      i. The cost to construct the curbing, including any applicable street opening fees, is in excess of 5% of the overall project cost.

ii. The reconstruction of the street is specifically identified and approved in the first or second year of the current CIP or has been funded through an earlier CIP or through other sources.
iii. The street has been rehabilitated without curbing in the last 60 months.
iv. Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.
v. Runoff from the development site or within the street does not require curbing for stormwater management.

C. Public transit access

1. All residential development consisting of 20 or more dwelling units and all commercial and institutional developments of at least 20,000 square feet gross floor area shall provide a transit shelter adjacent to or within the public right-of-way along its frontage when the following criteria are met:
   a. The development is proposed along an existing public transit route on a principal or minor arterial roadway, as shown in the Federal Street Classification Map.
   b. The nearest existing transit shelter on the route is more than ¼ mile from the site, measured along rights-of-way.
2. Transit facilities shall be connected to the public sidewalk system.
3. All or some of this standard may be waived if the review authority determines one or more of the following:
   a. That some or all of the required improvements cannot reasonably be made due to site constraints and/or insufficient right of way width.
   b. That the development is not anticipated to generate public transit usage due to particular characteristics of the development or proposed use.

D. Parking

1. *Vehicular parking*
   a. All developments shall provide off-street parking in accordance with the parking requirements of this Land Use Code.
   b. Where a parking study is required, the City encourages Transportation Demand Management (TDM) strategies to be employed.
   c. Developments proposing to exceed minimum parking requirements by 10% or more must demonstrate through a parking study that the amount of parking is appropriate for the proposed use of the site.
   d. Parking spaces and aisles shall meet applicable dimensional standards as detailed in the transportation systems and street design standards of the *Technical Manual*.
2. *Bicycle parking*
   a. All development shall provide secure bicycle parking in accordance with the parking requirements of this Land Use Code and the transportation systems

and street design standards of the *Technical Manual*.

b. Waiver: The review authority may reduce the required number of bicycle parking spaces if it is determined, based on evidence submitted by the applicant, that the proposed development is expected to generate reduced demand for bicycle parking due to particular site characteristics or proposed uses.

3. *Snow storage*
   a. All developments shall include areas for snow storage or provide an acceptable snow removal plan.
   b. Snow storage areas may not encroach on areas designed to meet minimum parking requirements or on pedestrian walkways and shall not be located where they would adversely impact the functionality of stormwater management systems. Landscaping in designated snow storage areas shall be such that it can withstand the snow pile.
4. *Electric Vehicle (EV) charging*
   a. All development shall adhere to applicable EV standards as provided in Section 1 of the *Technical Manual*.

E. Transportation Demand Management (TDM)

1. The following types of development shall design and implement a Transportation Demand Management (TDM) plan:
   a. All major site plan triggering development in the B-7 zone.
   b. All commercial, institutional, or mixed-use developments of 50,000 square feet or more total floor area.
   c. All commercial or institutional uses designed to accommodate 100 or more employees or, for educational institutions, 100 or more students.
2. The TDM Plan shall comply with the transportation systems and street design standards of the *Technical Manual*.

14.6.2 Environmental quality standards

A. Preservation of significant natural features

1. All development shall preserve and protect significant natural features by incorporating them into site design. Significant natural features shall be defined as:
   a. Populations of trees and plants listed on the Official List of Endangered and Threatened Plants in Maine, published by the Maine Natural Areas Program.
   b. Habitat for species appearing on the official state or federal list of endangered or threatened animal species.
   c. High and moderate value waterfowl and wading bird habitat including nesting and feeding areas, as defined by the Department of Inland Fisheries and Wildlife.
   d. Aquifers on islands in Casco Bay, as identified in the City of Portland Island Groundwater Management Study and/or by the Maine Geological Survey.
   e. Waterbodies including wetlands, watercourses, significant vernal pools and floodplains.
2. Where areas set aside for preservation are part of a larger existing habitat block

extending beyond the boundaries of the site, the contiguity of these features shall be preserved where possible.

3. Waiver: Where complete preservation of significant natural features substantially compromises development of the site as otherwise permitted by zoning, the review authority may reduce the requirement to accommodate development provided that the applicant demonstrates compliance with applicable state and federal regulations and implements preservation measures to the extent practicable.

B. Landscape preservation

1. Site development shall be designed to incorporate, limit disturbance to, and limit removal of existing trees.
2. The site plan shall include adequate measures to protect vegetation to be preserved from construction impacts, in accordance with the landscaping and landscape preservation standards of the *Technical Manual*.
3. All development subject to zoning setbacks shall preserve a minimum of 30% of existing trees 10 inches DBH or greater within the required setback area unless trees are non-native invasive species, as identified in the landscaping and landscape preservation standards of the *Technical Manual*, or are deemed unsalvageable by the Portland City Arborist or their designee.
4. Waiver: Where the applicant can demonstrate that preservation of existing vegetation would compromise development of the site, the review authority may permit the substitution of landscaping in other areas of the site as described in Table 14-D and/or a financial contribution to the City of Portland Tree Fund for an amount proportionate to the cost of trees removed. Replacement trees shall be of a species identified on the City of Portland Recommended Tree List as described in the landscaping and landscape preservation standards of the *Technical Manual*.

TABLE 14-D: TREE REPLACEMENT REQUIREMENTS

Size of Tree Removed	Replacement Requirement
10 – 16" DBH	1 tree
> 16" DBH	2 trees

5. Where the planting of replacement trees on the site is not feasible, the applicant shall contribute an amount proportionate to the cost of required replacement trees to the City of Portland Tree Fund, as described in the Landscaping and landscape preservation standards of the *Technical Manual*.

C. Site landscaping and buffers

1. *Landscaping*. All development subject to required zoning setbacks shall include a minimum of one shade tree or six plantings per 30 linear feet of all frontages as measured along the property line. A planting shall be defined as one shrub, one ornamental grass, and/or three perennials. Required plantings may be installed anywhere on the site, including a green roof, if proposed, and may be planted in any arrangement. Existing vegetation to be preserved on the site may be counted towards this requirement as described in the landscaping and landscape

preservation standards of the *Technical Manual*.

2. *Buffers*
   a. Loading and servicing areas, trash and recycling areas, storage areas, and roof- and ground-mounted utility structures, except for renewable energy systems, shall be screened from view from public sidewalks, streets and adjacent properties by dense evergreen landscaping, fencing, architectural screening products, masonry walls, building walls, or a combination thereof.
   b. For nonresidential development abutting a residential zone, an evergreen, densely landscaped buffer of not less than 10 feet wide and six feet tall is required along the side abutting the residential zone. Where site constraints prevent such a buffer from being established, the width of the landscaped buffer may be reduced but shall include architectural fencing of not less than six feet tall and a mix of evergreen and deciduous trees spaced no further than 20 feet apart abutting the residential zone.
   c. All residential development shall provide and/or preserve evergreen vegetated buffers where necessary to buffer the development from detrimental impacts of existing surrounding development.
3. *Parking and vehicle display lot landscaping*
   a. Developments shall include at least two trees (or one tree and three shrubs) per five parking spaces planted in landscaped islands to screen, shade, and break up parking. Trees and shrubs in parking lots may be in informal groups, straight rows, or concentrated in clusters as described in the landscaping and landscape preservation standards of the *Technical Manual*.
   b. Landscaped islands shall be distributed so that uninterrupted pavement does not exceed forty parking spaces.
   c. Where site constraints prevent implementation of all or a portion of required parking lot landscaping, as determined by the review authority, the requirements may be all or partially waived and the applicant shall contribute an amount proportionate to the cost of required parking lot trees to the City of Portland Tree Fund.
4. *Street trees*
   a. All development shall include street trees in numbers and locations as specified in the Landscaping and landscape preservation standards of the *Technical Manual*. Street trees are intended to benefit public spaces by providing green and natural elements that contribute to the streetscape and the urban forest ecosystem, provide health benefits, and increase the tree canopy to maximize shade and reduce energy use. Street trees shall be of a species identified on the City of Portland Recommended Tree List, unless otherwise approved by the City

Arborist or his/her designee. The provision of measures to enhance tree survival (such as raised planters, irrigation, and structural soils as recommended by the City Arborist) shall be required.

b. Where the applicant can demonstrate that site constraints prevent the planting of required street trees in the city right-of-way, the review authority may permit the following to be counted towards the street tree requirement, subject to the standards set out in the *Technical Manual*:
   i. The preservation of existing healthy trees that are six inches or more DBH on the site within twenty feet of the property line, and visible from the right-of-way.
   ii. The planting of street trees on the site within 20 feet of the property line where visible from the right-of-way.
   iii. The installation of other planted features in the right-of-way or within 10 feet of the right-of-way and visible from the right-of-way, which are documented to the satisfaction of the City Arborist and Planning Authority to meet the objectives of the street tree requirement.
   iv. The planting of new street trees on public land or public facilities in the neighborhood where a reasonable chance of good health and longevity is documented.
   v. Where other alternatives are not feasible, a contribution for each required street tree made to the City of Portland's Tree Fund. The contribution would primarily be for new trees in the neighborhood of the development, but would include an element of maintenance.
   vi. Where the proposed development includes the removal of an existing street tree determined by the City Arborist to be a heritage or feature tree, the applicant shall be required to contribute to the Tree Fund at the designated rate in the *Technical Manual* so that the total replacement cost is significantly higher than planting a new street tree/contributing for a new street tree.

D. Water quality, stormwater management, and erosion control

1. All development shall be designed to minimize total area of impervious surface on the site and both the volume and rate of runoff from the lot. Provisions for stormwater management shall demonstrate the following:
   a. Any stormwater draining onto or across the lot in its pre-improvement state will not be impeded or re-directed so as to create ponding on, or flooding of, adjacent lots.
   b. Any increase in volume or rate of stormwater draining from the lot onto an adjacent lot or City property

following the improvement can be handled on the adjacent lot or City property without creating ponding, flooding or other drainage problems and that the owner of the lot being improved has the legal right to increase the flow of stormwater onto the adjacent lot or City property.

c. Any increase in volume or rate of stormwater draining from the lot into the City's separated storm sewer system can be accommodated in the system without creating downstream problems or exceeding the capacity of the storm sewer system.

2. All development shall comply with the Stormwater management standards of the *Technical Manual*.

3. Development shall not pose a risk of groundwater contamination either during or post-construction, as described in the stormwater management and water supply standards of the *Technical Manual*.

14.6.3 Public infrastructure and community safety standards

A. Consistency with City master plans

1. All developments shall be designed so as to be consistent with City Council-approved master plans and facilities plans and with off-premises infrastructure.

2. The site plan shall include suitable easements, rights, and improvements to connect or continue off-premises public infrastructure as may be required by the review authority.

B. Public safety and fire prevention

1. All development shall incorporate the following public safety principles for Crime Prevention through Environmental Design (CPTED) into site design to enhance the security of public and private spaces and to reduce the potential for crime:

   a. Natural surveillance that promotes visibility of public spaces and areas.

   b. Access control that promotes authorized and/or appropriate access to the site.

   c. Territorial reinforcement that promotes a sense of ownership and responsibility through environmental design.

2. All developments shall be designed to provide adequate emergency vehicle access to the site and comply with the Public Safety standards of the *Technical Manual*.

C. Public utilities

1. The development shall not overburden sanitary sewers and storm drains, water lines or supply, or other public infrastructure and utilities. Development shall provide adequate utility infrastructure on-site and in connection to surrounding locations and facilities.

2. Electrical service shall be underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost, the need to retrofit properties not owned by the applicant or complexity of revising existing overhead facilities.

3. All sanitary sewer lines, storm drains, water lines, and other utilities proposed as part

of the development shall be designed to conform with the sanitary sewer and storm drain and water supply standards of the *Technical Manual*.

4. All development within 200 feet of a public sanitary collection and treatment system shall connect sanitary sewer lines into the nearest available public sewer. If a public sanitary collection and treatment system is not available, a private wastewater system may be used according to the requirements of Chapter 24 of the City Code and the sanitary sewer and storm drain standards of the *Technical Manual*.
5. All residential development of 20 units or more, commercial development, and industrial development shall provide for the temporary storage and timely removal of all trash and recyclable materials including, at a minimum, paper, corrugated cardboard, plastics, and metals. Storage containers for recyclable materials shall be separated from trash containers. All exterior storage of trash and recyclables shall be screened from view from public sidewalks, streets, and adjacent properties.

14.6.4 Site design standards

A. Massing, ventilation, and wind Impact

1. The bulk, location, or height of proposed buildings and structures shall not result in health or safety problems from a reduction in ventilation to abutting structures or changes to the existing wind climate that would result in unsafe wind conditions for users of the site and/or adjacent public spaces.
2. The bulk, location, or height of proposed buildings and structure shall minimize, to the extent feasible, any substantial diminution in the value or utility to neighboring structures under different ownership and not subject to a legal servitude in favor of the site being developed.
3. Development shall locate all HVAC venting mechanisms to direct exhaust away from public spaces and residential properties directly adjacent to the site.

B. Shadow. All development outside the B-3, B-5, B-6 and B-7 zones shall be designed to avoid and/or mitigate the adverse impacts of shadows cast by new structures or building additions from falling on publicly accessible open space in accordance with the shadow standards of the *Technical Manual*.

C. Snow and ice loading. All development shall be designed to prevent significant amounts of accumulated snow and ice from loading or falling onto adjacent properties or public ways.

D. View corridors. The massing, location, and height of development shall not substantially obstruct public view corridors identified in the *Downtown Vision View Corridor Protection Plan.*

E. Historic resources

1. When developments affect designated landmarks or lie within designated historic districts or historic landscape districts, such development shall be required to obtain a Certificate of Appropriateness under Article 17.
2. When any part of a proposed development is within 100 feet of any designated landmark, historic district, except the India



Street Historic District, or historic landscape district, such development shall be generally compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity of the proposed development. Character-defining elements of landmarks and historic districts are identified in the historic resources inventory and respective historic district designation reports. For the purposes of this provision, "compatible" design shall be defined as design which respects the established building patterns and visual characteristics that exist in a given setting and, at the same time, is a distinct product of its own time. To aid the review authority in its deliberations, Historic Preservation staff shall provide a written analysis of the proposed development's immediate context, identifying the major character-defining elements and any established building patterns that characterize the context.

3. All development shall document and protect state or local archaeological resources known to exist or discovered on the site.
   a. Protection shall include leaving archaeological resources untouched beneath a new development through adaptation of foundation design or architectural layout.
   b. Where the applicant can demonstrate that complete protection is not feasible, the applicant shall excavate and document archeological resources. Such measures shall be conducted in consultation with the City's historic preservation program and Maine Historic Preservation Commission. For resources of state significance, excavation and documentation shall be conducted by a qualified professional, in coordination with Maine Historic Preservation Commission. Local archeological resources may or may not be recognized by the Maine Historic Preservation Commission as significant and shall include the following:
      i. Original seawall structure located landward of Commercial Street.
      ii. Inactive historic family cemetery plots.
      iii. Historic railroad beds including but not limited to the Portland-Lewiston interurban railroad.
      iv. Original structure and/or landforms associated with the Cumberland and Oxford Canal.
      v. Buried portions of colonial and post-colonial period structures or built features located on the Portland Peninsula predating the Great Fire of 1866.
      vi. Pre-colonial occupation sites identified by shell middens or other evidence.
      vii. Sites listed or eligible for listing on the National Register of Historic Places.
   c. In order to preserve archeological resources, the review authority may

waive standards listed in the City of Portland *Technical Manual* where necessary if it is determined that such a waiver would not jeopardize the health, safety, or welfare of the development's occupants, the public, or the natural environment.

F. Exterior lighting

1. *Site lighting*
   a. All exterior site lighting shall be full cutoff with no light emitted above the horizontal plane or spilled onto adjacent properties and streets. Illumination levels shall be adequate but not excessive for the safety, comfort, and convenience of occupants and users of the site, and shall conform to the lighting standards of the *Technical Manual*.
   b. Where light from a proposed development may adversely impact adjacent residential properties, exterior lighting shall employ house-side shielding.
2. *Architectural and specialty lighting.*
   a. Architectural and specialty lighting of such features as architectural details, monuments, public art, or other site features shall be designed to illuminate specific details or attributes only and shall meet the lighting standards of the *Technical Manual*.
   b. Up-lighting by any method is prohibited except for public buildings and parklands; clock towers and steeples; landscape features; designated historic landmarks; flags of state, federal, or national jurisdictions; and public art. Such light fixtures, brackets, conduits, and all other components shall be designed by a lighting professional and shall be scaled and placed to minimize their visibility and installed in accordance with the lighting standards of the *Technical Manual*.
3. *Street lighting.* All development shall provide municipal street lighting adequate for the safety and comfort of pedestrians and motorists and, where applicable, conforming to specific lighting district requirements as specified in the street lighting standards of the *Technical Manual*.

G. Noise and vibration. All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment shall meet applicable state and federal emissions requirements and shall be located to the interior of the site, away from abutting residential properties

H. Signage and wayfinding

1. The size, scale, proportions, design, materials, placement, and source and intensity of illumination of all permanent building or freestanding signs shall be designed to complement the subject building and its immediate context, as follows:
   a. Signage shall not conceal architectural features such as window sills, lintels or cornices from view.
   b. Signs shall be designed and sized to fit the scale and proportions of the building and the feature or area of the building to which it is affixed.



c. Freestanding signs shall not adversely affect visibility at intersections or access drives.
d. Sign lighting shall be downwardly directed, internally-illuminated and/or shielded to avoid glare and light spillover towards the sky.
e. Signs shall not be affixed to rooftop mechanicals, mechanical penthouses or other rooftop appurtenances unless those appurtenances have been screened and integrated into the architecture of the development.

2. On-site directional traffic signage may be provided to enable users to safely and easily navigate into, around and out of the site. Directional signage shall not adversely affect visibility at intersections on or off the site.

I. Design standards

1. Development of certain types and/or proposed in certain zones, as specified below, are subject to the design standards of the City of Portland *Design Manual* in order to ensure that building and site design contribute to and enhance the goals and policies for specific zones within the City. The City of Portland design standards are listed in the City of Portland *Design Manual*, which is incorporated by reference as part of the City of Portland Land Use Code. If the development is located in a historic district or associated with a historic landmark, City of Portland Historic Preservation standards shall supersede:
   a. Development in the B-3, B-5, B-5b, and B-7 zones and in the B-6 and EWPZ zones shall be designed to support the development of dense, mixed-use neighborhoods with attractive, safe, and convenient street-level pedestrian environments. New development along the Eastern Waterfront should avoid large monolithic massing along all street frontages and should promote permeability through and within the development at a scale compatible with the existing street networks of the Eastern Waterfront. Where new structures are larger than buildings characteristically found in Portland's waterfront, horizontal and vertical variation should be used to break large expanses of building into components that are in scale with the context to which they most closely relate.
   b. Development in the R-P Residential Professional Zone, where there is a discernable architectural style or character to existing structures in the immediate vicinity in which the development is proposed, shall not be incongruous to that established style or character.
   c. Development in the B-1/B-1b, B-2, and B-2b zones shall provide an established street wall with entrances and public portions of the building oriented to and directly accessible from the public sidewalk and shall be designed and scaled to be compatible with surrounding residential and commercial development.
   d. Development in the University of Southern Maine (USM) Overlay Zone shall be designed to support a cohesive

campus environment that integrates with and respects the residential character of surrounding neighborhoods.

e. Residential developments, as listed below, shall integrate with and respect the character of surrounding residential development in terms of architectural form, landscaping and open space, façade materials, roof pitch, massing, and height.
   i. Planned Residential Unit Developments (PRUDS) in the R-3, R-5, and R-5a residential zones.
   ii. Multiple family and multiplex developments in the R-5 zone.
   iii. Small residential lot development of single-family homes in the R-5 zone.
   iv. All residential development in the R-6 zone.
   v. Residential development of the following types: manufactured housing parks, two-family and multiple family housing not already specified above, special needs independent dwelling units, lodging houses, bed and breakfasts, and emergency shelters.

14.7 MASTER DEVELOPMENT PLAN REVIEW STANDARDS

The Planning Board shall not approve a master development plan unless the development proposal meets the review standards below.

14.7.1 In general

A. **Integration with the surrounding context.** A master development plan shall be designed to integrate with the surrounding context with respect to land use, architecture, open space and pedestrian networks, vehicular access and circulation, off-site public facilities and all other infrastructure.

B. **Consistency with City plans.** A master development plan shall be consistent with the objectives of this ordinance, consistent with the City's Comprehensive Plan, and consistent with City Council-approved master plans and facility plans for off-premise infrastructure.

14.7.2 Natural features and open space

A. **Preservation of natural features.** A master development plan shall locate buildings and improvements in a manner that considers the existing topography, provides usable open space, preserves significant natural features as defined in Subsection 14.6.2, and preserves existing trees to the maximum extent possible.

B. **Provisions for open space.** A master plan shall include provisions for the ownership and maintenance of usable open space as appropriate

14.7.3 Historic Preservation

A. A master development plan shall be developed so as to conform with standards for designated landmarks or for properties within designated historic districts or historic landscape districts as found in Article 17.

B. When proposed adjacent to or within 100 feet of a designated landmark, historic district, or historic landscape, the master development plan shall be developed so as to be generally



compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity of the proposed development.

14.7.4 Infrastructure

A. **Adequacy of infrastructure capacity.** A master development plan shall be designed with sizing of street and other infrastructure systems to accommodate the overall service demand of the plan.

B. **Continuation of street grid.** A master development plan shall be designed to create a street grid pattern that reflects average city block sizes of the surrounding neighborhood.

14.7.5 Design

A. **Creation of a cohesive identity.** A master development plan shall be designed to create a cohesive identity through building scale, massing, and articulation; use of quality exterior materials and architectural detailing at pedestrian scale; consistency of design and materials for streetscape and pedestrian amenities; framing of outdoor open space and linkages; a clear conveyance of the function and significance of various buildings, entrances, and features; and to generally comply with design and development standards of the zone in which it is located.

14.8 WAIVERS

14.8.1 Waiver requests

An applicant may request a waiver with respect to the submittal requirements or review standards of this article. If a waiver is requested, the applicant shall document the rationale for the waiver request within the application.

14.8.2 Waiver criteria

Except for where waiver criteria are provided for individual review standards, the review authority, if it finds that extraordinary conditions exist or that undue hardship may result from strict compliance with the submittal requirements or review standards of this article, may vary these regulations so that substantial justice may be done and the public interest secured, provided that such variation will not have the effect of nullifying the intent of this article.

14.9 PHASING

14.9.1 Site plan

A major site plan may be divided into up to three phases. Each phase must be at least 20% of the total development and in addition, show the entire tract or parcel. Each phase of such project shall be independent of subsequent phases and shall conform to all standards of this article in the event that subsequent phases do not go forward.

14.9.2 Master development plan

An applicant proposing a master development plan is seeking approval for an overall concept of development that may subsequently be brought for site plan approval in two or more phases and in a phase sequence that extends beyond the timeframes allowed for site plan approvals. Site plans for each phase of a master development plan shall generally conform with the master development plan. For areas proposed as future development phases, the proposed interim conditions shall be managed and maintained to ensure stable, safe, and attractive site conditions. One or more phases of the master development plan may be reviewed as a site plan concurrently

with the review and approval of the master development plan.

14.10 CONDITIONS OF APPROVAL

Notwithstanding the review standards of this article, the review authority may impose any condition upon its approval of any site plan or master development plan to minimize or abate any adverse impact of the proposed development on the value or utility of other private property, or public property or facilities, to the extent feasible; to bring the development into compliance with the review standards of this article; or to minimize any other adverse environmental effects of the proposed development.

14.11 POST-APPROVAL PROCEDURES

14.11.1 Advanced site work

No alterations shall be made to a site with a pending or approved site plan until:

A. The performance guarantee has been posted and final site plans have been submitted to the Planning Authority.

B. Written permission has been received from the Planning Authority. Such permission shall be granted only after submission of a written request describing the proposed scope of work to be conducted on the site and a determination by the Planning Authority that the request is reasonable, time is imperative, and the work will not compromise any aspect of the ensuing review process. All such work shall be done in compliance with information provided with the site plan application including, but not limited to, an erosion control plan. Such written permission shall not be required if the only work proposed is the digging of test pits.

14.11.2 Final plans

Following final site plan approval and prior to issuance of any building permit, the developer shall submit final plans meeting all the conditions of the site plan approval, including without limitation all streets, sewers, drainage structures, and landscaping. Thereafter, limited and minor departures from the approved site plan shall be approved by the Public Works Authority and/or Planning Authority as field changes pursuant to Section 14.14. Amendments or revisions to the approved site plan shall be reviewed by the Planning Authority pursuant to Section 14.14.

14.11.3 Performance and defect guarantees

The following performance and defect guarantee requirements shall apply:

A. **Performance guarantee required.** Following approval of site plan applications and prior to the issuance of a building permit, the developer shall post with the City a performance guarantee in the form and amount specified herein, specifying the completion of the required site plan improvements within two years from the origination date of such guarantee. In no case shall the term of such guarantee be for a period of less than one year, nor shall any performance guarantee expire between October 30 and April 15 of the following year.

B. **Inspection fees.** At the same time that the developer posts a performance guarantee, the developer shall also pay to the City an inspection fee as determined by the City Council. If a performance guarantee is extended beyond its original expiration date, then an additional inspection fee in an amount to be determined by the City shall be required.

C. **Minor residential development.** All minor residential development, which for the purposes of this section shall be defined as single- or two-family development and any associated site improvements, is exempt from performance guarantee requirements except when those projects complete construction in the winter, and site work is incomplete due to weather conditions. A performance guarantee will then be required that is sufficient to complete the remaining site work as approved on the site plan. The performance guarantee must be reviewed and approved by the Planning Authority prior to the release of a certificate of occupancy. All minor residential development is subject to inspection fees, as specified herein.

D. **Performance guarantee amount**

1. The performance guarantee shall be equal in value to 100% of the estimated cost of the required site improvements as shown on the approved site plans, as a condition of planning approval, as required in the City of Portland Code of Ordinances, and/or as required by the City of Portland *Technical Manual*.
2. The performance guarantee amount shall be estimated by the applicant or representative using the cost estimate spreadsheet provided by the City and shall be submitted for review and approval to the Planning Authority. Costs to be included in the estimate, and which shall be covered by the performance guarantee, include but are not limited to: street and sidewalk improvements including street lights, monuments, curbing, ramps and detectible warning panels, and striping; earth work and grading; utilities infrastructure and connections including sewer, stormwater, and water service; exterior site lighting; erosion control measures as shown on the approved erosion and sedimentation control plan; open space and recreation amenities; and final site stabilization and landscaping.
3. The Planning Authority may waive all or any portion of this requirement if it determines that the developer has a proven record of satisfactory performance and sufficient financial capability.

E. **Phased projects.** If a project is reviewed and approved as a phased project, the corresponding performance guarantee may also be phased. A separate performance guarantee shall be posted for each phase. Each phase of such project shall be independent of subsequent phases and shall conform to all standards of this article in the event that subsequent phases do not go forward.

F. **Advanced site work**

1. No public utility, water district, sanitary district or any utility company of any kind shall install services to any lot in a subdivision which has not received Planning Board approval.
2. On a case-by-case basis, permission for advanced site work may be granted by the Director of Planning and Urban Development. Such permission is solely within the discretion of the Director of Planning and Urban Development and shall be granted only after submission of a written request setting forth the work proposed to be done on the site. Such written permission shall not be required



when the only work proposed is the digging of test pits.

G. **Acceptable forms of performance guarantee.** The performance guarantee, in the amount approved by the Planning Authority, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland Finance Department and shall be in conformance with the templates and forms made available by the City. If the performance guarantee is a deposit to the City, the City shall hold such funds in a noninterest bearing account until criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the corporation counsel as to proper form and legal sufficiency.

H. **Performance guarantee reductions.**

1. Up to three times during the construction of a project, upon request of the developer, a performance guarantee may be reduced by the value equal to the estimated cost of the completed improvements. In no case shall any performance guarantee be reduced by any line item on the cost estimate spreadsheet where improvements remain to be completed. Requests shall be submitted on the cost estimate spreadsheet for review and approval by the Planning Authority.
2. In no case shall any performance guarantee be reduced to an amount equal to or less than the required defect guarantee until all criteria set forth for converting to the defect guarantee have been met, as approved by the Planning Authority.

I. **Extension of the performance guarantee.** If the Planning Authority and/or the Public Works Authority has reasonable doubt concerning the stability or proper construction of the required site improvements, the developer shall be required to reconstruct or otherwise address the issues to the City's satisfaction. If the performance guarantee is scheduled to expire before the extent or necessity for such further work can be determined, the developer shall be required to extend the performance guarantee covering such improvements, or secure a new guarantee, for a period and amount deemed necessary by the Planning Authority and/or the Public Works Authority.

J. **Performance guarantee release/conversion to defect guarantee.**

1. No performance guarantee shall be released until all fees generated by the project are paid to the City, including but not limited to engineering, inspection, and administrative fees. The guarantor shall not be released from the guarantee except and until authorized in writing by the Planning Authority.
2. For roadway extension projects, no performance guarantee shall be released until the Department of Public Works has performed a final inspection of the roadway and determined satisfactory completion of the required improvements. Additionally, no performance guarantee shall be released until the City in receipt of a petition for street acceptance, deemed complete and satisfactory by Corporation Counsel and/or the Department of Public

Works. The petition for street acceptance must include a warranty deed (with metes and bounds description) to the property within each street of the subdivision or roadway extension and any other improvements intended for City maintenance.

3. Upon the satisfactory completion of the required site improvements and compliance with all conditions of approval including the submission of as-built drawings as applicable, the Planning Authority will authorize in writing, conversion to the defect guarantee. The defect guarantee shall be 10% of the original performance guarantee amount and shall remain in place for a period of one year. The defect guarantee shall ensure the workmanship and the durability of all materials used in the construction of the required site improvements. The Planning Authority may authorize the defect guarantee to be released at any time within the one-year period, provided all required site improvements have been constructed and in-place for one year or more and the workmanship and the durability of all materials has been inspected and confirmed to be satisfactory.

K. **Acceptable forms of defect guarantee.** The defect guarantee, 10% of the original performance guarantee amount approved by the Planning Department, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland finance department and shall be in conformance with the templates and forms made available by the City. If the defect guarantee is a deposit to the City, the City shall hold such funds in a noninterest bearing account until the criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the corporation counsel as to proper form and legal sufficiency.

L. **Abandoned site**. In the event that a development site is abandoned or the site improvements do not meet City standards as approved in the site plan, the performance guarantee may be utilized to stabilize, secure, complete construction, and/or restore the site as may be necessary, including, but not limited to, revegetation of areas, grading, and fencing.

14.11.4 Inspection fee

At the same time that the developer posts a performance guarantee, the developer shall also pay to the City a site plan improvement inspection fee equal to two percent of the estimated costs of required site improvements for which a performance guarantee is to be posted. At the conclusion of the project, and before a temporary or permanent certificate of occupancy is issued, the developer shall pay to the City the balance of any inspection fees actually incurred by the City in its review of the project.

14.11.5 As-built plans

Upon completion of a development (excluding minor residential and low-impact site development as specified in Section 16 of the *Technical Manual*), the applicant shall submit the as-built plans as specified in the *Technical Manual*.

14.11.6 Certificates of occupancy

No certificate of occupancy shall be issued to any portion of development where, in the opinion of the Planning Authority, the site conditions or work required to complete the development will endanger the health or safety of persons visiting or inhabiting the completed portion. Certificates of occupancy may be granted as follows:

A. Temporary certificates of occupancy

1. Notwithstanding any other provision of the Land Use Code, a certificate of occupancy may be issued for a development or portion of a development which has otherwise been completed in accordance with final site plan approval and all applicable provisions of this Land Use Code where the applicant submits a written request to the Planning Authority stating those improvements which remain to be completed, the reasons why such improvements have not been completed, and the cost and time to complete the remaining work. In no event shall any temporary or permanent certificate of occupancy be issued where:
    a. Conditions exist which would justify denial of a certificate of occupancy under Chapter 6 of the City of Portland Code of Ordinances.
    b. Required improvements to the City right-of-way remain to be completed by the developer.
    c. All access roads and any other roads and driveways required for the building or building(s) for which the certificate(s) are requested have not been improved to a passable condition.
    d. A remaining balance for fees incurred by the City exists.
    e. The developer otherwise is in violation of the City Code of Ordinances.
2. Where a temporary certificate of occupancy is sought for a portion of any development prior to the completion of the entire development, the following standards shall be met, in addition to all applicable requirements set forth above, prior to the issuance of any certificate of occupancy:
    a. Those parking areas required for the portion of the development for which a certificate of occupancy is sought shall be available for use. Alternative arrangements must be made on-site for parking for any periods during which such parking areas will not be available for use.
    b. All foundation plantings and other landscaping required for the portion of a development for which a certificate of occupancy is sought shall be installed prior to the issuance of a certificate of occupancy. This requirement may only be waived where, in the opinion of the Public Works Authority, landscaping improvements cannot practically be completed due to seasonal weather conditions.
    c. A performance guarantee shall be in place and in an amount sufficient to cover all remaining required improvements and not less than 10% of the initial performance guarantee amount.

B. **Final certificate of occupancy.** All improvements which are not completed prior to the issuance of any temporary certificate of occupancy must be completed prior to the completion date specified in the performance guarantee or in the temporary certificate of occupancy, whichever occurs first, in order for a final certificate of occupancy to be issued by the City. Where any person accepts a temporary certificate of occupancy and does not complete the improvements as specified in the certificate, the City is authorized to enter upon such property itself or through its agents or contractors to complete such improvements with no liability therefore and may recover the costs thereof through the mechanic's lien procedure for the improvement of real property to the extent that the performance guarantee may be inadequate.

14.12 EXPIRATION OF APPROVALS

14.12.1 Site plan

Site plans approved under this article shall expire 12 months from the date of approval unless development has been undertaken in accordance with the approved site plan and site work or building construction is ongoing. Any lapse in construction for a period in excess of 12 months shall result in an expiration of the site plan.

14.12.2 Master development plan

Master development plans approved under this article shall expire six years from the date of approval if no site work or building construction has commenced.

14.13 EXTENSION OF APPROVALS

14.13.1 In general

Extension requests must be made in writing by the applicant prior to the expiration of the approval. An extension may not be granted if changes to the City's zoning, subdivision, or site plan ordinance, the *Technical Manual* or the *Design Manual* would render the development nonconforming in any respect or significantly impact the approved site plan or master development plan as determined by the Planning Authority.

14.13.2 In case of appeal

Where the approval or any related land use approval granted to the same applicant by any agency of the City with respect to the same development is appealed to any court by an opponent of the development, the applicant shall be granted extensions, beyond the expiration of said approval, where the applicant has exercised due diligence with respect to defending such appeal, which extensions shall not last beyond one year from entry of final judgment.

14.13.3 Site plan

Site plan approvals may be extended by the Planning Authority for up to three years from the date of approval.

14.13.4 Master development plan

Master development plan approvals may be extended by the Planning Authority up to two times, for up to two years from the date of expiration of the original master development plan approval.

14.14 AMENDMENTS TO APPROVED PLANS

14.14.1 Field changes

Changes associated with unforeseen difficulties that arise during the course of construction and involving such technical detail as utility location and substitution of equivalent plantings shall be approved by the Public Works Authority and/or the Planning Authority. Field changes shall not involve substantial alteration of the approved plan or conditions imposed by the review authority.

14.14.2 Minor amendments

The Planning Authority is authorized to approve minor amendments to site plans and master development plans. An applicant may request a minor amendment to an approved site plan or master development plan by submitting a written statement of the proposed amendments and proposed amended plans to the Planning Authority. Minor amendments:

A. Are generally consistent with the approved plan.
B. Do not impact the layout of buildings and open space.
C. Do not propose new uses.
D. Do not increase building ground coverage, floor area ratio, or residential density.
E. Do not substantially change access, circulation, or infrastructure on or adjacent to the site.
F. Do not involve new waiver requests.
G. Do not affect any condition or requirement of the Planning Board.

14.14.3 Major amendments

An applicant may request approval by the review authority of a major amendment to an approved site plan or master development plan by submitting an application for the amendment to the Planning Authority. Major amendments include changes that exceed the limited criteria for a minor amendment under Subsection 14.14.2. Review procedures shall follow those for major site plan review.

14.15 CONSISTENCY WITH APPROVED SITE PLANS

A. Sites shall be developed and maintained as depicted in the approved final site plan and the written submission of the applicant. Any deviations from an approved site plan, including, but not limited to, changes in topography, vegetation and impervious surfaces as shown on the final site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or the Planning Authority pursuant to the terms of this article. Any such parcel lawfully altered prior to the enactment date of these revisions shall not be further altered without approval as provided herein. Modification or alteration shall mean and include any deviations from the approved site plan including, but not limited to, topography, vegetation, and impervious surfaces shown on the site plan.
B. All construction or alterations to the site performed under authorization of building permits or certificates of occupancy issued for development within the scope of this Land Use Code shall be in conformance with the approved final site plan or an amendment thereto under Section 14.14. The Planning Authority shall institute or cause to be instituted any and all actions, legal or equitable, that may be appropriate or necessary for the enforcement of this article.

C. Where work is required pursuant to the terms of Chapters 24 or 25 as part of an approval granted under this article, such work shall be accomplished in the sequence established by the Public Works Authority. Where the Public Works Authority determines that work has been completed prior to the receipt of all approvals required by this article or which is out of sequence or is not in compliance with the standards of Chapters 24 and 25 of the City of Portland Code of Ordinances, a stop work order may be issued. Work shall recommence only after such order has been lifted by the Department of Public Works or the Building Authority on the basis of an approved mitigation plan or action by the developer.

D. Where construction, alteration, or modification to a site is performed without a valid site plan approval, an after-the-fact review shall be performed by the Planning Board or Planning Authority, as applicable.

14.16 APPEALS

14.16.1 Site plan

A. When the Planning Authority has approved, approved with conditions, or disapproved a minor site plan, any person aggrieved may appeal the decision to the Planning Board within 30 calendar days of the date of the written decision of the Planning Authority. Upon the taking of such an appeal, the application shall be reviewed as a new application.

B. When the Planning Board has approved, approved with conditions, or disapproved a major site plan, any person aggrieved or the City may appeal the decision to the Superior Court, pursuant to Rule 80B of the Maine Rules of Civil Procedure and 30-A M.R.S §§ 2691 & 4483. Decisions of the Planning Board are final as of the date the written decision is issued.

15 SUBDIVISIONS

15.1 PURPOSE

This article is adopted pursuant to the terms and provisions of 30-A M.R.S. § 3001 and 4403, as amended. The purpose of this article is to provide for the harmonious and economic development of the city; for the orderly subdivision of land and its development; for the orderly development of the general area surrounding such subdivision; for the coordination of streets within the general area; for adequate provisions for drainage, flood control, light, air, and other public purposes; for the adequate and proper installation of streets, drainage, sanitary sewers, water, and other utilities and facilities; for the dedication to the City of land for streets, alleys, or other public purposes or the transfer to the City of easements or other rights or privileges; for the reservation for the City of land to be acquired for public facilities; and to protect public safety.

15.2 APPLICABILITY

15.2.1 Jurisdiction

A. This article shall govern each and every subdivision of land as defined under 30-A M.R.S. § 4401 and 4402 within the limits of the city unless specifically exempted under this article.

B. When application is made for the resubdividing of a previously recorded subdivision under the provisions of these regulations, it shall be treated as a new subdivision provided the applicant is the owner of rights in the recorded subdivision.

15.2.2 Enforcement, conveyance, markers, and recording

A. No person may sell, lease, develop or build upon, or convey for consideration, offer or agree to sell, lease, develop or build upon, or convey for consideration any land in a subdivision unless the subdivision has been approved by the Planning Board, and unless a recording plat showing permanent marker locations at all lot corners has been recorded in the county registry of deeds.

B. No subdivision plan shall be recorded by the registry of deeds which has not been approved as required by this article. Approval for the purpose of recording shall appear in writing on the recording plat.

C. No public utility, water district, sanitary district, or any utility company of any kind shall install services to any lot in a subdivision which has not received Planning Board approval.

D. Any person who sells, leases, develops or builds upon, or conveys for consideration any land in a subdivision which has not been approved as required by this article shall be punished by a fine of not more than $500 for each such occurrence. The City may institute proceedings to enjoin any violation of this section.

15.3 REVIEW PROCEDURES

15.3.1 Application

To obtain approval of a proposed subdivision the subdivider or applicant shall submit an application to the Planning Authority in such form as prescribed by the Planning Authority. The application shall meet the submission requirements of the City of Portland *Technical Manual,* including the provisions for a subdivision plat for presentation to the Planning Board and public, all engineering data and

plans necessary for the completion of the required improvements, supplemental submission items, a recording plat, and written submittals demonstrating compliance with the review criteria of this article. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application.

15.3.2 Receipt of application notice

A. When an application for subdivision is received or generated by the Planning Authority, it shall give a dated receipt to the applicant and shall notify, by mail, the following, where applicable.
   1. All property owners within 500 feet of the proposed subdivision, except that for subdivisions within industrial zones, the notice range shall be 1,000 feet.
   2. The clerk and the reviewing authority of municipalities that abut or include any portion of a proposed subdivision.
   3. A public drinking water supplier if the subdivision is within its source water protection area.

B. The notice hereunder shall include a brief description of the application, the address or location of the property involved and a telephone number at the City where additional information may be obtained. The cost of noticing shall be charged to the applicant.

15.3.3 Neighborhood meeting

An applicant for the subdivision of five or more lots shall conduct a neighborhood meeting according to the provisions of Subsection 14.5.5.

15.3.4 Notice of public meeting

A. Prior to any Planning Board workshop or hearing on the subdivision application, the applicant shall be responsible for posting a notice of public meeting sign on the property where the subdivision is to occur. The dimensions, construction, and content of the sign shall be in accordance with standards established by the Planning Authority.

B. The sign shall be posted at least ten days prior to the public workshop or hearing date, and shall be removed from the site no more than three days following the date of the meeting.

C. Once the required notice of public meeting signage is posted, the applicant shall submit a completed certification of posting form to the Planning Authority.

D. In the event that a required notice of public meeting sign is knocked over or made illegible, it shall be the responsibility of the applicant to promptly reset or replace the sign, though failure to do so shall not invalidate the review.

15.3.5 Review costs

A. The subdivider shall pay a fee to cover the engineering review costs and administrative costs to be incurred by the City. The fee shall be based upon the actual hours of review time and prevailing hourly rate for reimbursement of City costs, and shall be invoiced periodically by the City.

B. No land use permits or applications of any kind shall be processed, reviewed, or issued, no signed subdivision plats shall be released or recorded, and no building permits of any kind shall be issued, for any project whose permit fee is governed by this article unless all charges due have been paid and the developer is

otherwise in compliance with the City of Portland Code of Ordinances.

15.3.6 Timing of subdivision review

A. Within 30 days of receiving an application, staff shall notify the applicant in writing either that the application is complete or, if it is determined to be incomplete, the specific additional materials needed to make it a complete application. After the review authority has determined that a complete application has been filed, it shall notify the applicant and begin its full evaluation of the proposed subdivision.

B. A public hearing shall be commenced within 30 days following the receipt of a complete subdivision application by the review authority. The Planning Board shall render its decision on any application submitted to it within 30 days of a public hearing or such other time as may be mutually agreed to by the Planning Board and the applicant.

15.3.7 Subdivision approval

The Planning Board shall approve, approve conditionally, or disapprove such subdivision application at a public hearing. If approved conditionally, the conditions and reasons shall be stated and given in writing to the subdivider and, if necessary, the Planning Board may require the subdivider to submit a revised subdivision plat. If the Planning Board should disapprove the subdivision plat, the reasons for such action shall be stated and given in writing to the subdivider, and the board may state the conditions under which the proposed subdivision would be approved.

15.3.8 Effect of subdivision approval

Receipt of the approved copy of the subdivision plat of the subdivider is not authorization that the developer may proceed with the construction of any improvements. No construction will proceed until the recording plat, meaning a completed subdivision plat in form for approval and recording, including all waivers and a surveyor's stamp, has been approved by the Planning Board and has been properly recorded as required in Subsections 15.3.9 and 15.3.10.

15.3.9 Recording plat approval

Consideration of the recording plat shall not take place until the subdivision plat is approved.

15.3.10 Recording

A. Prior to the release of a signed, approved recording plat, all current charges due under this article shall be paid.

B. When the recording plat, meeting the requirements of the City of Portland *Technical Manual,* is approved, the subdivider shall pay the actual cost of recording and reproduction.

C. The recording plat shall be recorded in the office of the Cumberland County Registry of Deeds by the subdivider.

D. The registry book and page numbers shall be transcribed on one mylar copy of the recording plat to be sent to the Public Works Authority. Unless the subdivider shall record his or her approved recording plat within three years after the Planning Board has approved the subdivision plat, the recording plat approval shall become null and void. The preceding sentence notwithstanding, if the Planning Board's initial approval of a subdivision is based in part upon the granting of a waiver from any

of the applicable subdivision approval standards, no such waiver shall be valid unless that fact shall be expressly noted on the face of the recording plat and shall be noted in a certificate, each of which shall conform to 30-A M.R.S. § 4406, and such recording plat or such certificate or both of them are recorded in the Cumberland County Registry of Deeds within two years of final subdivision approval.

15.3.11 Sectional recordings

Following subdivision plat approval, the Planning Board may permit the subdivision to be divided into two or more sections for recording purposes subject to any conditions that the board deems necessary in order to insure the orderly development of the plan. The applicant may seek approval of and record a sectional recording plat with the Cumberland County Registry of Deeds only if the section constitutes at least 20% of the total number of lots contained in the approval plat and, in addition, shows the entire tract or parcel. For the purposes of this article, tract or parcel shall mean all contiguous land in the same ownership, provided that lands located on opposite sides of a public or private road shall be considered each a separate tract or parcel of land unless such road was established by the owner of land on both sides thereof. In these circumstances, if the first section of the plat has been recorded within three years after Planning Board approval, subdivision plat approval of the remaining sections of the plat shall remain in effect for five years after Planning Board approval.

15.4 REVIEW STANDARDS

15.4.1 Standards of review

Before granting approval, the Planning Board shall determine that the proposed subdivision:

A. Will not result in undue water or air pollution. In making this determination the Planning Board shall at least consider the elevation of land above sea level and its relation to the flood plains, the nature of soils and subsoils and their ability to adequately support waste disposal, the slope of the land and its effect on effluents, the availability of streams for disposal of effluents, and the conformity to the applicable state and local health and water resources regulations.

B. Has sufficient water available for the reasonably foreseeable needs of the subdivision.

C. Will not cause unreasonable burden on an existing water supply.

D. Will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result.

E. Will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highway or public roads existing or proposed.

F. Will provide for adequate sanitary waste and storm water disposal and will not cause an unreasonable burden on municipal services if they are utilized.

G. Will not cause an unreasonable burden on the ability of the City to dispose of solid waste and sewage if municipal services are to be utilized.

H. Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the Department of Inland Fisheries

and Wildlife or by the City, rare and irreplaceable natural areas, or any public rights for physical or visual access to the shoreline. For subdivisions within local historic districts, the Planning Board shall apply the standards of Subsection 17.8.3(C). The Planning Board may request that the Historic Preservation Board prepare an evaluation of the proposed subdivision based upon the standards of Subsection 17.8.3(C).

I. Is in conformance with the Comprehensive Plan or its successor.

J. The subdivider has adequate financial and technical capacity to meet the standards of this subsection.

K. Whenever situated, in whole or in part, within the watershed of any pond or lake or within 250 feet of any wetland, great pond, or river as defined in Title 38, Chapter 3, Subchapter I, Article 2B, will not adversely affect the quality of such body of water or unreasonably affect the shoreline of such body of water.

L. Will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.

M. Is or is not in a flood prone area, based on the Federal Emergency Management Agency's flood boundary and floodway maps and flood insurance rate maps, and information presented by the applicant. If the subdivision, or any part of it, is in such an area, the subdivider shall determine the 100-year flood elevation and flood hazard boundaries within the subdivision. The proposed subdivision plan must include a condition of plan approval requiring that principal structures in the subdivision will be constructed with their lowest floor, including the basement, at least one foot above the 100-year flood elevation.

N. Will provide for adequate stormwater management.

O. Will not have lots with a lot depth-to-shore frontage ratio greater than 5 to 1 if any lots in the proposed subdivision have shore frontage on a river, stream, brook, great pond, or coastal wetland as these features are defined in Title 38 § 480-B.

P. For any proposed subdivision that crosses municipal boundaries, will not cause unreasonable traffic congestion or unsafe conditions with respect to the use of existing public ways in an adjoining municipality in which part of the subdivision is located.

15.5 TECHNICAL AND DEVELOPMENT STANDARDS

15.5.1 Technical standards

All subdivisions and associated improvements, excluding subdivisions exempted under Section 15.12 of this article, shall, in addition to the criteria listed herein, adhere to all applicable standards of the City of Portland *Technical Manual*, unless formally waived by the Planning Board.

15.5.2 Timing of subdivision improvements

The Department of Public Works shall establish the sequence in which work is to be accomplished. Where it is determined by the Public Works Authority that work has been completed prior to the receipt of all approvals required by this article or which is out of sequence or is not in compliance with the standards of this section and of Chapter 25, the Director of Public Works or an inspector from the Public Works Authority may issue a stop work order. Work shall recommence only after the stop

work order has been lifted by the Director of Public Works or an inspector from the Public Works Authority. Violation of the stop work order shall be considered an offense.

15.5.3 Subdivision names

Subdivision names for plats shall be subject to approval by the Planning Board and not duplicate the name of any plat already recorded.

15.5.4 Streets

A. All streets shall be platted along contour elevations which result in minimum grades and greatest visibility whenever practicable, with consideration given for anticipated use of the land. Street grades in all proposed subdivisions shall be subject to the approval of the Public Works Authority.

B. The proposed street layout shall be coordinated with the street system of the surrounding areas. All streets must provide for the continuation or appropriate projection of streets in surrounding areas and provide means of ingress and egress for surrounding tracts.

C. When connecting streets within residential neighborhoods, new streets shall contribute to a neighborhood street system characterized by a network of interconnected streets, which minimizes through-traffic in residential neighborhoods. The layout of subdivision lots, streets, and pedestrian ways shall promote multiple paths of travel to get to destinations within and between neighborhoods by foot and bicycle, as well as auto.

D. The interconnection of new and existing streets is further subject to the following provisions to minimize and mitigate through-traffic in residential neighborhoods:

1. Where a determination is made that a proposed street connection will result in substantial increases in traffic volume and speed on the effected public streets, the Planning Board may require appropriate traffic calming solutions as set forth in Chapter 28 of the City of Portland Code of Ordinances. The Public Works Authority may by regulation and amendment to the *Technical Manual* establish standards for determining what is a "substantial increase in traffic volume and speed."
2. In any circumstances where a street connection is allowed, the Planning Board may condition subdivision approval to require the developer to monitor future traffic patterns to determine whether, using existing traffic calming standards, new or additional traffic calming measures should be employed. The extent and design of traffic calming shall be determined by the Public Works Authority to mitigate the post development impact of connecting new and existing streets.
3. In cases where post-development monitoring shows that increased traffic volume and speed is such that further traffic calming would be insufficient to mitigate traffic negative impacts of through-traffic, the DPW may require that the connection be modified to exclude regular vehicular traffic, while retaining bicycle, pedestrian, and where needed, emergency vehicle connections. The Public Works Authority shall develop typical standards and specifications for bicycle, pedestrian, and emergency vehicle connections and/or turnarounds.

4. Where a determination is made by the Public Works Authority that a proposed street connection will result in substantial increases in traffic volume and speed on the affected public streets, the Planning Board may disallow a proposed street connection for vehicular purposes in favor of a connection for non-vehicular purposes in situations where a proposed residential street connection meets all of the following criteria:
    a. The new street would result in the connection of two arterials.
    b. The street would be located in a neighborhood where there is no existing public through-street network connecting the same arterials.
    c. There is no likelihood that other public street connections will be developed in the future that would connect the arterials, whether because of topography limitations, existing development patterns, or other similar reason.
5. In circumstances where vehicular connections are disallowed, the Planning Board shall require that adequate right-of-way is reserved to permit the extension of the street for pedestrian, bicycle, emergency use, and potential vehicle connections as may develop in the future.

E. Reserve strips or spite strips for unspecified or unacceptable purposes are prohibited.

F. Street right-of-way widths shall be as provided in Chapter 25 of the City of Portland Code of Ordinances and the City of Portland *Technical Manual.* However, private streets within PRUDs shall be exempt from the street right-of-way and roadway width requirements established in the City's *Technical Manual*, provided that no such street shall be accepted by the City unless it is first improved to City standards at the expense of those persons requesting the street acceptance. Private streets within a PRUD or a shall meet specifications established by the Public Works Authority. All private streets shall be designed by a professional engineer and shall be built according to accepted engineering standards.

G. Proposed subdivisions along existing, or dedicated, or platted streets where rights-of-way are inadequate shall provide additional land to meet the minimum standards.

H. Streets shall not occupy more land than needed to provide access nor create unnecessary fragmentation of the subdivision into small blocks. Streets will be designed to discourage outside traffic from traversing the development.

I. All dead-end streets shall provide for a cul-de-sac or, in the case of a dead-end street which will be extended, a temporary turn around at the end of the street, subject to the approval of the Public Works Authority.

J. Sidewalks shall be constructed on each side of each street in accordance with Chapter 25 of the City of Portland Code of Ordinances. Sidewalks to be used by pedestrians are to be so located as to minimize contacts with normal automotive traffic, with preference given to interior walks away from streets in common open space in block interiors.

K. Curbs shall be constructed on each side of each street. The curbing shall be constructed as provided in Chapter 25 of the City of Portland Code of Ordinances.

L. Street names for all subdivisions shall appear on the subdivision plat and be subject to approval by the Planning Board.

15.5.5 Sewers and storm drains

A. All subdivisions shall be provided with adequate storm drain systems within the subdivision separate from any sanitary sewer system required in Chapter 25 of the City of Portland Code of Ordinances. The design of all sewers and storm drains shall be subject to approval by the Public Works Authority.

B. Any natural or manmade areas, systems or facilities designated for stormwater control purposes and intended for City maintenance shall, except for detention or retention ponds or basins and regularly free flowing watercourses, be structurally enclosed in accordance with the standards of the Public Works Authority, and shall be dedicated with sufficient land for maintenance purposes. Warranty deeds to such areas shall be submitted for acceptance by the City Council at the same time as the acceptance of streets. All such areas as are not intended for City maintenance shall be permanently protected and maintained by private agreement, deed covenant or restriction, as appropriate, in form approved by the Corporation Counsel.

C. The subdivider shall be responsible for the construction of all sewers and storm drains including manholes, catch basins and any other appurtenances as may be deemed necessary by the Public Works Authority. All work shall be in accordance with public works specifications.

15.5.6 Blocks

A. A maximum block length of 800 feet, measured from the nearest street lines of intersecting streets, shall be observed except where, in the opinion of the Planning Board, conditions justify a departure from this standard. In general, block size should be the maximum consistent with the use and shape of the site and the convenience and safety of the occupants.

B. In blocks exceeding 800 feet in length, measured from the nearest street lines of intersecting streets, the Planning Board may require where feasible the reservation of a 20 foot wide easement to the City through the block to provide for the crossing of underground utilities and pedestrian traffic where needed or desirable and may further specify, at its discretion, that a four foot wide paved foot path be included.

C. The length, width and shape of blocks shall be determined on the basis of:

1. Provision of adequate building sites suitable to the special needs of the type of use contemplated.
2. Zoning requirements as to lot sizes, setbacks and dimensions.
3. Needs for convenient access, circulation, control and safety of street traffic.
4. Limitations and opportunities of topography.

D. Blocks with lots having double frontage on streets shall be avoided.

E. The foregoing dimensions may be adjusted by the Planning Board where type of use or topography requires such modification.

15.5.7 Lots

A. Lots shall conform to the provisions of Article 7 and all other relevant provisions of the City of Portland Code of ordinances.

B. Where easements for public utilities, storm drains, or sanitary sewers are contemplated, the lot lines shall be located in such a manner as to facilitate construction of such facilities and the maintenance thereof.

C. Lots which are reserved or laid out for business, commercial, or industrial purposes shall have sufficient width and depth to accommodate the off-street parking and loading facilities required for the type of use and development contemplated, as established in Article 19.

D. Where feasible, side lot lines shall be at right angles to street lines (or radial to curving street lines).

15.5.8 Public open space

A. In all subdivisions open space may be provided for parks, recreational and other public areas. Where no public open space or recreational areas exist in close proximity to the subdivision, or where a lack of such areas in the subdivision would require its disapproval under Section 15.4, the Planning Board may require provision of land for park or recreational purposes. Such lands may be designated for public or private ownership in accordance with the conditions stated in this subsection, subject to the approval of the Planning Board.

B. If a tract or parcel is intended for public ownership and is so designated on the subdivision plat, the acceptance of such land shall be first recommended by the various departments and the Planning Board and sent to the City Council for final determination.

C. If a tract or parcel is designed or intended to be owned and used in common for recreational or other public or semi-public purposes and such intent is so designated on the subdivision plat, appropriate documents in form approved by the Corporation Counsel shall be submitted to the Planning Board. Such documents shall clearly:

1. Set forth the nature of the permanent organization under which common ownership is to be established, including its purpose, how it shall be governed and administered, the provisions made for permanent care and maintenance of the common property for its share of the cost of administering and maintaining such common property.
2. Set forth the extent of common interest held by the owner of each individual parcel in the tract held in common with others.

15.5.9 Access to shoreline

A. In all subdivisions having shore frontage on the island of Casco Bay, existing legal rights of public access to the shoreline shall be preserved. The proposed street layout and circulation plan shall be suitably integrated with such existing public access in a manner that reasonably promotes the public use of such access. The proposed street layout and circulation plan shall also be designed to preserve any legal rights to any significant water views and scenic vistas from such rights-of-way.

B. In all subdivisions having any lots within the Shoreland Zone, legal rights of private access to

waters shall, to the extent reasonably feasible, be established for the benefit of all lots within the subdivision not otherwise having such access.

15.5.10 Additional requirements for nonresidential subdivisions

All nonresidential subdivisions, meaning subdivisions not intended for human habitation, such as a commercial or industrial subdivision, must meet the following additional requirements, except as waived by the Planning Board due to the commercial or industrial nature of the development:

A. Proposed industrial parcels shall be suitable in area and dimensions to the commercial or industrial development anticipated.

B. Street rights-of-way and pavement shall be adequate to accommodate the type, weight, and volume of traffic anticipated to be generated.

C. The design and installation of public utilities including water, sewers, and storm water drainage, shall be adequate to accommodate the anticipated usage.

D. Streets carrying truck traffic shall not normally be extended to the boundaries of adjacent existing or potential residential areas.

15.6 WAIVERS

15.6.1 Request for waivers

A waiver of plat requirements or technical standards shall be applied for in writing by the subdivider. The decision of the Planning Board on such request shall be final.

15.6.2 Waiver standards

A. Except for the requirements set forth Subsection 15.5.4 pertaining to the provision and construction of curbs and sidewalks, the Planning Board, if it finds that extraordinary conditions exist or that undue hardship may result from strict compliance with these regulations may vary the regulations so that substantial justice may be done and the public interest secured, provided that such variation will not have the effect of nullifying the intent and purpose of the Comprehensive Plan and the regulations of this article.

B. Where the Planning Board or Planning Authority finds that, for each of the requirements listed in (1) and (2) below, two or more of the conditions exist with respect to compliance with the requirements set forth Subsection 15.5.4 pertaining to the provision and construction of curbs and/or sidewalks, it may waive, in whole or in part, the regulations so that substantial justice may be done and the public interest secured.

1. *Sidewalks*
   a. There is no reasonable expectation for pedestrian usage coming from, going to and traversing the site.
   b. There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of a pedestrian oriented infrastructure.
   c. A safe alternative-walking route is reasonably and safely available, for example, by way of a sidewalk on the other side of the street that is lightly traveled.
   d. The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program or has

been funded through an earlier CIP or through other sources.

e. The street has been constructed or reconstructed without sidewalks within the last 24 months.

f. Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.

2. *Curbing*

a. The cost to construct the curbing, including any applicable street opening fees, is in excess of 5% of the overall project cost.

b. The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program or has been funded through an earlier CIP or through other sources.

c. The street has been rehabilitated without curbing in the last 60 months.

d. Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.

e. Runoff from the development site or within the street does not require curbing for stormwater management.

C. In no event shall the waiver have the effect of creating potentially hazardous vehicle and pedestrian conflict or nullifying the intent and purpose and policies of the Comprehensive Plan relating to transportation and pedestrian infrastructure and the regulations of this article.

D. At its discretion, the Planning Authority may refer any petition for a waiver from the curb and sidewalk requirement to the Planning Board for decision.

15.6.3 Modifications for Planned Unit Developments

The standards and requirements of this article may be modified by the Planning Board in the case of a plan and program for a planned unit development which in the judgment of the Planning Board provides adequate public spaces and improvements for the circulation, recreation, light, air, and service needs of the tract when fully developed and populated, and which also provides such covenants or other legal provisions as will assure conformity to and achievement of the Comprehensive Plan.

15.6.4 Modifications approved by Public Works

If at any time before or during the construction of the required improvements the subdivider demonstrates to the satisfaction of the project engineer and the Public Works Authority that unforeseen conditions make it necessary or preferable to modify the design of the required improvements, the Public Works Authority may authorize modifications provided that the modifications do not amount to a waiver or substantial alteration of the function of any improvements required by the Planning Board.

15.6.5 Conditions

In granting waivers and modifications, the Planning Board and City Council may require such conditions as will, in their judgment, secure substantially the

objectives of the standards or requirement so waived or modified.

15.7 GUARANTEES AND ASSOCIATED FEES

15.7.1 Performance guarantee required

Following subdivision approval and prior to the release of the signed recording plat, the subdivider shall post with the City a performance guarantee in the form and amount specified herein, specifying the completion of the required subdivision improvements within two years from the origination date of such guarantee. In no case shall the term of such guarantee be for a period of less than one year, nor shall any performance guarantee expire between October 30 and April 15 of the following year.

15.7.2 Inspection fees

At the same time that the developer posts a performance guarantee, the developer shall also pay to the City an inspection fee as determined by the City Council. If a performance guarantee is extended beyond its original expiration date, then an additional inspection fee in an amount to be determined by the City shall be required.

15.7.3 Establishing the performance guarantee amount

A. The performance guarantee shall be equal in value to 100% of the estimated cost of the required subdivision improvements as shown on the approved subdivision plat, as a condition of Planning Board approval, as required in the City of Portland Code of Ordinances, and/or as required by the City of Portland *Technical Manual*.

B. The performance guarantee amount shall be estimated by the applicant or representative on a form provided by the City and shall be submitted for review and approval to the Planning Authority. Costs to be included in the estimate, and which shall be covered by the performance guarantee, include but are not limited to: street and sidewalk improvements including street lights, monuments, curbing, ramps, detectible warning panels, and striping; earth work and grading; utilities infrastructure and connections including sewer, stormwater, and water service; exterior site lighting; erosion control measures as shown on the approved erosion and sedimentation control plan; open space and recreation amenities; and final site stabilization and landscaping.

C. The Planning Authority may waive all or any portion of this requirement if it determines that the subdivider has a proven record of satisfactory performance and sufficient financial capability.

15.7.4 Phased projects

If a project is reviewed and approved as a phased project, the corresponding performance guarantee may also be phased. A separate performance guarantee shall be posted for each phase. Each phase of such project shall be independent of subsequent phases and shall conform to all standards of this article in the event that subsequent phases do not go forward.

15.7.5 Advanced site work

On a case-by-case basis, permission for advanced site work may be granted by the Planning Authority. Such permission is solely within the discretion of the Director of Planning and Urban Development and shall be granted only after submission of a written request setting forth the work proposed to

be done on the site. Such written permission shall not be required when the only work proposed is the digging of test pits.

15.7.6 Alterations to pending subdivisions

Alterations may be made to a site with a pending subdivision application if:

A. At minimum, a performance guarantee for the proposed site alterations has been posted and final plans have been submitted to the Planning Authority.

B. Written permission has been received from the Planning Authority or his/her designee that such site alterations may proceed pending subdivision approval. Such permission is solely within the discretion of the Planning Authority and shall be granted only after submission of a written request setting forth the work proposed to be done on the site. All such work shall be done in compliance with information provided with the subdivision application. An erosion control plan shall also be submitted when deemed necessary by the Planning Authority. Such written permission shall not be required when the only work proposed is the digging of test pits.

15.7.7 Acceptable forms for the performance guarantee

The performance guarantee, in the amount approved by the Planning Authority, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland Finance Department and shall be in conformance with the templates and forms made available by the City. If the performance guarantee is a deposit to the City, the City shall hold such funds in a noninterest-bearing account until criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the Corporation Counsel as to proper form and legal sufficiency.

15.7.8 Reductions of the performance guarantee

A. Up to three times during the construction of a project, upon request of the subdivider, a performance guarantee may be reduced by the value equal to the estimated cost of the completed improvements. In no case shall any performance guarantee be reduced by any line item on the cost estimate where improvements remain to be completed. Requests shall be submitted on a form provided by the City for review and approval by the Planning Authority.

B. In no case shall any performance guarantee be reduced to an amount equal to or less than the required defect guarantee until all criteria set forth for converting to the defect guarantee have been met, as approved by the Planning Authority.

15.7.9 Extension of the performance guarantee

If the Planning Authority and/or the Public Works Authority has reasonable doubt concerning the stability or proper construction of the required site improvements, the developer shall be required to reconstruct or otherwise address the issues to the City's satisfaction. If the performance guarantee is scheduled to expire before the extent or necessity for such further work can be determined, the developer shall be required to extend the performance guarantee covering such improvements, or secure a new guarantee, for a period and amount deemed necessary by the

Planning Authority and/or the Public Works Authority.

15.7.10 Release of the performance guarantee

A. No performance guarantee shall be released until all fees generated by the project are paid to the City, including but not limited to engineering, inspection, and administrative fees. The guarantor shall not be released from the guarantee except and until authorized in writing from the Planning Authority.

B. For subdivisions, no performance guarantee shall be released until the Public Works Authority has performed a final inspection of the roadway and determined satisfactory completion of the required improvements. Additionally, no performance guarantee shall be released until the City is in receipt of a petition for street acceptance, deemed complete and satisfactory by Corporation Counsel and/or the Public Works Authority. The petition for street acceptance must include a warranty deed (with metes and bounds description) to the property within each street of the subdivision or roadway extension and any other improvements intended for City maintenance.

C. Upon the satisfactory completion of the required site improvements and satisfactory compliance with all conditions of approval including the submission of as-built drawings as applicable, the Planning Authority shall authorize, in writing, conversion to the defect guarantee. The defect guarantee shall be 10% of the original performance guarantee amount and shall remain in place for a period of one year. The defect guarantee shall ensure the workmanship and the durability of all materials used in the construction of the required site improvements. The Planning Authority may authorize the defect guarantee to be released at any time within the one-year period, provided all required site improvements have been constructed and in-place for one year or more and the workmanship and the durability of all materials has been inspected and confirmed to be satisfactory.

15.7.11 Improvements required prior to release of guarantee

Prior to the release of the performance guarantee, the subdivider shall have completed the following improvements:

A. All streets shall be graded in conformity with the requirements set out Section 15.5 and in accordance with Chapter 25 of the City of Portland Code of Ordinances.

B. On all streets, side streets, and alleys, a suitable hard surfaced permanent pavement shall be installed meeting the requirements set forth in Chapter 25 of the City of Portland Code of Ordinances.

C. Water, gas, sanitary sewer mains, and storm drains shall be constructed prior to the installation of paving with all mains being extended from all lots having sufficient stub outs to avoid subsequent breaking of pavement.

D. Sidewalks and curbs shall be constructed as required in Section 15.5.

E. Adequate storm drains shall be constructed subject to the provisions of Section 15.5 and in accordance with the Public Works Authority specifications.

F. A total of two trees per lot, which shall be street trees, shall be planted near the street line in full public view on private property, as

directed by the City Arborist. Existing healthy trees may be credited toward this requirement, subject to the approval of the City Arborist.

G. Permanent markers shall be set as prescribed by the Public Works Authority.

H. All utility lines shall be placed underground unless otherwise approved by the Planning Board.

I. Street lighting shall be installed in accordance with the standards of the Public Works Authority.

J. A public water supply shall be installed subject to the approval of the Portland Water District.

K. Erosion control measures shall be taken both during and after construction in accordance with the standards of the Public Works Authority.

15.7.12 Acceptable forms for the defect guarantee

The defect guarantee, 10% of the original performance guarantee amount approved by the Planning Authority, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland finance department and shall be in conformance with the templates and forms made available by the City. If the defect guarantee is a deposit to the City, the City shall hold such funds in a noninterest-bearing account until criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the Corporation Counsel as to proper form and legal sufficiency.

15.7.13 Abandoned site

In the event that a development site is abandoned or the site improvements do not meet City standards as approved in the subdivision plat, the performance guarantee may be utilized to stabilize, secure, complete construction, and/or restore the site as may be necessary, including, but not limited to, revegetation of areas, grading, and fencing.

15.8 CONSTRUCTION RECORDS AND INSPECTION

15.8.1 Inspection of construction

The project engineer and City Engineer shall have the right to enter and inspect the construction site during all phases of the project to ensure compliance with this article.

15.8.2 Required construction records

After approval of the subdivision plat and prior to the construction of any of the subdivision's public improvements, the subdivider shall supply the City Engineer with a complete set of engineering drawings showing all streets, sanitary sewers, and surface water drains, and all appurtenant work within the subdivision.

15.9 TRANSFER OF OWNERSHIP

The purchasing party or other succeeding owner of a subdivision for which a recording plat has received prior approval, but which has not yet been accepted by the City, shall assume full responsibility for completion of the subdivision's improvements until the subdivision street or streets are accepted by the City. The purchaser or other succeeding owner of an unaccepted subdivision shall be required to comply with all the provisions of this article as if he were the original subdivider, and shall become responsible for completing such improvements in the same manner as the original subdivider.

15.10 PLAT AMENDMENTS

The Planning Authority may approve alterations to an approved recording plat when all of the following conditions are met. Otherwise, a new subdivision plat must be submitted to the Planning Board:

A. The rearrangement of lot lines does not increase the number of lots within a block or other subdivision unit or area.
B. The alteration will not affect any street, alley, utility easement or drainage easement.
C. The alteration meets all of the minimum requirements of this Land Use Code and other applicable state and local codes.
D. The alteration is approved by the Public Works Authority and the Fire Department.

Such approved alterations shall be properly recorded in the registry within 30 days thereof or they shall be null and void. Recording of approved alterations also shall be in accordance with the requirements of 30 A M.R.S. § 4406.

15.11 VACATION OF PLATS

Any such plat recorded, or any portion thereof, may be vacated with the consent of the City Council as follows:

A. At any time before the sale of any lot therein, by written instrument, signed by the City and the owners of such subdivision, declaring the same to be vacated and describing therein the part or portion to be so vacated.
B. At any time after the sale of any lot therein and by written instrument, signed by the City and all owners of record of lots shown on the plat, declaring the same to be vacated and describing therein the part or portion to be so vacated.
C. Any instrument so executed vacating all or a portion of any plat shall be duly filed and recorded in the Cumberland County Registry of Deeds. The execution and recording of the instrument described in (B) above shall vest fee simple title to the centerline of the street, alley or easement for public passage so vacated in the owners of abutting properties. Title to property located within the vacated streets, alleys, or easements for public passage shall pass to abutting property owners free and clear of any rights of the public or other owners of lots shown in the plan, but subject to the rights of the owners of any public utility installations which have been previously erected therein.

15.12 EXEMPTIONS

15.12.1 Subdivisions prior to 1979

This article does not apply to subdivisions approved prior to June 6, 1979, nor to subdivisions in existence prior to June 6, 1979, nor to subdivisions which have been legally recorded in the Registry of Deeds prior to June 6, 1979.

15.12.2 Division by demise, condemnation, order, or gift

A division accomplished by devise; condemnation; order of court; gift to a person related to the donor by blood, marriage, or adoption, unless the intent of such gift is to avoid the objectives of this article; or by transfer of any interest in land to the owner abutting thereon shall not be considered to create a lot or lots for purposes of this article.

15.13 APPEALS

An appeal from any final decision of the Planning Board regarding subdivision approval may be taken by the applicant or his or her authorized agent to superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure.

16 IMPACT FEES

16.1 PURPOSE

The purpose of this article is to ensure that new development in the City of Portland bears a proportional or reasonably-related share of the cost of new, expanded, or replacement infrastructure necessary to service that development through the payment of impact fees dedicated to funding improvements made necessary by development, or the construction of improvements as provided for herein. This ordinance is enacted pursuant to the authority of 30-A M.R.S. § 4354 and 30-A M.R.S. § 3001.

16.2 APPLICABILITY

The following shall be subject to impact fees, with the exception of municipal buildings, which shall be considered exempt:

A. Any new building or addition to existing buildings which results in net new residential dwelling units, nonresidential building square footage, or water/wastewater meters, and

B. Any change of use which results in a net increase in impact fee per Subsection 16.3.6.

16.3 CALCULATION OF IMPACT FEE

16.3.1 In general

Impact fees shall be calculated based on the impact fee schedule in effect at the time of submittal of a complete application for a building permit.

16.3.2 Determination of use

The determination of the applicable land use category in the impact fee schedule shall be made by the Department of Permitting and Inspections with reference to the City of Portland's most recent *Impact Fee Study*. If the proposed development is of a type not listed in the impact fee schedule, then the impact fees applicable to the most nearly comparable type of land use listed in the impact fee schedule shall be used.

16.3.3 Mixed use development

In the event that there is more than one use within a building, impact fees shall be calculated separately for each use.

16.3.4 Redevelopment

In calculating the impact fee for a new building that involves the full or partial demolition of a building housing an existing, legally established use or uses, such new building shall be credited with an amount equal to the fee that would have been charged to the use or uses which occupied the structure at the time of demolition permit. If the impact fee calculation for the post-development condition is greater than the credit, the applicant shall pay the difference. If the impact fee calculation for the post-development condition is less than the credit, then the applicant shall not be required to pay an impact fee. The City shall not grant credits for demolitions for which a permit was issued more than 10 years prior to the complete application for a building permit.

16.3.5 Building additions

In calculating the impact fee for building additions, each developed property shall be credited with an amount equal to the fee that would have been charged to the existing use at the time of the addition of floor area. If the impact fee calculation for the post-development condition is greater than

the credit, the applicant shall pay the difference. If the impact fee calculation for the post-development condition is less than the credit, then the applicant shall not be required to pay an impact fee.

16.3.6 Changes of use

In calculating the impact fee for changes of use, each developed property shall be credited with an amount equal to the fee for the use in the highest fee category that has existed on the developed property within the previous 10 years. If the impact fee calculation for the proposed use is greater than the credit, the applicant shall pay the difference. If the impact fee calculation for the proposed use is less than the credit, then the applicant shall not be required to pay an impact fee.

16.4 ANNUAL ADJUSTMENT OF IMPACT FEE

To account for inflation, there shall be an automatic annual increase in the impact fee schedule reflected in this ordinance every January 1 based on the change in the construction cost index as published by *Engineering News Record*. The fee adjustment shall be calculated by dividing the index amount published on January 1 of the current year by the index amount published on January 1, 2018 and multiplying the resulting ratio by each fee amount. Annual adjustments shall be made available for public reference.

TABLE 16-A: PARKS & RECREATION AND TRANSPORTATION IMPACT FEE SCHEDULE[1]

Land Use Type	Unit of Measure	Parks/Recreation Impact Fee	Transportation Impact Fee
Single-family/Two-family	per unit	$1,126	$2,159
Multi-family	per unit	$752	$1,023
Retail/Service	per 1,000 SF GFA	$534	$8,248
Office	per 1,000 SF GFA	$677	$2,800
Industrial	per 1,000 SF GFA	$363	$1,130
Institutional	per 1,000 SF GFA	$645	$3,082
Hotel/Motel	per room	$875	$2,404

[1] Land use types included impact fee schedule correspond to those in the City's most recent *Impact Fee Study*.

TABLE 16-B: WASTEWATER IMPACT FEE SCHEDULE

Meter Size	Capacity Ratio	Impact Fee
5/8 inch	1.00	$1,886
¾ inch	1.50	$2,829
1 inch	2.50	$4,715
1 ½ inches	5.00	$9,430
2 inches	8.00	$15,088
3 inches	16.00	$30,176
6 inches	50.00	$94,300
8 inches	80.00	$150,880

16.5 MODIFICATION OF IMPACT FEES

16.5.1 Equivalent improvements

A. A required impact fee may be modified, in whole or in part, by formal vote of the Planning Board in cases when an applicant is otherwise before the Planning Board, or by the Planning Authority in all other cases, if the reviewing authority finds that:

   1. The developer or property owner who would otherwise be responsible for the payment of the impact fee voluntarily agrees to make infrastructure improvements for which the impact fee would be collected or an equivalent improvement approved by the reviewing authority, or
   2. The developer or property owner is required, as part of a development approval by the City or a state or federal agency, to make or to pay for infrastructure improvements for which the impact fee would be collected or an equivalent improvement.

B. Credit amounts shall be determined based on plans, details, and cost estimates for the proposed infrastructure improvements for which the credit is requested. Such plans, details, and cost estimates shall be prepared by a licensed professional engineer and submitted at the time of site plan, subdivision, or building permit application. The applicant shall pay for any third-party review of plans, details, or cost estimates. On-site or immediately adjacent improvements providing direct service to a site as required under subdivision or site plan regulations shall not be considered eligible under this subsection.

16.5.2 Substantially-reduced demand

The Planning Board may by formal vote modify the payment of a required impact fee, in whole or in part, if it finds that documentation is provided to demonstrate that a proposed use will impose no or substantially-reduced demands on capital facilities for which impact fees have been adopted. Such documentation shall be prepared by a licensed professional engineer or other qualified professional and include a written analysis of the demand for capital facilities generated by the proposed use based on industry standards and the most recent *Impact Fee Study*. Documentation shall be submitted at the time of site plan, subdivision, or building permit application. The applicant shall pay for any third-party review of plans, details, or cost estimates.

16.6 REDUCTION IN FEES FOR AFFORDABLE HOUSING

Any residential development including low-income or workforce housing units and qualifying as an eligible project under Subsection 18.2.2 shall receive a reduction of fees in accordance with Subsection 18.2.2.

16.7 COLLECTION OF IMPACT FEE

The City of Portland shall not issue any certificate of occupancy required under the Land Use Code until the applicant has paid any impact fees required by this ordinance.

16.8 SEGREGATION OF IMPACT FEES FROM GENERAL REVENUES

Impact fees collected pursuant to this ordinance shall be maintained in separate, non-lapsing impact fee accounts for each of the facilities for which impact fees are assessed, and shall be segregated from the City's general revenues. These accounts

shall be dedicated for funding of the improvements for which the fee is collected, as determined through the City's most recent *Impact Fee Study*. Funds from these accounts shall be distributed to City departments solely for the purpose of capital projects identified in the City of Portland's most recent *Impact Fee Study*.

16.9 USE OF IMPACT FEES

Impact fees collected by the City pursuant to this ordinance may be used only for financing facility improvements which the City Council, through the City of Portland's most recent *Impact Fee Study*, has determined are made necessary by new development. The City Council has determined that fees imposed by schedules in this ordinance are reasonably related to the demands created by new development. Impact fees collected pursuant to this ordinance shall be used exclusively for capital improvements, and the City of Portland shall expend funds collected from impact fees solely for the purposes for which they were collected.

16.10 REFUND OF UNUSED IMPACT FEES

Impact fees collected pursuant to this ordinance shall be used by the City according to the schedules for the completion of specific capital improvements as specified in the City of Portland's most recent *Impact Fee Study*, but in no event later than ten years after the date upon which the impact fee was collected. Any impact fees which are not so used and any impact fees collected which exceed the City's actual costs of implementing the infrastructure improvements for which such fees were collected shall be refunded. Refunds shall be paid to the owner of record of the property for which the impact fee was collected, determined as of the date the refund is made.

16.11 REVIEW AND REVISION

The impact fees established in this ordinance are based upon the best estimates of the costs of the construction of the facilities for which the fees are collected as determined through the City's most recent *Impact Fee Study*. The Council may, by amendments to this ordinance, change the amounts of the impact fees from time to time as warranted by new information or changed circumstances.

16.12 ADMINISTRATIVE RULES AND REGULATIONS

The Planning Board is hereby authorized to develop rules and regulations governing the administration of impact fees collected pursuant to this ordinance.

16.13 EFFECTIVE DATE

The provisions of this article shall apply to all building permit applications submitted following December 19, 2018, with the exception that any development for whom site plan approval has been granted as of December 19, 2018 shall be considered exempt. Master development plan approval prior to the effective date shall not confer exempt status.

17 HISTORIC PRESERVATION

17.1 PURPOSE

The purpose of this article is to promote the educational, cultural, economic, and general welfare of the City of Portland by:

A. Creating a mechanism to identify, preserve and enhance distinctive areas, sites, structures, and objects that have historic, cultural, architectural, and archaeological significance.

B. Providing a resource of information and expertise to help those interested in rehabilitation or new construction in a district or restoring a landmark.

C. Applying review standards in a reasonable and flexible manner to prevent the unnecessary loss of the community's historical features and to ensure compatible new construction and rehabilitation in historic districts while not stifling change and development or forcing modern recreations of historic styles.

D. Fostering civic pride in the city's history and development patterns as represented in such distinctive areas, sites, structures, and objects.

E. Protecting and enhancing neighborhood character.

F. Stabilizing and improving the values of designated properties and areas.

G. Protecting and enhancing the attractiveness of the city to its home buyers, home owners, residents, tourists, visitors, businesses and shoppers.

H. Fostering and encouraging preservation, restoration, and rehabilitation that respects the historic, cultural, architectural, and archaeological significance of distinctive areas, sites, structures, and objects.

17.2 DEFINITIONS

Alteration. Any act or process requiring a building permit and any other act or process not requiring a building permit but specifically listed in this article as a reviewable action, including without limitation the repair, reconstruction, demolition, or relocation of any structure or object, or any part of a structure or object.

Certificate of Appropriateness. A certificate issued by the Planning Authority evidencing approval of specific plans for alteration of a structure, site, or designated historic landscape or new construction on a site in accordance with this article.

Certificate of Economic Hardship. A certificate issued by the Planning Authority evidencing a hardship variance approved by the Zoning Board of Appeals in accordance with Article 2.

Certificate of Non-Applicability. A certificate issued by the Planning Authority evidencing a determination that specific plans for alteration of a structure, site, or designated historic landscape or new construction on a site do not require approval under this Article.

Contributing. A classification applied to a site, structure, or object within a historic district signifying that it contributes generally to the qualities that give the historic district cultural, historic, architectural, or archaeological significance as embodied in the criteria for designating a historic district.

Demolition. Any act or process that partially or totally destroys a structure or object.

District. A historic district or historic landscape district.

Historic district. A geographically definable area possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.

Historic landscape district. A geographically definable area possessing a significant concentration, linkage, or continuity of landscape components which are united by human use and past events or aesthetically by design, plan or physical development.

Historic Resources Design Manual. A manual including guidelines for meeting historic preservation ordinance review standards and other information.

Landmark. Any property, site, structure, or object of particular historic, architectural, or archaeological significance to Portland, the State of Maine and/or the United States relating to its cultural, social, economic, political, or architectural heritage, or which is associated with historic persons, important events or themes in local, state, or national history.

New construction. The adding to a structure by an addition, the erection or placement of any new structure on a lot or property, or the comprehensive redesign/renovation of an existing structure.

Noncontributing. A classification applied to a site, structure, object, or portion thereof, within a historic district signifying that: 1) it does not contribute generally to the qualities that give the historic district cultural, historic, architectural, or archaeological significance as embodied in the criteria for designating a historic district; 2) was built within 50 years of the date of district designation unless otherwise designated in the historic resources inventory; or 3) where the location, design, setting, materials, workmanship, and association have been so altered or have so deteriorated that the overall integrity of the site, structure, or object has been irretrievably lost. A portion of an otherwise contributing or landmark structure may be determined by the Historic Preservation Board to be non-contributing if it meets one or more of the above conditions.

Object. Anything constructed, fabricated, or created, the use of which does not require permanent or semi-permanent location on or in the ground.

Ordinary maintenance. Acts of maintenance or repair which do not include a change in the design, material, or outer appearance of a structure, including without limitation repainting, replacement of materials or windows of the same scale, texture and color, and landscaping other than within an historic landscape district.

Preservation. The act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic

materials and features rather than the extensive replacement and new construction.

Rehabilitation. The act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural, and cultural value.

Relocation. Any removal or relocation of a structure on its site or to another site.

Restoration. The act or process of accurately depicting the form, features, and character of the property as it appeared at a particular period of time by means of the removal of features from other period in its history and reconstruction of missing features from the restoration period.

Site. The location of a significant event, an archaeological site, a landscape or traditional cultural property, or a building or structure, whether standing, ruined or vanished, where the location itself maintains historical or archaeological value regardless of the value of any existing structure.

17.3 ADMINISTRATIVE PROCEDURES

17.3.1 Costs

A. Any project may be subject to fees as established by the City Council to cover administrative costs and the costs of Historic Preservation Board review. Applicants shall also pay a fee to cover the professional and administrative costs for analysis associated with project review, including but not limited to planning, legal, or other services. The fee shall be based on the hours of review and processing time and prevailing hourly rate for reimbursement of City costs. The City shall periodically invoice the applicant for such costs incurred by the City, which invoice shall be paid promptly by the applicant.

B. Every applicant shall bear the entire expense of giving notice by mail and publication in accordance with this article.

C. No Certificate of Appropriateness, building, demolition, or other permit shall issue until all current charges due under this article have been paid. The balance of any remaining review and administrative costs invoiced or incurred after a permit has been issued shall be paid in full by the developer prior the issuance of any temporary or permanent certificate of occupancy.

17.3.2 Notice of public meeting

A. For all Certificate of Appropriateness applications that are subject to Historic Preservation Board review, the applicant shall be responsible for posting a notice of public meeting sign on the property where the development is to occur. The dimensions, construction, and content of the sign shall be in accordance with standards established by the Planning Authority.

B. The sign shall be posted at least 10 days prior to the public workshop or hearing date, and shall be removed from the site no more than three days following the date of the meeting.

C. Once the required notice of public meeting signage is posted, the applicant shall submit a completed certification of posting form to the Planning Authority.

D. In the event that a required notice of public meeting sign is knocked over or made illegible, it shall be the responsibility of the applicant to promptly reset or replace the sign, though failure to do so shall not invalidate the review.

17.3.3 Notices and public comment

A. Except as provided in Subsection 17.7.5, notice of proceedings upon any application for a Certificate of Appropriateness shall be given only when the proposed activity otherwise constitutes major site plan. Notice of such proceedings also shall be furnished to any persons interested in historic preservation who have registered with the Planning Authority, and to the Historic Preservation Board and/or the Planning Board when the proceeding is pending before a different body. The failure to give any notice required by this article shall not affect the validity of any action taken.

B. The Historic Preservation Board, the Planning Board, the Board of Appeals, and the City Council shall each invite public comment at a public meeting in accordance with their respective rules, prior to any final action being taken under this article.

C. The Planning Authority shall advise the Historic Preservation Board and the Planning Board of any demolition permit application received by the Planning Authority as to structures or objects that have been classified as noncontributing within nominated or designated districts, but there shall be no Historic Preservation Board review of such permit applications.

17.4 CATEGORIES AND CRITERIA FOR DESIGNATION

17.4.1 Minimum criteria for designation

A. The Historic Preservation Board shall limit its consideration to the following criteria in making a determination on a proposed nomination of an area, site, structure, or object for designation by ordinance as a landmark or district:

1. Its value as a significant example of the cultural, historic, architectural, archaeological, or related aspect of the heritage of the City of Portland, State of Maine, New England region, or the United States.
2. Its location as a site of a significant historic or prehistoric event or activity which may have taken place within or which involved the use of any existing structure on the property.
3. Its identification with a person or persons who significantly contributed to the cultural, historic, architectural, archaeological, or related aspect of the development of the City of Portland, State of Maine, New England region, or the United States.
4. Its exemplification of a significant architectural type, style, or design distinguished by innovation, rarity, uniqueness, or overall quality of design, detail, materials, or craftsmanship.
5. Its identification as the work of an architect, designer, engineer, or builder whose individual work is significant in the history or development of the City of Portland, the State of Maine, the New England region, or the United States.

6. Its representation of a significant cultural, historic, architectural, archaeological, or related theme expressed through distinctive areas, sites, structures, or objects that may or may not be contiguous.

B. In the case of a nominated historic district, the Historic Preservation Board shall also determine whether there is an interrelationship of resources within it which creates an identifiable entity, even if composed of a wide variety of resources. A district must convey a visual sense of the overall historic environment or be a grouping of historically or functionally related properties. A historic district can comprise both individually distinctive historic resources and historic resources that may lack individual distinction but which contribute to the significance and visual character of the district as a whole.

C. In the case of a nominated historic landscape district, the Historic Preservation Board shall also consider its significance as a geological, natural, or designed landscape associated with the development, heritage, or culture of the City of Portland, State of Maine, New England region, or the United States.

D. The Planning Board and City Council shall apply the criteria of (A), (B), and (C) above as well as historic preservation goals included in the Comprehensive Plan, but shall also consider the effect of such designation on other aspects of the Comprehensive Plan of the City.

17.4.2 Integrity of landmarks and historic districts

Any area, structure, or object that meets the criteria in Section 17.4.1 must also have sufficient integrity of location, design, condition, materials, and workmanship to make it worthy of preservation or restoration.

17.4.3 Designation of historic landscape districts

An historic landscape district may be nominated and considered for designation only if the entire area of the district is owned by a unit of federal, state, or local government, or any combination of such ownership.

17.5 NOMINATION, CONSIDERATION AND DESIGNATION

17.5.1 Procedure

The provisions of this section shall govern the nomination, consideration, and designation of landmarks and districts.

17.5.2 Initiation of nomination

A. Nomination of an area, site, structure, or object for consideration of designation as a landmark, historic district, or historic landscape district shall be submitted to the Planning Authority by the following:

1. Any two members of the Historic Preservation Board on their own initiative, by written notice to the Planning Authority, or
2. By written petition of any owner, in the case of a landmark, or
3. By written petition of one or more owners of affected property in the case of a district, provided two members of the Historic Preservation Board must sponsor the petition.

B. A nomination shall be completed and filed with the Planning Authority with all required signatures for the nomination to be pending.

C. Upon nomination, the Planning Authority shall notify the owner or owners of the nomination and shall transmit the nomination to the Historic Preservation Board for its preliminary consideration at a scheduled meeting, which in no event shall be held later than 60 days following nomination.

D. If documentation and analysis that is necessary for the consideration of a given designation has not been provided at the time of nomination, such documentation shall be completed prior to further consideration by the Historic Preservation Board of the nominated landmark, district, or historic landscape.

E. At any time after a complete nomination is filed for an historic district, the owner of a structure who seeks a permit for demolition may apply to the Historic Preservation Board for a determination that the structure to be demolished is noncontributing and eligible for a demolition permit. The determination of the Historic Preservation Board that the structure is eligible for a permit shall be conclusive.

17.5.3 Notification of nomination and public hearing

A. A public hearing on the nomination shall be held by the Historic Preservation Board following one or more preliminary workshops of the Historic Preservation Board.

B. The hearing shall be conducted in accordance with procedures adopted by the Historic Preservation Board. The Historic Preservation Board shall consider all testimony or evidence relating to the designation criteria in Section 17.4 from any person who makes written submissions or appears at the public hearing. The owner of a nominated landmark or of property within a nominated district shall be allowed reasonable opportunity to present testimony or evidence concerning the applicability of the designation criteria in Section 17.4.

17.5.4 Recommendation by Historic Preservation Board

A. Within 45 days following the close of the public hearing, the Historic Preservation Board shall make recommendation to the City Council in the case of a landmark, or to the Planning Board in the case of a district, upon the evidence as to whether the nominated landmark or district meets the criteria for designation in Section 17.4. Such recommendation shall be approved by at least four members of the Historic Preservation Board and shall be accompanied by a report to the City Council and/or Planning Board containing the following information:

1. Explanation of the significance or lack of significance of the nominated landmark or district as it relates to the criteria for designation.
2. Explanation of the integrity or lack of integrity of a nominated landmark or historic district.
3. Proposed design guidelines for review of alteration or construction may be recommended. The specific design guidelines may provide explanation by text and/or schematic examples of visual compatibility for purposes of complying with Section 17.8.
4. Relationship of the nominated landmark or district to the ongoing effort by the Historic Preservation Board to identify and

nominate areas, sites, structures, and objects that meet the criteria for designation.

5. A map showing the location of the nominated landmark and/or the boundaries of the nominated district.
6. A list, including the address, of every site, structure, and object in each nominated historic district indicating their degree of cultural, historic, architectural, or archaeological significance by classification as a landmark, contributing, or noncontributing,

B. Where a motion either in favor of a recommendation or in opposition to a recommendation results in a vote of fewer than four members, the item shall automatically be tabled to the next regularly scheduled meeting.

17.5.5 Notification of Historic Preservation Board recommendation

A. The recommendation of the Historic Preservation Board, including a copy of the report, shall be transmitted to the City Council in the case of a landmark and to the Planning Board in the case of a district. Notice of the recommendation shall be sent by mail to the owner of a nominated landmark and to all owners within a nominated district within 14 days following adoption of the recommendation and report.

B. If the recommendation of the Historic Preservation Board is that the property or district not be designated, the nomination process shall terminate and no new nomination shall be submitted for the identical property or area for a period of one year from the date of termination, except upon a showing of substantial and material newly discovered information.

17.5.6 Determination by Planning Board

A. The Planning Board, upon receipt of a recommendation and a report from the Historic Preservation Board concerning nomination of a district, may hold one or more workshops pursuant to the provisions of Article 2. After review of the Historic Preservation Board recommendation and report, the Planning Board shall hold a public hearing.

B. All meetings, hearings, and deliberations of the Planning Board to consider the recommendation and report of the Historic Preservation Board shall be held in conformity with Article 2.

C. The Planning Board may request the chair of the Historic Preservation Board, or a member designated by the chair, to appear at any meeting, hearing or deliberation to explain any recommendation or report.

D. A public hearing shall be scheduled within 30 days of the Planning Board's final workshop. At the conclusion of the public hearing, the Planning Board shall make its final determination including written findings as to whether the nominated district meets the criteria for designation in Section 17.4. A copy of the determination of the Planning Board shall be sent by regular mail to all owners within a nominated district within 14 days following the determination.

17.5.7 Planning Board recommendation to City Council

The recommendation of the Planning Board regarding a nominated district shall be filed with the

City Clerk within 14 days. It shall be accompanied by a copy of the report and recommendation of the Historic Preservation Board, including any specific proposed design guidelines applicable to the nominated landmark or district. The recommendation of the Planning Board may include proposed changes in other City ordinances, policies, infrastructure, or recommendations with respect to the Comprehensive Plan of the City relating to the proposed designation.

17.5.8 Action by City Council

A. Within 60 days after the filing of a Planning Board recommendation, or Historic Preservation Board recommendation in the case of a landmark, on the nomination with the City Clerk pursuant to Section 17.5.6, the City Council shall designate the landmark or district or reject designation. Any designation may include specific design guidelines for the designated landmark or district.

B. Designation of a district shall be accompanied by a list, including the address, of every site, structure and object in the district. Every site, structure, or object shall be assigned a classification of landmark, contributing, or noncontributing, indicating their degree of cultural, historic, architectural, or archaeological significance. This list may be amended thereafter by the City Council upon recommendation from the Historic Preservation Board and Planning Board under the same procedures as set forth above. Where there are no express findings by the City Council in the designation ordinance, there shall be a presumption that the City Council found that all requirements of Section 17.4 were met.

C. Notice of the proposed action of the City Council shall be provided by mail to the nominator and the owner of the nominated landmark and/or of all properties adjacent thereto prior to City Council action.

D. Notice of City Council action to the same persons shall be sent within 14 days following the City Council action. A copy of each designation and any design guidelines shall be sent to the Planning Board, the Historic Preservation Board, and the Planning Authority.

E. A complete schedule of all landmarks and districts, including design guidelines and a listing of landmark and contributing structures, shall be maintained by the Planning Authority and shall be available online or for public inspection and copying during ordinary business hours.

17.5.9 Amendment or rescission of designation

Amendment or rescission of any designation shall be upon the request of a person or persons authorized to nominate the property or properties affected, or upon request of the City Council, and shall follow the procedure set forth in Section 17.5 for designation. The City Council may rescind or amend a designation only after all of these procedures have been followed. The standards for rescission or amendment applied by the Historic Preservation Board, Planning Board, and City Council shall be limited to those provided in Subsections 17.4.1(A) and (B) and Subsection 17.4.2. Amendments may include reclassification of a portion of a contributing property to noncontributing status, refinement or correction of design guidelines, maps, and other parts of any designation.

17.5.10 Time limits

If any time limit in the nomination and designation process as provided in Sections 17.4 or 17.5 is not met, the validity of any designation and the interim protection provided by Section 17.6 shall not be affected, provided the Historic Preservation Board, Planning Board or City Council announce the delay and the basis for such in a public meeting, as well as the date to which the matter will be rescheduled.

17.6 INTERIM PROTECTION FOR NOMINATIONS

17.6.1 Nominated landmarks and districts

A. From the time of nomination until the Historic Preservation Board acts upon such nomination, a site, structure, object or area nominated but not yet designated as a landmark or district shall be subject to all of the provisions of Sections 17.9 and 17.10 governing demolition and minimum maintenance, to the same extent as if designated. Upon final action of the Historic Preservation Board recommending designation, the site, structure, object, or area nominated shall be subject to all of the protections of this article until a final decision on designation by the City Council becomes effective. If the City Council rejects designation or fails to designate a property, that property shall no longer be subject to the provisions of Sections 17.9 and 17.10 of this article.

B. Alteration or new construction commenced pursuant to a building permit issued prior to nomination shall not require a Certificate of Appropriateness, unless such permit has expired, been canceled or revoked. No project for which any application is pending and which has received substantive review by the Planning Board prior to nomination shall be affected by nomination. Substantive review, as used in this paragraph, shall include workshop review of any completed application under Article 14 and Article 15 of the Land Use Code.

17.6.2 National Register of Historic Places

Upon notice to the City that a property or area has been listed in the national register after the adoption of this article, a nomination shall be deemed submitted to the Historic Preservation Board for designation of such property or area as a landmark, historic district, or historic landscape district under this article, and the procedures of Section 17.6 shall be applicable thereto.

17.6.3 Properties eligible for listing on national register or for local designation

A Certificate of Economic Hardship shall be obtained prior to demolition of any structure which has not been designated in accordance with this article but which has been determined by the Maine Historic Preservation Commission as eligible for listing in the National Register of Historic Places under the criteria established by 16 U.S.C. Section 470(a) or its successor statute and/or regulations made thereunder or which has been determined to be eligible for local listing under the criteria for designation of this article. The determination of eligibility for listing shall be made by the Planning Authority, which may refer such a determination to the Historic Preservation Board, and by the Board of Appeals if an appeal is taken. Upon determination of eligibility, the structure so determined shall also be subject to the provisions of Section 17.10 until a final decision by the City Council on designation becomes effective. If the City Council rejects designation or fails to designate a structure which has been determined to be eligible under the terms of this section, that structure shall no longer be

subject to the provisions of Sections 17.9 and 17.10 of this article.

17.7 CERTIFICATES OF APPROPRIATENESS AND NON-APPLICABILITY

17.7.1 Certificate of Appropriateness

A. Except as provided in Subsections 17.7.2 and 17.7.3, a Certificate of Appropriateness shall be required before the following actions affecting any landmark, contributing or noncontributing structures, objects, sites, or property in a district may be undertaken and shall be a condition precedent to the issuance of any permit authorizing such work:

1. Any exterior alteration or new construction requiring a building permit from the City of Portland, including, but not limited to the following:
    a. Removal and replacement of architectural detailing including, but not limited to, porch spindles and columns, railings, window moldings, and cornices.
    b. Moving of structures or objects on the same site or to another site.
    c. Construction of rooftop additions or decks.
    d. Alteration of accessory structures such as garages.
    e. Porch replacement or new construction of porches.
    f. Installation of exterior access stairs.
    g. Window or door replacement requiring enlargement of openings.
    h. Installation of antennas and satellite receiving dishes.
    i. Installation of solar collectors.
2. Any exterior alteration that does not require a building permit but which involves any one of the following activities:
    a. Installation or replacement of either roofing or gutters where the roofing or gutters are a significant and integral feature of the structure including, but not limited to, mansard roofs, cupola roofs, ornamental slate roof features, and built-in gutter systems and the installation or replacement of siding.
    b. Window and door replacement whether or not it requires enlargement of openings.
    c. Masonry work including, without limitation, tuckpointing, sandblasting, chemical cleaning.
    d. Site features other than vegetation including, without limitation, fencing, walls, paving, and grading. However, required review for alterations to cemeteries designated under this article shall not include review of alterations to headstones made for the purpose of recognition of additional decedents or installation of grave markers and/or tombs.
    e. Streetscape and pedestrian improvements within historic districts, including but not limited to installation of pedestrian lighting, alteration to road or intersection alignment, installation of public signage (other than public-safety-related signage.
    f. Landscaping within an historic landscape district.
    g. Exterior lighting where proposed in conjunction with commercial and

institutional signage or awnings or architectural lighting.

h. Exterior utilities including mechanical, HVAC, plumbing, and electrical, where placed on elevations readily visible from a public way.

3. Installation or alteration of any exterior sign.

4. Any relocation of a landmark or contributing structure within a district.

B. There shall be a rebuttable presumption that all structures within a district shall be contributing unless the designation report and Historic Resources Inventory expressly identifies otherwise. Where the Planning Authority or the owner believes that the identification is erroneous, the Historic Preservation Board shall determine whether the structure is noncontributing.

17.7.2 Exceptions to requirement of Certificate of Appropriateness

A Certificate of Appropriateness is not required:

A. Where a Certificate of Non-Applicability has been issued within the previous 12 months.

B. Where the work consists solely of ordinary maintenance and/or restoration, provided that there is no substitution of materials or alteration of architectural details.

C. Where the work consists solely of emergency repair of a temporary nature.

D. Where a Certificate of Economic Hardship has been issued and remains valid.

E. In the case of either alteration of a structure (other than a landmark) or of new construction within a district, a Certificate of Appropriateness shall not be required where the Planning Authority determines that the proposed exterior changes to a structure are not readily visible at pedestrian heights from any public way or public open space. Where a Certificate of Appropriateness is required for such changes, it shall be limited to those portions of the structure or structures so visible.

17.7.3 Alterations or new construction within historic landscape districts

A Certificate of Appropriateness shall be obtained before any site alteration or new construction within a historic landscape district may be undertaken, except where a Certificate of Non-Applicability has been issued or where construction or alteration is pursuant to a master plan approved by a prior Certificate of Appropriateness within five years of commencement and where the master plan is sufficiently detailed to guide the specific work

17.7.4 Applications for Certificate of Appropriateness

A. Application for a Certificate of Appropriateness shall be made on a form prepared by the City and shall be submitted to the Planning Authority along with the applicable fee. Upon receipt of an application, the Planning Authority shall determine whether the application is complete. The Planning Authority shall determine whether the scope, nature, or scale of the proposed project requires review by the Historic Preservation Board or whether it is a minor or routine project that is appropriately reviewed at the administrative level.

B. If the Planning Authority determines that the project should be reviewed by the Historic Preservation Board, the item shall be scheduled for the next available Historic Preservation

Board meeting, provided that the notice requirements of this article can be met prior to that meeting. The Planning Authority shall transmit a copy of the complete application to the Historic Preservation Board at least four days prior to their next scheduled meeting. The Planning Authority shall not issue or act upon the application until the Historic Preservation Board has completed its review and approval process. An application for a Certificate of Appropriateness shall be treated as an application for a Certificate of Economic Hardship under Section 17.9 whenever the Historic Preservation Board or the Planning Board, as applicable, determines that the proposed alteration includes any demolition which would:

1. Have the effect of causing the structure to no longer meet the criteria for designation of Section 17.4, or
2. Materially impair the significance and integrity of the structure.

C. Where a determination under (B) above is made by the Historic Preservation Board, the Planning Board shall review that decision as a preliminary matter, whether the Historic Preservation Board has taken final action with respect to the application or not. Upon any final determination that an application for a Certificate of Appropriateness is required to be treated as an application for a Certificate of Economic Hardship, no further action shall be taken with respect to the application until that certificate is applied for and is granted.

D. Where the applicant has done work or caused work to be done on a structure or a property for which a Certificate of Appropriateness is sought and such work is either not done in compliance with an approval received under this article or was performed without the approvals required under this article, no application for such structure or property shall be considered by the Planning Authority or by the Historic Preservation Board until the work done without approval is brought into compliance with the requirements of this article. The Historic Preservation Board may waive this requirement if the Historic Preservation Board determines that the work does not alter the essential character of the structure or district and one or more of the following standards are also met:

1. The work was needed to bring a building into conformance with any building or safety code.
2. The applicant can demonstrate a good faith belief that necessary approvals had been received for the work at issue prior to the commencement of the work.
3. The applicant can demonstrate a good faith belief that the work done was not subject to review under this article.

E. Review of any application by the Planning Authority or by the Historic Preservation Board shall not constitute waiver of any future claims by the City concerning violations and shall not stop the City from prosecuting any violation.

F. Once a completed application has been submitted, it shall be diligently pursued. Failure of an applicant to attend two or more Historic Preservation Board meetings at which an application is scheduled for review shall cause the application to expire and to be deemed null and void, unless the Planning Authority determines that good cause is shown for the failure to attend. Where good cause is shown

for a failure to attend, the Historic Preservation Board shall table an application to a date mutually agreed upon in writing.

G. In determining the existence of the circumstances specified in this article, the Historic Preservation Board, Planning Board, or Board of Appeals may require such additional documentation or evidence as they may respectively determine to be necessary, including plans, drawings, and elevations, and notwithstanding any time limit for action or decision specified in this article, it may continue a proceeding for such additional time as it reasonably takes an applicant or any other party to comply with the request for additional relevant documentation or evidence and may draw a negative inference with regard to the content of any material evidence not produced upon reasonable request.

H. Prior to issuance of any Certificate of Appropriateness, any applicant shall demonstrate sufficient right, title, or interest in the property, technical capacity, and financial capacity to complete any change proposed to be undertaken under the Certificate of Appropriateness, upon reasonable request of the Planning Authority. If the Planning Authority determines that the applicant has failed or refused to demonstrate an ability to complete the proposed activity, it shall refer the issuance to the Planning Board which shall make a final determination as to whether the applicant has demonstrated a sufficient capability to complete the proposed activity. Notwithstanding any other provision of this article, the Historic Preservation Board or Planning Board may include reasonable conditions, including the provision of adequate financial security, to ensure that actions taken under a Certificate of Appropriateness will be successfully prosecuted to completion, as approved, in a timely manner.

17.7.5 Review process for Certificate of Appropriateness

The process for review of an application for a Certificate of Appropriateness shall be as follows, except to the extent specifically provided elsewhere in this Section 17.7:

A. **For administrative-level reviews.** An application for a Certificate of Appropriateness for installation or alteration of any exterior sign; minor or routine alterations; and temporary alterations, construction, or improvements shall be reviewed by the Planning Authority for compliance with the standards of Section 17.8 and the *Historic Resources Design Manual*. Where staff determines that such an application meets these requirements, the Certificate of Appropriateness shall be issued by staff without presentation to the Historic Preservation Board for approval. Staff shall provide the Historic Preservation Board with written notice of staff approvals on a quarterly basis.

   1. If staff approves an application with conditions, the applicant may request review by the Historic Preservation Board. The application shall then be subject to review by the Historic Preservation Board pursuant to Subsection 17.7.5(B).
   2. Staff may elect to forward to the board an application found by staff to meet review standards but for which board confirmation is sought. The application shall be placed upon the next consent

agenda of the Historic Preservation Board. Any member of the Historic Preservation Board may remove an application from the consent agenda for the purpose of giving it a public hearing.

3. If the Planning Authority determines that the application does not meet the requirements of Section 17.8 and the *Historic Resources Design Manual*, the application shall be scheduled for review by the Historic Preservation Board pursuant to Subsection 17.7.5(B), unless the applicant withdraws the application.
4. For purposes of this subsection only, temporary is defined as either a one-time occurrence that does not exceed 30 days or as an annual occurrence that does not exceed one 30-day period each year. Minor or routine alterations are defined as incidental changes or additions to a building, site features, or exterior utilities which require building permits but will neither result in substantial changes to any significant historic features nor obscure such features. In no event shall any change be deemed minor when, in the opinion of the Planning Authority, such change shall alter the historic character of the building or site.

B. **For Historic Preservation Board-level reviews.** The Planning Authority shall review the application and prepare a report for the Historic Preservation Board's consideration which addresses the proposed project's compliance with the review standards in Section 17.8. The Planning Authority may schedule one or more preliminary workshops on the application prior to a public hearing.

1. Following any preliminary workshop(s) and upon determination by the Historic Preservation Board that the application is complete, the application shall be scheduled for a public hearing at the next available meeting of the Historic Preservation Board which allows for adequate notice.
2. Following a public hearing, the Historic Preservation Board shall make a decision on the application.
3. The Historic Preservation Board shall enter findings of fact concerning the relationship between the application and the applicable standards of Section 17.8 immediately following a denial or conditional approval of any Certificate of Appropriateness. Written notice of the determination of staff or the Historic Preservation Board on the application, including a copy of the findings of fact, shall be sent by regular mail to the applicant.

C. **Review process involving major site plans.** The process for review of an application for alteration or new construction that is also a major site plan as defined in Article 14 shall be as follows:

1. Site plan review by the Planning Board and historic preservation review by the Historic Preservation Board shall, to the extent feasible, proceed concurrently. Any proposed major site plan required to obtain a Certificate of Appropriateness under this article shall be exempt from the design standards included in Article 14, and shall comply with the applicable design standards listed within Article 17.

2. Upon receipt of the application for a Certificate of Appropriateness, the Planning Authority shall review the application and schedule a workshop for preliminary review by the Historic Preservation Board. The Planning Authority shall prepare an analysis of the application based upon the standards in Section 17.8 for consideration at the workshop. Additional workshops may be scheduled by the Historic Preservation Board with the consent of the applicant.
3. Following preliminary workshop(s) and upon determination by the Historic Preservation Board that the application is complete, the Historic Preservation Board shall conduct a public hearing and make a final decision on the application.
4. If the Historic Preservation Board finds that the application meets the applicable standards of Section 17.8, it shall issue a Certificate of Appropriateness, with or without conditions. If the action by the Historic Preservation Board is a denial or conditional approval, the Historic Preservation Board shall make findings of fact concerning the relationship between the application and the applicable standards of Section 17.8.
5. Written notice of the determination of the Historic Preservation Board on the application, including a copy of the findings of fact, if any, shall be sent by regular mail to the applicant within 14 days following its determination.

17.7.6 Issuance of Certificate of Appropriateness

A. The Planning Authority shall issue the Certificate of Appropriateness within 14 days following a proposed affirmative decision by the Historic Preservation Board becoming final.

B. Unless work authorized by a Certificate of Appropriateness shall be commenced within six months of the date of issuance of the Certificate of Appropriateness, the Certificate of Appropriateness shall expire and shall become null and void. The Planning Authority may approve additional extensions of this six-month period, not to exceed a total of two years, provided that a written request for extension is received prior to the expiration date of the Certificate of Appropriateness. In the event of litigation arising out of the granting of a Certificate of Appropriateness, the certificate shall remain valid until one year after the entry of final judgment in the litigation or until the end of the two-year period, whichever is later.

C. An approval shall expire and become null and void upon the expiration of the authorization for the work, or for the development, under the applicable provisions of Chapter 6 of this Code of Ordinances or Articles 14 or 15.

17.7.7 Certificate of Non-Applicability

A. The Planning Authority shall issue a Certificate of Non-Applicability as to property subject to this article when requested to do so when:
   1. The Planning Authority determines that none of the proposed work requires a Certificate of Appropriateness.
   2. The Planning Authority determines that all of the proposed work is ordinary

maintenance, restoration, or a combination thereof.

3. In the case of the alteration of a structure other than a landmark or of new construction within a district, where the Planning Authority determines that the proposed exterior changes to a structure are not readily visible at pedestrian heights from any public way. Where a Certificate of Appropriateness is required for such changes, a Certificate of Non-Applicability shall be issued upon request for those portions of the structure or structures not visible at such heights, provided, however, this paragraph shall not apply to alteration of a landmark or to any demolition.
4. After any appeal where the Historic Preservation Board, Planning Board or any court determines that paragraphs (1), (2) or (3) of this subsection are applicable.

B. The Planning Authority shall act upon any application for a Certificate of Non-Applicability within 14 days of receiving a complete written description of all work to be undertaken.

17.7.8 Amendments to approved certificates of appropriateness

A. If at any time before or during work approved under the procedures set forth in this Section 17.7 the applicant requests minor amendments to approved work, the Planning Authority may approve such minor amendments under the procedures set forth in Subsection 17.7.5, provided that such amendments will not result in a waiver or substantial alteration of the approval or any condition attached to the approval. The applicant shall supply a written statement of the proposed amendment and amended plans or drawings to the Planning Authority. The decision of the Planning Authority as to whether an amendment may be reviewed under this subsection shall be final.

17.7.9 Review process for demolition of landmarks or contributing structures within a district

A. Any applicant seeking demolition of a landmark or contributing structure must apply for a Certificate of Economic Hardship to the Board of Appeals in accordance with Section 17.9 of this article. Said application must be approved by the Board of Appeals before a demolition permit can be issued.

B. Any applicant seeking demolition of a noncontributing building as defined in this article may apply directly for a demolition permit without receiving approval from the Historic Preservation Board or a Certificate of Economic Hardship from the Board of Appeals.

C. Any applicant seeking demolition of a portion of a contributing or landmark structure may request that the Historic Preservation Board make a determination as to whether such portion of the structure is noncontributing based on the definition of that classification contained in this article. If the board determines the portion to be noncontributing, the applicant may apply directly for a demolition permit.

17.8 STANDARDS FOR REVIEW OF APPLICATION FOR CERTIFICATE OF APPROPRIATENESS

17.8.1 *Historic Resources Design Manual*

A. The Historic Preservation Board may provide further guidance on how to meet the standards

of this article in the *Historic Resources Design Manual*, which shall supplement this article. The *Historic Resources Design Manual* may include but need not be limited to maps and descriptions of landmarks and districts, a listing of properties which have been determined to be eligible for listing on the national register or for local designation, a glossary of terms and architectural styles, descriptions, and illustrations of how the standards of this article will be interpreted, and all designation ordinances, reports, and design guidelines. All provisions of the *Historic Resources Design Manual* shall be consistent with the standards of this article and any designation ordinance adopted hereunder.

B. Amendments to the *Historic Resources Design Manual* shall be forwarded to the City Council as a communication and shall become effective 45 days from the date on which said amendments are sent to the City Council, unless the City Council takes official action disapproving the amendments, in whole or in part, prior to the expiration of the 45-day period.

C. The *Historic Resources Design Manual* shall be maintained by the Planning Authority.

17.8.2 Standards for review of alteration

In considering an application for a Certificate of Appropriateness involving alteration, the Historic Preservation Board and the Planning Board shall apply the following general standards, as further described in the *Historic Resources Design Manual,* and any design guidelines accompanying the specific designation:

A. Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration to the character defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.

B. The distinguishing original qualities or character of a structure, object, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

C. All sites, structures, and objects shall be recognized as products of their own time, place, and use. Alterations that have no historical basis or create a false sense of historical development, such as adding conjectural features or elements from other properties, shall be discouraged.

D. Changes which may have taken place in the course of time are evidence of the history and development of a structure, object, or site and its environment. Changes that have acquired significance in their own right shall not be destroyed.

E. Distinctive features, finishes, and construction techniques or examples of skilled craftsmanship which characterize a structure, object, or site shall be treated with sensitivity.

F. Deteriorated historic features shall be repaired rather than replaced wherever feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature should match the feature being replaced in composition, design, texture, and other visual qualities and, where possible, materials. Repair or replacement of missing historic features should be based on accurate duplications of features, substantiated by documentary, physical, or pictorial evidence

rather than on conjectural designs or the availability of different architectural elements from other structures or objects.

G. The surface cleaning of structures and objects, if appropriate, shall be undertaken with the gentlest means possible. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be undertaken.

H. Every reasonable effort shall be made to protect and preserve significant archaeological resources affected by or adjacent to any project. If resources must be disturbed, mitigation measures shall be undertaken.

I. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, color, material, and character of the property, neighborhood or environment.

J. Wherever possible, new additions or alterations to structures and objects shall be undertaken in such a manner that, if such additions or alterations were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.

17.8.3 Standards for review of new construction

In considering an application for a Certificate of Appropriateness involving new construction, the Historic Preservation Board and the Planning Board shall apply the following general standards as may be applicable to the context of the proposed construction. The intent and application of the following standards are further described in the *Historic Resources Design Manual* and shall guide the board in its review.

A. Scale and form

1. *Height.* The proposed height shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.
2. *Width.* The width of a building shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.
3. *Proportion of principal facades.* The relationship of the width to the height of the principal elevations shall be visually compatible with structures, public ways, and open spaces to which it is visually related.
4. *Roof shapes.* The roof shape of a structure shall be visually compatible with the structures to which it is visually related.
5. *Scale of a structure.* The size and mass of structures in relation to open spaces, windows, door openings, porches, and balconies shall be visually compatible with the structures, public ways, and places to which they are visually related.
6. *Applicability to Congress Street Historic District.* In the Congress Street Historic District, for new construction within the B-3 zone, the Historic Preservation Board shall not impose conditions more restrictive than the dimensional requirements of the B-3 zone.
7. *Applicability to India Street Historic District.* For new construction within the

India Street Historic District, the Historic Preservation Board shall not impose conditions more restrictive than the dimensional requirements of the IS-FBC zone, except for in the case of a building addition which proposes to change the height of a contributing historic structure.

B. Composition of principal facades

1. *Proportion of openings*. The relationship of the width to height of windows and doors shall be visually compatible with structures, public ways, and places to which the building is visually related.
2. *Rhythm of solids to voids in facades.* The relationship of solids to voids in the facade of a structure shall be visually compatible with structures, public ways, and places to which it is visually related.
3. *Rhythm of entrance porch and other projections.* The relationship of entrances and other projections to sidewalks shall be visually compatible with the structures, public ways, and places to which they are visually related.
4. *Relationship of materials.* The relationship of the color and texture of materials (other than paint color) of the facade shall be visually compatible with the predominant materials used in the structures to which they are visually related.
5. *Signs.* Any new sign, and any change in the appearance of an existing sign located on a landmark, within a historic district, or within an historic landscape district, which is readily visible from any street or open space shall not be incongruous to the historic character of the landmark or district and shall comply with the criteria and guidelines specified in the *Historic Resources Design Manual*.

C. Relationship to street

1. *Walls of continuity.* Facades and site structures, such as masonry walls, fences, and landscape masses, shall, when it is a characteristic of the area, form cohesive walls of enclosure along a street to ensure visual compatibility with the structures, public ways, and places to which such elements are visually related.
2. *Rhythm of spacing and structures on streets.* The relationship of a structure or object to the open space between it and adjoining structures or objects shall be visually compatible with the structures, objects, public ways, and places to which it is visually related.
3. *Directional expression of principal elevation*. A structure shall be visually compatible with the structures, public ways, and places to which it is visually related in its directional character, whether this be vertical character, horizontal character, or nondirectional character.
4. *Streetscape, pedestrian improvements.* Streetscape and pedestrian improvements and any change in the appearance thereof located adjacent to or on a landmark, within a historic district, or within a historic landscape district which is readily visible from any street or open space shall not be incongruous to the historic character of the landmark or district and shall comply with the criteria and guidelines specified in the *Historic Resources Design Manual*.

D. Other standards

1. *Compatible use.* Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration to the character defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.
2. *Distinguishing original character.* The distinguishing original qualities or character of a structure, object, or site and its environment shall not be destroyed. The alteration of any historic material or distinctive architectural features should be avoided when possible.
3. *Archeological resources.* Every reasonable effort shall be made to protect and preserve significant archaeological resources affected by or adjacent to any project. If resources must be disturbed, mitigation measures shall be undertaken.
4. *Contemporary design.* Contemporary design for additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, material, and character of the property, neighborhood and environment.
5. *Additions.* Wherever possible, new additions to structures and objects shall be undertaken in such a manner that, if such additions were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

17.8.4 Standards for review of alterations to or redesign of noncontributing structures

A. In considering an application for a Certificate of Appropriateness involving alteration(s) to a noncontributing structure the standards for review of alterations set forth in Subsection 17.8.2 shall apply as applicable. The intent of the review shall be to ensure no further erosion of any existing architectural character of the subject structure determined to be significant by the Planning Authority or Historic Preservation Board and, where practicable, to guide projects toward a more compatible relationship with the surrounding context.

B. In considering an application for a Certificate of Appropriateness involving comprehensive redesign of a noncontributing structure, the standards for review of construction set forth in Subsection 17.8.3 shall apply.

17.8.5 Standards for review of relocation

In acting upon an application for a Certificate of Appropriateness involving relocation, the Historic Preservation Board and the Planning Board shall apply the following general standards and any design guidelines in the ordinance designating the landmark or district:

A. Whether the historic or urban design character and aesthetic interest of the structure or object contribute to its present setting.

B. If located within a district, whether there are definite plans for the area to be vacated and what the effect of those plans is on the character of the surrounding area. In such cases, consideration of additional design guidelines for construction to be imposed as a condition of approval is appropriate.

C. Whether the relocation of the structure or object can be accomplished without significant damage to its physical integrity.
D. Whether the proposed relocation area is compatible with the cultural, historical or architectural character of the structure or object.

17.8.6 Standards for review of signage

In considering an application for a Certificate of Appropriateness involving the installation or modification of sign(s), including awning(s) which incorporate signage, signs shall be compatible with the subject building and its surrounding context as detailed in the signage design guidelines included in the *Historic Resources Design Manual*. If there is a conflict between this standard and the requirements of Article 20, the stricter standard shall apply.

17.9 CERTIFICATE OF ECONOMIC HARDSHIP

17.9.1 Applicability

A. Any applicant seeking demolition of a landmark or a contributing structure within a district may make application for a Certificate of Economic Hardship from the Board of Appeals. The application shall be submitted to the Planning Authority, together with the applicable fee.
B. The Planning Authority shall transmit a copy of the application to the Board of Appeals, with copies to the Planning Board and the Historic Preservation Board, within 14 days following receipt of a properly completed application.

17.9.2 Standard to be applied

A. The Board of Appeals shall approve an application for a Certificate of Economic Hardship only upon a determination that the denial of approval of the proposed activity or of the proposed demolition will result in the loss of all reasonable use of the structure as required by Subsections 17.9.5 and 17.9.7.
B. In applying this standard, the Board of Appeals shall consider among other things any evidence presented concerning the following:
    1. Any opinions from a licensed engineer or architect with experience in renovation, restoration, or rehabilitation as to the structural soundness of the structure and its suitability for continued use, renovation, restoration, or rehabilitation.
    2. Any estimates of the cost of the proposed alteration, construction, demolition, or removal and an estimate of any additional cost that would be incurred to comply with the recommendations of the Planning Board for changes necessary for it to be approved.
    3. Any estimates of the market value of the property in its current condition; after completion of the proposed alteration, construction, demolition, or removal; after any expenditures necessary to comply with the recommendations of the Planning Board for changes necessary for it to approve a Certificate of Appropriateness; and in the case of a proposed demolition, after renovation of the existing structure for continued use.
    4. In the case of a proposed demolition, any estimates from architects, developers, real estate consultants, appraisers, or other real estate professionals experienced in rehabilitation as to the economic feasibility of restoration, renovation, or rehabilitation of any existing structures or objects.

17.9.3 Information to be supplied by applicant

A. The applicant shall submit by affidavit the following information for an application to be considered to be complete:
   1. The assessed value of the property and/or the structure in the case of a demolition for the two most recent assessments.
   2. Real property taxes paid for the previous two years.
   3. The amount paid for the property by the owner, the date of purchase, and the party from whom purchased, including a description of the relationship, if any, between the owner and the person from whom the property was purchased.
   4. The current balance of any mortgages or any other financing secured by the property and the annual debt service, if any, for the previous two years.
   5. All appraisals obtained within the previous two years by the owner or applicant in connection with purchase, offerings for sale, financing, or ownership of the property, or state that none were obtained.
   6. All listings of the property for sale or rent, price asked and offers received, if any, within the previous four years, or state that none were obtained.
   7. All studies commissioned by the owner as to profitable renovation, rehabilitation, or utilization of any structures or objects on the property for alternative use, or a statement that none were obtained.
   8. For income-producing property, itemized income and expense statements from the property for the previous two years.
   9. Estimate of the cost of the proposed alteration, construction, demolition, or removal and an estimate of any additional cost that would be incurred to comply with the recommendations of the Planning Board for changes necessary for it to approve a Certificate of Appropriateness.
   10. Form of ownership or operation of the property, whether sole proprietorship, for profit or not for profit corporation, limited partnership, joint venture, or other.

B. In the event that the information required to be submitted by the applicant is not reasonably available, the applicant shall file with the affidavit a statement of the information that cannot be obtained and shall describe the reasons why such information is unavailable.

C. Notwithstanding the submission of the above information, the Board of Appeals may require additional evidence as provided in Subsection 17.7.4(G).

17.9.4 Public hearing

A. The Board of Appeals shall hold a public hearing on the application within 30 days following receipt of the completed application form. Where the application requests the demolition of a landmark or a contributing structure within a district, the public hearing shall not be held less than 90 days following receipt of the completed application, unless the applicant makes a clear showing that the delay will result in undue hardship of a unique or exceptional character which could not reasonably be or have been avoided. Upon such a showing, the Planning Authority may waive all or any part of the 90-day period and schedule the hearing before the board. Undue hardship

shall not include mere inconvenience or incidental financial loss. No such waiver shall be granted without the Planning Authority giving best practical notice to all persons entitled to notice of the hearing.

B. Where the application requests the demolition of a landmark or a contributing structure within a district, the Planning Authority shall promptly notify any persons interested in historic preservation, who have registered in writing with him or her, give notice by mail to all owners of property within 500 feet of the structure, and shall require that the applicant immediately place a notice, to be supplied by the building official, in a prominent place on the structure and to maintain it there at all times during the pendency of the demolition application. The notice shall state that the structure has been proposed to be demolished by its owner and provide contact information for further information. The failure to give any notice required hereunder shall not affect the validity of any action taken by the Planning Authority or the Board of Appeals.

C. The Planning Board may provide a report or any other information, documentation or evidence or request the Historic Preservation Board to assist the Board of Appeals in considering the extent of variance necessary, an appropriate incentive plan, or reasonable condition to be imposed.

D. The Board of Appeals may continue a proceeding for such additional time as it reasonably takes an applicant, any other interested person, the Historic Preservation Board, or the Planning Board to comply with a request for additional information or evidence. The applicant shall be afforded the right to present rebuttal evidence.

17.9.5 Determination by the Board of Appeals

A. The determination by the Board of Appeals shall be made within 45 days following close of the public hearing and submission of all information, documentation, or evidence requested by the board. The determination shall be accompanied by findings of fact.

B. The Board of Appeals shall not grant approval of an application involving demolition unless the board determines, upon clear and convincing evidence, that one or more of the following circumstances apply:

1. The structure is not subject to this article.
2. Denial of a demolition permit would result in a hardship to the property owner so great that it would effectively deprive the owner of all reasonable use of the structure. The extent of any demolition permitted shall be limited to the amount necessary to allow reasonable use of the structure. Where the condition of the structure is claimed to prevent any reasonable use, the applicant shall establish that such condition is not the result of the acts or neglect of the owner or his predecessors in title occurring in whole or in part after August 1, 1988.

17.9.6 Disapproval by Board of Appeals

If the determination of the Board of Appeals is to disapprove the application for a Certificate of Economic Hardship, the applicant shall be notified within five business days. The notice shall include a copy of the findings of fact and report.

17.9.7 Determination of no reasonable use

A. If the determination of the Board of Appeals is that the denial of the Certificate of Appropriateness has resulted in the denial of all reasonable use of the structure, or the entire property in the case of new construction, then the Certificate of Economic Hardship shall be issued by the Planning Authority 90 days following the determination unless during that time the City Council approves an incentive plan pursuant to Subsection 17.9.8.

B. A copy of the determination of the Board of Appeals, together with the findings of fact, shall be mailed to the applicant and filed with the City Clerk, the Planning Board, and the Historic Preservation Board within 14 days following the determination of economic hardship.

17.9.8 Incentive plan

The purpose of an incentive plan is to provide a mechanism to allow a reasonable use without the demolition of the complete structure or important architectural elements. The Planning Board, in cooperation with the Historic Preservation Board and the owner, may prepare a report and recommend to the Board of Appeals an incentive plan to assure reasonable use of the structure. This incentive plan may include, but is not limited to, loans or grants from the City of Portland or other public or private sources; acquisition by purchase or eminent domain; building and safety code modifications to reduce cost of maintenance, restoration, rehabilitation, or renovation; changes in applicable zoning regulations, including a transfer of development rights; or relaxation of the provisions of this article sufficient to allow reasonable use of the structure.

17.9.9 City Council consideration of incentive plan

A. Upon receipt of a report from the Board of Appeals recommending an incentive plan to assure reasonable use of the property, the City Council shall give prompt consideration to the determination of economic hardship and the report of the board, including the recommended incentive plan. The City Council shall approve or disapprove the incentive plan determined by the Board of Appeals to allow reasonable use of the structure within 90 days following the determination by the Board of Appeals.

B. A copy of the ordinance enacted by the City Council, together with the incentive plan, if any, shall be mailed to the applicant and transmitted to the Board of Appeals, the Planning Board, and the Historic Preservation Board within five business days following the enactment of the ordinance.

17.9.10 Issuance of Certificate of Economic Hardship

A. Upon receipt by the Board of Appeals of a copy of City Council action disapproving an incentive plan, or upon failure of the City Council to act to either approve or disapprove an incentive plan within the time specified, the Board of Appeals shall approve a Certificate of Economic Hardship to the applicant within 30 days. The certificate may be subject to conditions including design guidelines for subsequent new construction not inconsistent with the standards set forth in this article and the *Historic Resources Design Manual*. The Certificate of Economic Hardship shall be valid for a period of 120 days from approval by the

Board of Appeals, except as provided in Subsection 17.9.7 where an incentive plan has been proposed. Certificates of Economic Hardship shall not be transferable from the applicant to another subsequent owner of the same property.

B. Upon presentation by the applicant of a valid Certificate of Economic Hardship to the Planning Authority, the Certificate of Appropriateness shall be issued to the applicant within 14 days.

17.10 MAINTENANCE

17.10.1 Preservation of protected structures

A. All landmarks, and all contributing structures located in an historic district, shall be preserved against decay and deterioration by being kept free from the following structural defects by the owner and any other person or persons who may have legal custody and control thereof:

1. Deteriorated or inadequate foundation which jeopardizes its structural integrity.
2. Defective or deteriorated floor supports or any structural members of insufficient size to carry imposed loads with safety which jeopardize its structural integrity.
3. Members of walls, partitions, or other vertical supports that split, lean, list, or buckle due to defective material or deterioration which jeopardize its structural integrity.
4. Structural members of ceilings and roofs, or other horizontal structural members, which sag, split, or buckle due to defective materials or deterioration or are of insufficient size to carry imposed loads with safety which jeopardize its structural integrity.
5. Fireplaces or chimneys which list, bulge, or settle due to defective material or deterioration or are of insufficient size or strength to carry imposed loads with safety which jeopardize its structural integrity.
6. Lack of weather protection which jeopardizes the structural integrity of the walls, roofs, or foundation.

B. The owner or such other person shall repair such building, object, or structure within a specified period of receipt of a written order to correct defects or repairs to any structure as provided by (A) above, so that such structure shall be preserved and protected in accordance with the purposes of this article.

C. Any such order shall be in writing, shall state the actions to be taken with reasonable particularity and shall specify dates for compliance, which may be extended by the Planning Authority for reasonable periods to allow the owner to secure financing, labor or materials.

17.11 PENALTIES

17.11.1 Fines for violation

Failure to perform any act required by this article or performance of any act prohibited by this article or of any conditions or any certificate issued hereunder shall constitute a violation and be subject to a fine as provided in 30 A M.R.S. §4452. Each day on which there is failure to perform a required act or on which a violation exists shall constitute a separate violation for purposes of this section.

17.11.2 Additional penalties for willful violation or gross negligence

A. In addition to the penalties authorized by Subsection 17.11.1, a violation which is intentional, or occurs through gross negligence, shall be subject to the following provisions:
   1. No permit shall be issued under Chapter 6 of this Code of Ordinances for any alteration or new construction affecting such property for a period of five years following the last date of the violation, other than permits necessary to correct the violation. However, upon presentation of evidence satisfactory to the Planning Authority that the violation has been corrected, any remaining portion of the five-year prohibition on issuance of a permit may be waived.
   2. For a period of 25 years, any alteration or new construction on the property shall be subject to this article, whether or not any remaining structure or object on the property continues to have the cultural, historical, architectural, or archaeological character and integrity that caused it to be nominated or designated as a landmark or part of a district.
   3. As a condition for any new land use approval, the owner may be required to rebuild, reconstruct, restore, or replicate the structure or object on the property.

B. Paragraphs (A)(1) and (2) above shall not apply to violations which are limited to noncontributing structures.

17.11.3 Other remedies

Notwithstanding the provisions of Subsections 17.11.1 and 17.11.2, the City may institute appropriate proceedings in law and equity to prevent or remedy any violation of this article.

17.11.4 Liberal construction of article

This article shall be liberally applied and construed to effectuate the purpose of preservation set forth in Section 17.1.

17.11.5 Exception for dangerous buildings

This article shall not apply to any structure which has been ordered demolished by the municipal officers or a court, in accordance with 17 M.R.S. § 2851 et seq., its equivalent, as it may be amended from time to time, or to any structure which has been partially destroyed and is determined by the Planning Authority to represent an immediate hazard to the public health or safety, which hazard cannot be abated by reasonable measures specified by the Planning Authority, including without limitation securing apertures and/or erecting fencing.

17.12 APPEALS

The applicant, or any person who has participated in opposition to the application and demonstrates a particularized harm caused by the approval of any application associated with this article, may appeal that decision in accordance with Article 2.

18 HOUSING

18.1 HOUSING PRESERVATION AND REPLACEMENT

18.1.1 Purpose

The purpose of the housing preservation and replacement ordinance is:

A. To promote and facilitate an adequate supply of housing, particularly affordable housing for all economic groups.

B. To limit the net loss of housing units in the city.

C. To preserve housing in zones where housing is permitted in the city for all residents in order to promote the health, safety, and welfare of its citizens.

18.1.2 Applicability

A. Except as otherwise provided in this section, the housing preservation and replacement ordinance shall apply to the loss of three or more dwelling units in a five-year period, provided that such dwelling units were a legally registered residential use as of July 1, 2002. For the purposes of this section, dwelling units shall be as defined in Article 3, but also include rooming units that people rent in or sleep in within lodging houses, dormitories, shelters, and sheltered care group homes.

B. Except as otherwise provided in this section, the housing preservation and replacement ordinance shall also apply to proposals that result in the loss of fewer than three dwelling units which were legally registered residential use as of July 1, 2002 for the purposes of creating surface parking.

C. For the purposes of this section, loss of dwelling units shall mean the elimination or conversion to nonresidential use of a dwelling unit and dwelling units that remain vacant for three years or more or are lost due to demolition unless the vacancy or demolition results from accidents outside of the owner's control, fire, natural disasters, or acts of war.

D. Determination of number of the dwelling units within a structure or structures and the number of units lost will be based on the records of the Building Authority indicating the legal, registered use of the property since July 1, 2002 through the time of application. The actual use of the property for purposes of applicability of this section may be rebutted by the owner by proof of documentary evidence including but not limited to photographs, letters, and sworn affidavits. The Planning Authority may conduct its own investigation of the actual use and shall determine the applicability of this section based on the totality of the evidence.

18.1.3 Exemptions

This section does not apply to:

A. Consolidation, elimination, or reconfiguration of one or more dwelling units within an existing structure, as long as all the resulting units remain as dwelling units after such consolidation, elimination, or reconfiguration, except as provided by (E) below. Conversion of a dwelling unit to a hotel or motel room shall not qualify for the exemption provided by the paragraph.

B. Proposals that result in a number of units equal to or greater than the number of units lost as determined by the Planning Authority.

C. Legally nonconforming dwelling units existing in zones which no longer permit residential uses.

D. Property which has been ordered demolished by the City, pursuant to 17 M.R.S. § 2851, et seq.,

as amended, except where it is determined by the Building Authority that the deterioration was caused by neglect or lack of maintenance.

E. Paragraph (A) above notwithstanding, the conversion to a nonresidential use of any dwelling units located on the ground floor of a building within a mixed-use zone.

18.1.4 Planning Authority approval required

Notwithstanding any other provision of this section, a proposal to demolish or to convert three or more dwelling units to a nonresidential use in a zone where such use is otherwise permitted must first obtain approval from the Planning Authority. In addition to any other requirements of the Land Use Code, the applicant must submit a statement certifying the number of dwelling units to be demolished or converted to nonresidential use, as well as a description of the characteristics of each of those units.

18.1.5 Tenant notification requirements

Prior to elimination as a result of demolition or conversion to nonresidential use, the owner shall:

A. Provide the Planning Authority a list containing the name of each tenant currently residing in the dwelling units to be demolished or converted to nonresidential use, as well as verification of compliance with tenant notice requirements of this subsection.

B. Deliver to each tenant who occupies such a dwelling unit a written notice to vacate the unit. The notice shall either be sent by certified mail, return receipt requested, or served in-hand. The notice will grant the tenant not less than 90 days from the date of receipt of the notice to vacate the unit.

C. File proof of service of the notice with the Planning Authority.

18.1.6 Housing replacement requirements

A. The Planning Authority shall require, as a condition of approval, that an owner shall replace any dwelling units that are demolished or converted to nonresidential use.

B. This requirement may be satisfied in any one of the following ways, which may be used in combination:

1. *Construction of units.* The construction of housing units within a new structure or a new addition either on site or off-site.
2. *Residential conversion.* The conversion of a nonresidential building to residential use.

18.1.7 Replacement unit requirement

In addition to the foregoing, all replacement units built pursuant to Subsection 18.1.6.B above shall:

A. Be located within the same United States census block group as the parcel from which the dwelling units are being removed or within 1,500 feet of the dwelling units being removed.

B. Not previously have been on the market as of the date of application.

C. Be situated within a development which has not been a candidate for site plan approval as of the date of the application.

D. Be comparable in size to the units replaced. For the purpose of this section, "comparable in size" means that the aggregate size of the replacement units will be no less than 80% of the size of the aggregate of the original units to be replaced.



18.1.8 Contribution to the Housing Trust Fund

A. The applicant may meet the requirements of this housing replacement ordinance by depositing $50,000 for each dwelling unit into the City's Housing Trust Fund.

B. Beginning on January 1, 2004 and annually thereafter, the amount of the contribution shall be adjusted by multiplying this amount originally deposited for each unit by a fraction, the denominator of which shall be the "Consumer Price Index for Urban Wage Earners and Clerical Workers ("CPI-W")," U.S. City Average, "All Items Index," as published by the United States Bureau of Labor Statistics ("the index") for January 1, 2003 year, and the numerator of which shall be the index for the same month in each subsequent year. In the event that the index is not then in existence, the parties shall use such equivalent price index as is published by any successor governmental agency then in existence, or, if none, then by such nongovernmental agency as may then be publishing an equivalent price index, in lieu of and adjusted to the index. If the index shall cease to use 1982-84 equals 100 as the basis of calculation, or if a substantial change is made in the terms or number of items contained in the index, the base index shall be adjusted to conform to such change, using such computation thereof, if available, as shall be employed by the United States Department of Labor in computing same. Notwithstanding anything herein to the contrary, contributions made after January 1, 2004 shall not be less than the amount originally required to be deposited for each rooming or dwelling unit.

18.1.9 Performance guarantee

Owners or affiliates must post a performance guarantee in the form of a letter of credit, or other security acceptable to the City attorney, in the amount equivalent to the amount the applicant would have been required to contribute to the City's Housing Trust Fund if the applicant had chosen that option pursuant to Subsection 18.1.8. Such a performance guarantee shall be valid for no more than three years, after which the full amount due shall be provided to the City's Housing Trust Fund if replacement units satisfying the conditions of this housing replacement ordinance do not have certificates of occupancy.

18.1.10 Partial waiver of replacement requirements

A. Any owner who has applied for site plan review for elimination or conversion to nonresidential use of dwelling units may apply to the Zoning Board of Appeals for a partial waiver from the housing replacement requirements of this section. Such waiver may be a downward adjustment of up to 50% of the owner's housing replacement obligation if the owner establishes to the board's satisfaction that:

1. The proposed development is consistent with the Comprehensive Plan.
2. The proposed development provides significant value and benefit to the immediate and surrounding neighborhood, including, but not limited to, community enhancement, social benefits or job creation.
3. The applicant demonstrates with objective evidence that the imposition of the requirements of this section would impose such an economic burden upon the

project relative to its scope that it renders the project impossible to develop.

4. The requested relief does not constitute a grant of a special privilege inconsistent with the limitations upon similar properties.

B. The Zoning Board of Appeals must make positive findings on each of the four criteria above in order for any such adjustment to be valid. An applicant aggrieved of a decision of the Zoning Board of Appeals may appeal a decision under this subsection pursuant to the provisions of Article 2.

18.1.11 Effect of other City ordinances

A. Nothing in this section shall permit the demolition or conversion to nonresidential use of dwelling units in residential property protected by Article 17, except as permitted by that ordinance.

B. A conditional zone may not be used to circumvent the application of this section. The terms of this section shall apply to any conditional zone which involves dwelling units affected by this section. Notwithstanding the foregoing, nothing herein shall be deemed to prevent the City and the applicant from agreeing to terms which exceed those imposed by this section by means of a conditional zone.

18.1.12 Appeals

Any applicant aggrieved by a decision of the Planning Authority under this section may appeal to the Zoning Board of Appeals within 30 days of that decision.

18.2 AFFORDABLE HOUSING

18.2.1 Purpose

It is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this section therefore is to offer incentives to developers to include units of affordable and workforce housing within development projects, thereby mitigating the impact of market rate housing construction, or the demonstrated increase in affordable housing needs resulting from the creation of new lower-income jobs, on the limited supply of available land for suitable housing, and helping to meet the housing needs of all economic groups within the city. The City believes that this section will assist in meeting the City's comprehensive goals for affordable housing, in the prevention of overcrowding and deterioration of the limited supply of affordable housing, and by doing so promote the health, safety, and welfare of its citizens.

TABLE 18-A: AFFORDABLE HOUSING FEE REDUCTIONS

% of New Units That are Low-Income or Workforce	Development Fee Discount	Cost of Work (Building Permit) Fees
5% up to but not including 10%	5% reduction	$10.50 per $1,000
10% up to but not including 15%	10% reduction	$9.90 per $1,000
15% up to but not including 20%	15% reduction	$9.35 per $1,000
20% up to but not including 25%	20% reduction	$8.80 per $1,000
25% or more	25% reduction	$8.25 per $1,000

18.2.2 Reduction of fees

A. Notwithstanding any other provision of this Land Use Code or Chapter 6 to the contrary, development fees shall be reduced by the City for an eligible project in the manner described in Table 18-A.

B. Development fees shall include:
   1. Site plan review and inspection fees.
   2. Subdivision review and inspection fees.
   3. Impact fees.
   4. Administrative fees.
   5. Construction and permit fees as described in Chapter 6 of the City of Portland Code of Ordinances.

   Development fees do not include any fees charged for review conducted by any party other than the City.

C. Eligible project shall mean a development project:
   1. That is permissible under the provisions of this Land Use Code in the zone in which it is proposed.
   2. That will be a single-family or multi-family dwelling, or subdivision consisting of a group of dwellings, and will not be located in an R-1 or R-2 zone.
   3. That creates new dwelling units, among which is at least one low-income or workforce housing unit for rent or sale, through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a nonresidential use to residential use, or any combination of these elements. Affordable housing units for sale or rent may not differ in exterior design from other units within an eligible project.
   4. Projects shall not be considered "eligible projects" solely because they are subject to Subsection 18.2.3.

D. The Planning Authority shall perform its review of an eligible project in as expedited a manner as is practical, without impairing the scope or thoroughness of the review. The Planning Authority may adopt administrative procedures to prioritize review of eligible projects and facilitate this expedited review.

E. The Planning Board shall make its best efforts to give priority in scheduling workshops and public hearings related to any plans or applications required for an eligible project that are within the Planning Board's jurisdiction, without impairing the scope or thoroughness of its review. At the conclusion of these public meetings, the Planning Board shall promptly issue a decision on all such plans and applications before it for consideration.

18.2.3 Ensuring workforce housing

A. **Purpose.** Based on the City's Comprehensive Plan and the City's 2015 housing study, it is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this subsection is to ensure that housing developments over a certain size provide a portion of workforce housing units and, by doing so, promote the health, safety, and welfare of Portland citizens.

B. **Applicability.** This subsection shall apply to development projects that create ten or more net new dwelling units for rent or for sale through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a nonresidential use to

residential use, or any combination of these elements, with the exception that projects using public financing requiring affordability restrictions, as defined by tax increment financing, U.S. Department of Housing and Urban Development funds such as HOME or CDBG, other federal, state, or local housing program, or the Low-income Housing Tax Credit program, shall be considered exempt.

C. **Standards.** Development projects subject to this subsection shall be subject to the following requirements:

1. Notwithstanding any language to the contrary in this Land Use Code, all developments of ten units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements of this subsection, unless they are within the India Street Form-Based Code Zone, in which case the review will be conducted administratively or by the Planning Board in accordance with the thresholds of site plan review for the district.
2. At least 25% of the units in the project shall meet the definition of workforce housing unit for sale or for rent as defined in Article 3. The project shall have the option of paying a partial fee-in-lieu as per (6) below or providing an additional unit on-site for any fractional value.
3. Projects shall not be segmented or phased to avoid compliance with these provisions. In cases where projects are completed in phases, affordable units shall be provided in proportion to the development of market rate units unless otherwise permitted through regulations.
4. Workforce units must be integrated with the rest of the development, must use a common entrance, and must provide no indications from common areas that these units are workforce housing units.
5. Workforce units need not be the same size as other units in the development but the number of bedrooms in such units, either on- or off-site, shall be no less than 10 percent of the total number of bedrooms in the development. For the purposes of calculating the number of bedrooms in a development, every 400 square feet in each market rate unit will count as a bedroom if the Planning Authority determines this method is appropriate in lieu of counting actual bedrooms.
6. As an alternative to providing workforce housing units, projects may pay a fee-in-lieu of some or all of the units. In-lieu fees shall be paid into the Housing Trust Fund. The fee for affordable units not provided shall be $150,000 per unit, adjusted annually in the same way as the fee under Subsection 18.1.8.
7. Workforce housing units for sale, if converted to workforce housing units for rent, shall become subject to the income limits and other requirements of such units.
8. If at least 33% of the units in a development are workforce units, the development is eligible for subsidy through an Affordable Housing TIF, subject to City Council approval.
9. The term of affordability for the required 25% workforce units provided shall be defined as shown in Table 18-B.

D. **Implementing regulations.** Regulations to further specify the details of this subsection shall be developed, including, but not limited to:
   1. Specific methodology for income verification.
   2. Situations where less than permanent affordability might be considered.
   3. Guidelines for meeting the requirement that off-site units be "in the same neighborhood."

TABLE 18-B: MINIMUM TERM OF AFFORDABILITY FOR REQUIRED WORKFORCE UNITS

% of Workforce Units Provided	Minimum Term of Affordability
25%	30 years
50%	20 years
100%	10 years

TABLE 18-C: BONUSES FOR ELIGIBLE PROJECTS

% Low-income Units	% Work-force Units	Density Permitted[1]	Additional Height Permitted[2]	Setback Reductions[3]
10%	20%	1.1 x base	N/A	N/A
20%	40%	1.2 x base	10 ft.	N/A
30%	60%	1.3 x base	10 ft.	5 ft.
50%	100%	2.0 x base	15 ft.	5 ft.
75%	N/A	2.5 x base	25 ft.	10 ft.

[1] "Base" is the number of units allowed under the zoning without this bonus but with any other bonuses applied. In R-P zones, multifamily is permitted with a "base" no less than 1 unit per 1,500 SF. of land area. If an eligible project is providing both workforce and affordable housing units, the applicant shall have the option of utilizing applicable incentives, but not cumulatively.
[2] The maximum additional height permitted in the B-1/B-1b zones and the R-P zone shall be 15 feet. In addition, the maximum structure height is 50 feet within 750 feet of the Portland Observatory.
[3] Setback reductions are absolute reductions in front, side, and/or rear setback requirements. The maximum setback reductions in the B-1/B-1b and R-P zones shall be 5 ft.

E. **Reporting to City Council.** In conjunction with the annual report on the Housing Trust Fund, the Planning Authority shall annually report on developments subject to this subsection, the number of units produced, the amount of fee-in-lieu collected, and the overall effectiveness of this subsection in achieving its stated purpose.

18.2.4 Density and dimensional bonuses and reductions

Notwithstanding any other provision of this Land Use Code to the contrary, in order to encourage low-income and workforce units in designated growth areas, eligible projects as defined under Subsection 18.2.2 may avail themselves of the following options:

A. **Density bonuses.** The maximum number of units that would otherwise be allowed under this Land Use Code shall be increased for an eligible project in the manner described in Table 18-C, applicable in the B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, B-5, R-7, and R-P zones.

B. **Planned Residential Unit Developments (PRUDs).** In order to promote orderly development of low- and moderate-income development as PRUDs, any project in which more than 50% of the units are low-income or workforce units for rent or for sale may utilize the following dimensional bonuses and changes:
   1. Minimum lot area per dwelling unit is reduced by 50%.
   2. Maximum number of units and maximum length of buildings do not apply but may be set through site plan review.
   3. Minimum building setbacks may be reduced to 10 feet.

4. The PRUD may cross public rights of way provided that the right of way does not count towards minimum lot size nor towards any open space requirements.
5. Minimum recreation open space area is reduced to 200 square feet per dwelling unit of common area designated for recreational purposes by the residents. Minimum contiguous size and setbacks do not apply and shall be set through site plan review.
6. The Planning Board's *Design Manual*, design standards, and guidelines with respect to PRUDs shall apply in full to PRUDs utilizing this subsection.

C. **Unit size and term of affordability.** In order to be eligible for this subsection, the low-income and workforce housing units must meet Subsections 18.2.3(C)(3), (4), and (5) and be affordable for the longest term permitted under federal, state, and local laws.

D. **Required public process.** The developer of the project must also commit to a good faith effort to communicate openly with affected properties as their process moves forward. At a minimum, no less than 30 days prior to application for site plan review, any project that wishes to take advantage of this subsection must hold a public meeting noticed to all properties within 500 feet of their site and post a sign on the property in question describing the proposed project, intent to submit an application to the City in 30 days (cite anticipated submission date), and contact information for the developer and the Planning Authority. The Planning Board may adopt regulations regarding the content and processes for noticing as part of the *Technical Manual*.

E. **Projects under 18.2.3.** Projects that are subject to Subsection 18.2.3 that choose to provide the required workforce housing units on site are eligible for a 25% increase in total permitted units. If an eligible project as defined under Subsection 18.2.2 is also subject to Subsection 18.2.3, the applicant shall have the option of utilizing either this bonus or any bonuses they are eligible for under Subsections 18.2.4(A) and (B) but not both.

18.2.5 Inclusionary zoning for hotel projects

A. **Purpose.** This subsection is based on City analysis, most specifically the analysis documented in the Greater Portland Council of Government study *Proposed Hotel Linkage Fee: Supportable Range* dated August 29, 2018, that finds that new hospitality developments create a need for new affordable housing. This need is the result of the fact that hospitality developments necessarily create a number of jobs that do not pay employees at a rate sufficient to allow those employees to afford market-rate housing in the City of Portland.

B. **Hotel projects.** For the purposes of this subsection, hotel projects shall include any hotel as defined in Article 3 consisting of 10 or more guest rooms for rent. Any expansion of an existing hotel by 10 or more rooms within any five-year period will also be considered a hotel project.

C. **Hotel projects conditional uses.** Notwithstanding anything to the contrary in this Land Use Code, all hotel projects are conditional uses subject to Planning Board

review on the condition that they comply with the requirements of this Subsection 18.2.5.

D. **Low-income housing minimum.** All hotel projects shall provide one unit of low-income housing for rent in the City of Portland for every 28 rooms in the hotel project, which shall meet the standards outlined in Subsections 18.2.3(C)(3), (4), and (5) and in the implementing regulations governing low-income units. This amount shall be rounded up to the nearest increment of 28 rooms. These units shall be deed restricted for the longest period permitted by law, shall not be used for short-term rentals of less than 30 days, and must be provided with distinct entrances from the street to delineate them from the hotel itself.

E. **Fee-in-lieu alternative.** As an alternative to providing low-income housing units under Subsection 18.2.5(D) above, a hotel project may pay a fee-in-lieu of $3,806 per hotel guest room. This amount shall be paid into the City's Housing Trust Fund and used for the purposes set forth in the ordinance and regulations applicable to that trust.

F. **Annual adjustments.** The amounts in Subsection 18.2.5(E) above shall be adjusted annually in the same way as the fee under Section 18.1.8.

G. **Regulations.** The Planning Board may promulgate implementing regulations based on this subsection.

18.3 JILL C. DUSON HOUSING TRUST FUND

18.3.1 Purpose

The purpose of enacting this section is:

A. To establish a City of Portland Housing Trust Fund for the promotion, retention, and creation of an adequate supply of housing, particularly affordable housing, for all economic groups and to limit the net loss of housing units in the city.

B. To serve as a vehicle for addressing very low, low, and median income housing needs through a combination of funds as set out in this article.

18.3.2 Establishment of the Jill C. Duson Housing Trust Fund

The City Council shall establish a special revenue account under the name "City of Portland Jill C. Duson Housing Trust Fund" (Housing Trust Fund). Deposits into the fund shall include:

A. Contributions from the City's housing replacement ordinance under Subsection 18.1.8.

B. In-lieu fees under Subsections 18.2.3 and 18.2.5.

C. Funds appropriated to be deposited into the fund by vote of the City Council.

D. Voluntary contributions of money or other liquid assets to the fund.

E. Any federal, state, or private grant or loan funds provided to the fund.

F. Interest from fund deposits and investments.

G. Repayments of loans made from the fund.

18.3.3 Management of the trust fund

The City Manager, or his or her designee, shall serve as the manager of the Housing Trust Fund. The responsibilities of the manager, subject to the orders of the City Council, shall include:

A. Maintaining the financial and other records of the Housing Trust Fund.

B. Disbursing and collecting Housing Trust Fund monies in accordance with the Housing Trust Fund annual plan.

C. Monitoring the use of monies distributed to successful applicants for Housing Trust Fund support to assure on-going compliance with the purposes of the fund and the conditions under which these monies were granted or loaned.

18.3.4 Housing Trust Fund annual plan

A. Each fiscal year, the City Council shall adopt a Housing Trust Fund annual plan. The City Manager shall submit to the City Council a recommended Housing Trust Fund annual plan, utilizing the revenues of the Housing Trust Fund as well as any other funds the manager may propose as appropriate. The housing committee of the City Council or such other committee as the council shall designate shall conduct public hearings on the recommended plan and refer the matter to the council for action.

B. The Housing Trust Fund annual plan shall include:

1. A description of all programs to be funded in part or in full by the Housing Trust Fund.
2. A description of how funds from the Housing Trust Fund will be distributed among very low-income, low-income and moderate-income households.
3. The amount of funds budgeted for programs funded in part or in full from the Housing Trust Fund.

C. Priority for the expenditure of funds collected pursuant to Section 18.1 shall be given to the creation of new housing stock, through either new construction or conversion of nonresidential buildings to residential use.

18.3.5 Distribution and use of the Housing Trust Fund's assets

A. All distribution of principal, interest, or other assets of the Housing Trust Fund shall be made in furtherance of the public purposes set out in Section 18.1.

B. During each year, the Housing Trust Fund shall disburse as grants or loans so much of the Housing Trust Fund's assets as the City Council in its discretion has approved in the Housing Trust Fund annual plan.

C. Funds shall not be used for City administrative expenses.

D. Funds shall not be used for property operating expenses or supporting services.

E. No grants or loans shall be awarded by the Housing Trust Fund to corporations, partnerships, or individuals who are delinquent at the time of application in the payment of property taxes or other fees to the City of Portland, who have been convicted of arson, who have been convicted of discrimination in the sale or lease of housing under the fair housing laws of the State of Maine, or who have pending violations of current City electrical, plumbing, building, or housing codes or zoning ordinances.

18.3.6 Term of affordability

A. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of an affordable rental or cooperative unit, the City of Portland shall impose enforceable requirements on the owner of the housing unit that the unit remain affordable for the remaining life of the housing unit, assuming good faith efforts by the owner to maintain the housing unit and rehabilitate it

as necessary. The remaining life of the housing unit shall be presumed to be a minimum of 30 years.

B. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of ownership housing, the City of Portland shall impose enforceable resale restrictions on the owner to keep the housing unit affordable for the longest feasible time, while maintaining and equitable balance between the interests of the owner and the interests of the City of Portland.

C. The affordability restriction requirements described in this subsection shall run with the land and the City of Portland shall develop appropriate procedures and documentation to enforce these requirements and shall record such documentation in the Cumberland County Registry of Deeds.

18.4 CONDOMINIUM CONVERSION

18.4.1 Purpose

The purpose of this section is to regulate the conversion of rental housing to condominiums, to minimize the potential adverse impacts of such conversion on tenants, to ensure that such converted housing is safe and decent, and to maintain a reasonable balance of housing alternatives within the city for persons of all incomes.

18.4.2 Applicability

This section shall apply to the conversion of any rental unit to a condominium unit. For the purposes of this section, developer shall mean any person or other legal entity, but not including an established lending institution unless it is an active participant in a common promotional scheme, who, whether acting as principal or agent, records a declaration of condominium that includes real estate, any portion of which was previously a rental unit.

18.4.3 Protection of tenants

A. **Notice of intent to convert.** A developer shall give to each tenant, meaning any occupant in lawful possession of a rental unit, whether by lease, sublease, or otherwise, written notice of intent to convert at least one 120 days before the tenant is required by the developer to vacate. If a tenant has been in possession of any unit within the same building for more than four consecutive years, the notice period shall be increased by 30 additional days for each additional year, or fraction thereof, to a maximum of 240 additional days. The notice shall set forth specifically the rights of tenants under (A), (B), and (C) of this subsection and Subsection 18.4.4, and shall contain the following statement:

If you do not buy your apartment, the developer of this project is required by law to assist you in finding another place to live and in determining your eligibility for relocation payments. If you have questions about your rights under the law, or complaints about the way you have been treated by the developer, you may contact the Department of Permitting & Inspections, City of Portland, 389 Congress Street, Portland, Maine 04101.

B. If the notice specifies a date by which the tenant is required to vacate, the notice may also serve as a notice of termination under the applicable law of forcible entry and detainer, if it meets the requirements thereof. The notice

shall be hand delivered to the tenant or mailed, by certified mail, return receipt requested, postage prepaid, to the tenant at the address of the unit or such other address as the tenant may provide. The notice shall be effective when actually received. No tenant may be required by a developer to vacate without having been given notice as required herein, except for the reasons specified in the applicable law of forcible entry and detainer, and in accordance with the procedures thereof. The terms of a tenancy, including rent, may not be altered during the notice period, except as expressly provided in a preexisting written lease. If, within 120 days after a tenant is required by a developer to vacate, the developer records a declaration of condominium without having given notice as required herein, the developer shall be presumed to have converted in violation of this article.

C. **Option to purchase.** For a 60-day period following the giving of notice as required in Subsection 18.4.3(A), the developer shall grant to the tenant an exclusive and irrevocable option to purchase the unit of which the tenant is then possessed, which option may not be assigned. If the tenant does not purchase or contract to purchase the unit during the 60-day period, the developer may not convey or offer to convey the unit to any other person during the following 180 days at a price or on terms more favorable than the price or terms previously offered to the tenant, unless the more favorable price or terms are first offered exclusively and irrevocably to the tenant for an additional 60-day period. This subsection shall not apply to any rental unit that, when converted, will be restricted exclusively to nonresidential use. If, within two years after a developer records a declaration of condominium, the use of any such unit is changed such that but for the preceding sentence, this subsection would have applied, the developer shall be presumed to have converted in violation of this article.

18.4.4 Relocation payments

If the tenant does not purchase the unit, the developer shall, before the tenant is required by the developer to vacate, make a cash payment to the tenant in an amount equal to the amount of rent paid by the tenant for the immediately preceding two months, provided that this requirement shall not apply to any tenant whose gross income exceeds 80% of the median income of the Portland SMSA, adjusted for family size, as determined by the U.S. Department of Housing and Urban Development at the time notice is given as required in Subsection 18.4.3. Additionally, the developer shall, upon demand, provide assistance to the tenant in the form of referrals to other reasonable accommodations and in determining the tenant's eligibility for relocation payments as provided herein.

18.4.5 Conversion permit

Before conveying or offering to convey a converted unit, the developer shall obtain a conversion permit from the Building Authority. The permit shall issue only upon receipt of a completed application therefore in a form to be devised for that purpose, payment of a fee as established by the City Council, and a finding, upon inspection, that each unit, together with any common areas and facilities appurtenant thereto, is in full compliance with all applicable provisions of Chapter 6, Articles II, III, and

V and Chapter 10, Article II of the City of Portland Code of Ordinances, and the Life Safety Code as adopted by the state. The developer shall post a copy of the permit in a conspicuous place in each unit and shall make copies available to prospective purchasers upon request.

18.4.6 Variation by agreement

No provision of or right conferred by this Section 18.4 may be waived by a tenant, by agreement or otherwise, and any such waiver shall be void. Any attempt to require, encourage, or induce a tenant to waive any provision hereof, or right conferred hereby, shall be a violation of this article. Nothing herein shall be construed to void any term of a lease which offers greater rights than those conferred hereby.

18.5 RELOCATION OF DISPLACED TENANTS

18.5.1 Purpose

The purpose of this section is to encourage the retention of a diverse housing supply throughout the downtown and in areas readily accessible to the downtown, to ensure that persons displaced as the result of redevelopment of residential units to nonresidential uses within the B-3 Downtown Business zone are treated fairly and consistently, and to ensure that persons so displaced will be relocated at the reasonable expense of the developer to comparable housing at a location providing comparable access to services and amenities.

18.5.2 Notice and eligibility for relocation assistance

When a proposed development will result in the displacement of residents of an existing structure, the developer of the property shall give all tenants written notice as set forth below and shall provide relocation assistance as set forth below for any tenant whose gross income is 80% or less of the median income of the Portland SMSA, adjusted for family size, as determined by the U.S. Department of Housing and Urban Development at the time the developer gives the tenant written notice of intent to cause removal of the residential unit. Such written notice shall be given to the tenant at least 120 days before the tenant shall be required to vacate the premises and shall contain the following statement:

> *The developer of this project is required by law to assist you in finding another place to live and in determining your eligibility for relocation payments. If you have questions about your rights under the law, or complaints about the way you have been treated by the developer, you may contact the Department of Planning and Urban Development, City of Portland, 389 Congress Street, Portland, Maine 04101.*

18.5.3 Relocation assistance for all tenants

The developer shall provide, upon demand, assistance to all tenants who will be displaced by the development in the form of referrals to other reasonable accommodations and in determining the tenants' eligibility for relocation payments as provided herein. The developer shall make relocation payments to eligible tenants in accordance with the schedule adopted by the City Council in Subsection 18.5.4.

18.5.4 Schedule of relocation payments for eligible tenants

The developer shall, before the tenant is required by the developer to vacate, make a cash payment to



the tenant in an amount equal to the amount of rent paid by the tenant for the immediately preceding two months.

19 OFF-STREET PARKING & LOADING

19.1 OFF-STREET PARKING

19.1.1 General

Off-street parking, either by means of structured or surface spaces, in addition to being a permitted principal use in certain zones, shall be considered as an accessory use when required or provided to serve principal uses. The provisions of this article shall apply to parking as an accessory use.

19.1.2 Uses requiring off-street parking

Except as provided in Table 19-B and as provided elsewhere in this article, minimum off-street parking requirements shall be as provided in Table 19-A. For any use not listed in Table 19-A, the parking provisions for the most similar use, as determined by the Building Authority or the Planning Authority, shall apply.

19.1.3 Rules of calculation

A. **Floor area.** Unless otherwise stated, all square footage-based off-street parking standards shall be computed on the basis of gross floor area used or intended to be used for service to customers, patrons, clients, or patients. It need not include floors or parts of floors used principally for non-public purposes, such as bulk storage, cellar, or food preparation areas. These provisions notwithstanding, the "floor area" used as the basis for computing off-street parking requirements shall never be less than 80% of the total gross floor area.

B. **Fractions.** Any fraction greater than or equal to 0.5 will be rounded up to the nearest whole number. Any fraction less than 0.5 will be rounded down to the nearest whole number.

C. **Multiple uses.** When two or more principal uses or separate establishments are located within the same lot, off-street parking shall be provided for each principal use or separate establishment according to Table 19-A, unless joint use is approved under Subsection 19.1.5.

D. **Accessory uses.** Off-street parking shall not be calculated separately for accessory uses.

E. **New construction.** In the case of new construction, the minimum off-street parking requirements in Table 19-A shall be met.

F. **Changes of use.** In the case of changes of use, the only additional off-street parking required shall equal the difference between the parking required for the new use and the parking required for the existing use.

G. **Building additions or alterations.** In the case of additions or alterations which increase the number of units or square footage of a given use, the only additional off-street parking required shall equal the difference between the parking required for the use in the post-development condition and the parking required for the use in the pre-development condition.

19.1.4 Shared use vehicles

The required parking for multi-family residential buildings may be partially met through provision of shared-use vehicles, which are vehicles available for use on a fee basis to the residents of the building. One shared use vehicle shall be deemed to satisfy eight required car spaces, but in no case shall more than 50% of the parking requirement be satisfied by a shared vehicle use.

TABLE 19-A: OFF-STREET PARKING MINIMUMS

	Vehicular		Bicycle
Single-, two-, or multi-family units	1 space/ dwelling unit		2 spaces/5 units
Lodging house	1 space/5 rooming units[1]		
Special needs independent dwelling unit	1 space/4 dwelling units, plus 1 space/staff member normally present at any one time		
Sheltered care group home	1 space/2 employees		
Congregate care facilities	1 space/3 dwelling units		
Emergency shelters	1 space/2 employees		2 spaces/10 vehicle parking spaces for the first 100 vehicle spaces required, plus 1 space/20 vehicle parking spaces thereafter[4]
Long-term, extended care, and intermediate care facilities	1 space/5 beds, plus 1 space/employee normally present during weekday morning shift		
Governmental uses	1 space/400 SF of floor area		
Hospitals and clinics	1 space/500 SF of floor area		
Places of assembly	1 space/150 SF of floor area used for assembly purposes[2]		
Preschool facilities	1 space/staff member normally present at any one time		
Schools	For students up to 15 years	1 space/room used for instruction purposes	
	For students 16 years and older	1 space/10 seats used for instruction purposes or, if no fixed seats, 1 space/100 SF used for instruction purposes	
Bed and breakfasts	1 space/2 guest rooms for first 4 guest rooms, plus 1 space/additional room thereafter[3]		
General offices	1 space/400 SF of floor area		
Hostels	1 space/8 beds or, if within ¼ mi. of a transit stop, 1 space/12 beds		
Hotels	1 space/4 guest rooms		
Retail	1 space/200 SF of first floor area in excess of 2,000 SF, plus 1 space/700 SF for each floor above		
Restaurants and bars	1 space/150 SF of floor area		
Theaters, performance halls, funeral homes	1 space/5 seats or, if no fixed seats, 1 space/100 SF of assembly space		
Industrial uses	1 space/1,000 SF of floor area in excess of 3,000 SF not including area catering to retail		

[1] Except in the R-5 zone, where the requirement shall be 1 space/2 rooming units.
[2] Except for neighborhood centers which primarily serve clientele from the surrounding neighborhood, where the parking requirement shall be 1/1,000 SF of floor area
[3] Except in the I-B zone, where no off-street parking shall be required for beds and breakfasts.
[4] Development with under 10 required vehicular parking spaces shall provide at least two bicycle parking spaces.

TABLE 19-B: CATEGORICAL EXCEPTIONS TO OFF-STREET PARKING MINIMUMS

Categorical Vehicular Exceptions	
Major site plans	The Planning Board shall establish the off-street parking requirement based on a parking study.
Affordable housing	The Planning Board may establish a parking requirement within that is less than 1 space per workforce or low-income housing unit, regardless of the size of the structure.
Multi-family housing	The Planning Board may establish a parking requirement that is less than the normally required number of spaces upon a finding of unique conditions that result in a lesser parking demand, such as housing for persons who cannot drive, housing that participates in a Transportation Demand Management program, or housing which includes permanent restrictions on automobile usage, and which is permanently restricted from utilizing resident on-street parking stickers.
Historic structures	No off-street parking in excess of that existing on or servicing the lot as of March 15, 1999 shall be required.[1]
Accessory Dwelling Units	No off-street parking shall be required.
Transit proximate development and uses	No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements.

Zone-Based Vehicular Exceptions		
	Residential	**Nonresidential**
R-6	No off-street parking required for first three dwelling units.[2]	
IR-1/I-B		Off-street parking requirements for nonresidential uses shall be reduced by 75%.
IR-3	No off-street parking required.	
R-OS	Off-street parking shall be adequate to serve projected employee and visitor needs.	
B-2/B-2b/B-2c		For changes of use of 10,000 SF or less, no off-street parking shall be required for nonresidential uses.[3]
IS-FBC	No off-street parking required for first three dwelling units.	For changes of use of 10,000 SF or less, no off-street parking shall be required for nonresidential uses.[3]
B-3	No off-street parking required for changes of use.	
B-5	No off-street parking required.	
B-6	Off-street parking requirement shall be determined based on a parking study.	
B-7	Off-street parking requirement shall be determined based on a parking study.	
Waterfront Zones	Off-street parking requirements shall be reduced by 50%. No off-street parking required in the WCZ.	

[1] Exception applies for uses within any contributing structure in a local or national register historic district or locally-designated or national register landmark building under Article 17. However, parking may not be decreased from that existing on or servicing the lot on March 15, 1999 except to the extent necessary to meet the requirements of the Americans with Disabilities Act.

[2] For alterations of buildings containing three or more dwelling units in the R-6 zone, no parking shall be required for the creation of one additional dwelling unit above existing conditions as of June 3, 2015. This exemption may be used one time.

[3] If the number of existing parking spaces serving the site is less than the requirements of this article, that number of parking spaces may not be reduced lower than the required amount prior to the change of use except to the extent necessary to meet the requirements of the Americans with Disability Act, to the extent it is a requirement or a condition of site plan review, or to the extent the change of use requires less parking than the previous use and the total number of parking spaces serving the site exceeds the parking requirements of this article for all uses on the site including the change of use. A newly constructed building, a building addition, or a change of the use of a building exceeding 10,000 SF of floor area, shall provide parking as required by this article.

19.1.5 Joint use

The joint use of a parking facility by two or more principal uses may be permitted where it is clearly demonstrated that the parking facility will substantially meet the intent of the off-street parking requirements by reason of variation in the probable time of maximum use by patrons or employees among such establishments.

19.1.6 Off-site parking

Required off-street parking shall be located on the same lot with the principal use, except as follows:

A. **For uses in residential zones.** Off-street parking may be located off-site upon an applicant demonstrating the following:
   1. Off-street parking cannot reasonably be provided on the same lot with the principal use.
   2. Off-site parking is proposed to be located no more than 300 feet from the principal use, measured along lines of public access.
   3. The premises to be used for off-site parking are held, either under the same ownership or by lease, by the applicant. Evidence of such control, either by deed or lease, shall be provided.
   4. The premises to be used for off-site parking have adequate parking supply to meet any parking required for existing uses on those premises.
   5. The premises to be used for off-street parking are located in the same or less restrictive zone as that of the building or use served.

B. **For uses in nonresidential zones.** Off-street parking may be located off-site at a distance of no more than 100 feet from the principal use, measured along lines of public access. Off-street parking may be located further than 100 feet from the principal use provided the applicant demonstrates the following:
   1. Off-site parking is proposed to be located no more than 1,500 feet from the principal use, measured along lines of public access.
   2. The premises to be used for off-site parking are held, either under the same ownership or by lease, by the applicant. Evidence of such control shall be provided by showing, at a minimum, a signed letter of intent, purchase and sale agreement, or option for sale or lease at the time of approval, and an executed deed or lease prior to issuance of any certificate of occupancy for review and approval by Corporation Counsel. Off-site parking leases shall be for a term of not less than five years with an option to renew.
   3. The premises to be used for off-site parking have adequate parking supply to meet any parking required for existing uses on those premises.

19.1.7 Fee-in-lieu of parking

A. **Applicability.** Any development subject to site plan review shall either provide the required parking on- or off-site or pay a fee-in-lieu of parking of not less than $5,000 per space not provided. Fees shall be deposited into the Sustainable Transportation Fund, as established in Section 19.3 of this article. The fee shall be paid on or before the date upon which a certificate of occupancy is issued. Payment shall be secured by a bond at the time the amount of the fee is set.

B. **Annual adjustment.** The value of the fee shall be adjusted annually according to the

Engineering News Record construction index as published on January 1st of the current calendar year. The fee adjustment shall be calculated by dividing the index amount published on January 1st of the current year by the index amount published on January 1, 2010 ($8,660), multiplied by the minimum fee amount of $5,000. The base fee, the adjustment index, or the calculation method may be otherwise amended by action of the City Council from time to time.

19.1.8 Location of vehicular parking

A. In general

1. Tandem vehicular parking shall be permitted for residential uses, and for developments where managed parking is part of an approved site plan.
2. Parking shall be prohibited in the front yard, which shall mean the open space between the street line and building, except for parking within driveways on lots containing single- or two-family dwellings. "Driveway," as used in this paragraph, shall not include any turnaround area.
3. Where an existing front yard exceeds a maximum front setback, a maximum of 10% of the total parking area provided on the site may be located between the principal structure and the street.

B. In residential zones

1. Where off-street parking for six or fewer vehicles is required or provided, parking located within five feet of any lot line shall be located 50 feet or greater from any street line, except for in the R-6 zone, and parking in all residential zones shall maintain the minimum front setback from any street line, except on a corner lot where parking shall maintain the side setback on a side street.
2. Where off-street parking for more than six vehicles is required or provided:
   a. Parking for nonresidential uses shall be located 25 feet or greater from any residential structure on an adjoining lot.
   b. Where vehicles are to be or may be parked within a required setback:
      i. A continuous, permanently-anchored curb guard, at least five feet from the lot line, shall be provided between such off-street parking and that lot line involved, the top of which shall be at least 20 inches in height so that bumpers of vehicles cannot project beyond its face.
      ii. Where such off-street parking abuts a lot in residential use or an unoccupied lot located in a residential zone, a fence, not less than 48 inches in height, shall be provided and maintained between such off-street parking and that part of the lot line involved.

C. In mixed-use zones

1. Where off-street parking for more than six vehicles is required or provided:
   a. Where vehicles are to be or may be parked within 10 feet of any street line, a continuous, permanently-anchored curb guard shall be provided and maintained between such off-street parking and that part of the street line involved so that vehicle

bumpers cannot project beyond its face toward the street line involved.

b. Where such off-street parking abuts a lot in a residential zone or in residential use, a fence, not less than 48 inches in height, shall be provided and maintained between such off-street parking and that part of the lot line involved.

2. In the B-7 zone, off-street surface parking shall be located 35 feet or greater from any street, except in the case of:

a. A lot where 80% of the frontage has a building within 10 feet of that frontage.

b. A lot where all or a portion of the 35-foot setback area had a gravel surface not exceeding 15,000 square feet as of 9/29/15 and the principal use served is in a building meeting the minimum height requirements of the Bayside Height Overlay or of 25,000 square feet or greater. In these cases, the total number of spaces within the 35-foot setback and elsewhere on site shall not exceed parking requirements. Parking within the 35-foot setback shall provide stormwater quality treatment.

c. The 35-foot setback requirement shall not apply to a driveway located perpendicular to the site.

19.1.9 Off-street parking restricted

Off-street parking shall not include:

A. More than one commercial motor vehicle in any residential zone, the R-P zone, or the B-1/B-1b zones.

B. More than six commercial motor vehicles in the B-2/B-2b/B-2c zone.

C. Loading, sales, dead storage, repair, or servicing of any kind, except when customarily incidental or accessory to a conforming principal use when located in an industrial zone.

D. Notwithstanding Section 19.1.9(A), any truck body, commercial trailer, or similar commercial vehicles in any residential zone or the R-P zone.

19.2 OFF-STREET LOADING

19.2.1 Uses requiring off-street loading

Off-street loading is not required in the B-6, B-7 or WCZ zones. In all other zones, the minimum off-street loading bays or loading berths shall be as provided in Table 19-C. These minimum requirements shall be met and maintained in the case of new construction, alterations, and change of use.

19.2.2 Design of off-street loading

Each loading bay shall have minimum dimensions of 50 feet by 14 feet and may be located either within a building or outside and adjoining an opening in the building, except that in the case of hospitals and intermediate, long-term, and extended care facilities, the off-street loading area provided for ambulance and other emergency vehicles shall be exempt from the minimum dimensional requirement but shall be of sufficient width and depth to permit expeditious access and egress from the loading area. Every part of such loading bay shall be located completely off the street. In case trucks, trailers, or other motor vehicles larger than the dimensions of the minimum loading bay habitually serve the building in question, additional space shall be provided so that such vehicle shall park or stand completely off the street.

TABLE 19-C: OFF-STREET LOADING REQUREMENTS

Use and Size (Gross Floor Area)		Minimum Number of Bays or Berths
General offices and hotels (> 100,000 SF)		1
Retail and industrial	5,000 - 40,000 SF	1
	40,000 - 100,000 SF	2
	100,000 - 160,000 SF	3
	160,000 - 240,000 SF	4
	240,000 - 320,000 SF	5
	320,000 - 400,000 SF	6
	Each 90,000 over 460,000 SF	1 additional
Hospitals and intermediate, long-term, and extended care facilities		2 off-street loading areas shall be provided whereby one service area for ambulance and other emergency vehicles shall be separate from one service area accommodating supply vehicles, and whereby both off-street loading areas shall be separate from parking and entrance locations.

19.2.3 Requirements for additional bays, alterations, or modifications

Any additional loading bays which are provided in excess of the requirements of this article or any loading bays otherwise established shall meet the requirements of Subsection 19.2.2, and no alterations or modifications shall be made in an existing building or structure whereby loading openings or platforms are constructed or established unless the provisions of Subsection 19.2.2 are met.

19.2.4 Nonconformity as to off-street loading

A building which is nonconforming as to the requirements for off-street loading shall not be enlarged or added to, unless off street loading is provided sufficient to satisfy the requirements of Article 19 for both the addition or enlargement and the original building or structure.

19.3 SUSTAINABLE TRANSPORTATION FUND

19.3.1 Establishment

By act of the Portland City Council, the Sustainable Transportation Fund is hereby established.

19.3.2 Purpose

The purpose of the Sustainable Transportation Fund is to implement those provisions of the *Peninsula Transit Study Report and Action Plan*, as adopted by the Portland City Council on August 3, 2009, which recommended creation of a Sustainable Transportation Fund. The *Peninsula Transit Study Report and Action Plan* established a goal to reduce the number and impact of single-occupancy vehicle trips to and from the Portland Peninsula. Achieving this goal requires transportation choice for residents, businesses, and visitors. This ordinance establishes a funding source for broadening transportation choice and facilitating development with lower traffic impacts and reduced parking requirements. The mechanism and protocol for collecting fees and spending funds

are consistent with state requirements for utilizing transportation-related impact fees.

19.3.3 Deposits and expenditures

A. **Deposits.** The City shall establish a Sustainable Transportation Fund to be set up as a separate account within the City. Deposits into the fund shall include:
   1. 100% of the revenue generated by the fee in-lieu of parking program, as established in Subsection 19.1.7 of this article.
   2. Funds appropriated for deposit into the fund by vote of the City Council.
   3. Voluntary contributions of money or other liquid assets to the fund.
   4. Any federal, state or private grant or loan funds provided to the fund.

B. **Accounting of deposits**. Funds from the fee in-lieu of parking program, as established in Subsection 19.1.7, shall be individually collected and accounted for by project and the geographic fee in-lieu of parking subdistrict in which it is located.

C. **Funds to be used within 10 years of deposit.** Funds collected under the fee in-lieu of parking ordinance shall be spent on eligible infrastructure and/or capital improvements or expenses within 10 years of the date of collection. Any funds which are not so utilized and which exceed the City's actual costs of implementing the infrastructure improvement or improvements for which such fees were collected shall be refunded. Refunds shall be paid to the owner of records of the property for which the funds were collected, determined as of the date the refund is made.

D. **Use of funds by subdistrict.** Funds collected under the fee in-lieu of parking ordinance shall be spent on permitted expenditures of the fund within the same geographic fee in-lieu of parking sub-district as the contributing project. However, for projects located within 250 feet of an abutting subdistrict, contributed fees can be used for eligible infrastructure projects in either abutting subdistrict.

E. **Permitted expenditures of the fund.** The Sustainable Transportation Fund may only be expended on the activities as described below:
   1. Funds collected as fees in-lieu of parking shall be expended toward capital transportation improvements. Such capital improvements shall include but are not limited to the following:
      a. Parking infrastructure:
         i. Shared use, publicly accessible parking facilities.
         ii. Publicly accessible bicycle racks and bicycle parking shelters.
      b. Transit capital improvements and expenses:
         i. Bus shelters, bus turnouts, transit signage and other transit amenities.
         ii. Buses and transit vehicles.
         iii. Transit and transportation information systems.
         iv. Fixed guide way and/or rail transit systems.
      c. Pedestrian and bicycle infrastructure:
         v. Multi-use trails and non-vehicular transportation corridors.
         vi. Pedestrian infrastructure and amenities located on publicly accessible rights-of-way including but not limited to crosswalks, signalization, landscaping, street

furniture, wayfinding signage, traffic calming, and lighting.

vii. New public sidewalks and new bicycle lanes along publicly accessible rights of way or corridors where such facilities are not previously provided.

d. Other such improvements intended to enhance transportation choice and promote transit and non-automotive transport.

2. Funds collected or appropriated by means other than from a fee in-lieu of parking may be used for any of the capital transportation improvements listed above, and for any of the following uses:
   a. Transportation Demand Management program administration.
   b. On- or off-peninsula transit and/or non-automotive transportation capital or operating expenses.
   c. Transit and/or non-automotive transportation promotion and education material.
   d. Other such programs or improvements intended to enhance transportation choice and promote transit and non-automotive transport for the City of Portland.

F. **Annual Sustainable Transportation Plan and appropriations schedule.** Annually, the City Manager shall submit to the City Council a recommended sustainable transportation plan and appropriations schedule, utilizing the revenues of the Sustainable Transportation Fund. The Transportation Committee of the City Council or such other committee as the council shall designate shall recommend and refer the plan and appropriations schedule to the City Council for action.

20 SIGNS

20.1 PURPOSE

This article has been adopted to ensure that all signs installed in the city are compatible with the unique character and environment of the community through a comprehensive system of reasonable, effective, consistent, content-neutral, and nondiscriminatory sign standards and requirements. More specifically, this article is intended to:

A. Ensure that all signs are compatible with the unique character and environment of the City of Portland, and that they support the desired urban design and development patterns of the various zones, overlay zones, and historic areas within the city.

B. Balance public and private objectives by allowing adequate avenues for both commercial and non-commercial messages.

C. Improve pedestrian and traffic safety by promoting the free flow of traffic and the protection of pedestrians and motorists from injury and property damage caused by, or which may be fully or partially attributable to, cluttered, distracting, and/or illegible signage.

D. Prevent property damage, personal injury, and litter caused by signs that are improperly constructed or poorly maintained.

E. Protect property values, the local economy, and quality of life by preserving and enhancing the appearance of the streetscape.

F. Provide consistent sign design standards that enable the fair and consistent enforcement of these sign regulations.

20.2 DEFINITIONS

Sign. A structure, device, figure, display, message placard, or other contrivance, or any part thereof, situated outdoors or indoors, which is designed, constructed, intended, or used to advertise, provide information in the nature of advertising, provide historical, cultural, archeological, ideological, political, religious, or social information, or direct or attract attention to an object, person, institution, business, product, service, message, event, or location by any means, including words, letters, figures, designs, symbols, fixtures, colors, or illumination.

Sign, animated. Flashing, blinking, reflecting, revolving, or other similar sign with visibly moving or rotating parts or visible mechanical movement of any kind.

Sign, awning. Any sign that is part of or attached to an awning, canopy, or other fabric, plastic, or structural protective cover over a door, entrance, window, storefront, or outdoor service area.

Sign, A-Frame. A pedestrian-oriented self-supporting sign that is not permanently affixed to a structure or the ground.

Sign, bandit. Any advertising sign that is placed on public property or on private property without the consent of the property owner or as authorized in this article.

Sign, blade. A permanent, pedestrian-scaled sign mounted either to the wall of building by means of a bracket or attached to the underside of a lintel,

arch, or other overhead structure above a porch or walkway and which is typically hung perpendicular to the wall of the building.

Sign, building identification. A sign consisting of letters or numbers applied to a building wall, engraved into the building material, or consisting of a sculptural relief which contains the name of the building or describes its function, but which does not advertise any individual tenant of the building or any products or services offered.

Sign, building-mounted. Sign attached to, connected to, erected against the wall, parapet, or fascia of a building or structure.

Sign, bus shelter. As specified in 23 M.R.S.A. §1908-A, any outdoor sign visible to the traveling public from public right-of-way that is affixed to a publicly-owned bus shelter operated by a transit agency.

Sign, cabinet. A permanent building-mounted or freestanding sign with its text and/or logo symbols and artwork on a translucent face panel that is mounted within a metal frame or cabinet either that contains the lighting fixtures which illuminate the sign face from behind.

Sign, canopy. A sign that is printed, painted, or affixed to a canopy, typically used to accent building entries.

Sign, center identification. A sign identifying the name of a building, office park, or shopping center only.

Sign, changeable copy. A sign that is designed so that characters, letters, numbers, or illustrations can be manually or mechanically changed or rearranged without altering the face or surface of the sign. For the purposes of this article, a sign whose message changes more than eight times per day is considered an animated sign and not a changeable copy sign.

Sign, directional. A sign erected to inform the viewer of the approximate route, direction, or location of a facility or use.

Sign, direct illumination. Illumination resulting from light emitted directly from a light bulb or light fixture, and not light diffused through translucent signs or reflected from other surfaces such as the ground or building face.

Sign, directory. A permanent sign which provides information in a list, roster, or directory format.

Sign, Electronic Message. A sign or portion of a sign that utilizes computer-generated messages or some other electronic means of changing its characters, letters, numbers, illustrations, display, color, and/or light intensity, including animated graphics and video, by electronic or automatic means. An Electronic Message Sign is not a Single- or Two-Color LED Sign.

Sign, externally-illuminated. A sign whose illumination is reflected from its source by the sign surface to the viewer's eye, the source of light not being visible to the viewer.

Sign, feather banner. A temporary sign that is taller than it is wide and made of a flexible material (typically cloth, nylon, or vinyl) and mounted to a pole to fly freely.

Sign, freestanding. A permanent sign that is erected or mounted on its own self-supporting permanent structure or base detached from any supporting elements of a building.

Sign, fuel pump topper. A temporary sign affixed to the top of an operable fuel dispensing pump used to advertise goods offered for sale on the same parcel on which the fuel pump is located.

Sign, incidental. A sign which provides incidental information, including security, credit card acceptance, business hours, open/closed, directions to services and facilities, or menus.

Sign, individual letter. A cut-out or etched letter or logo which is individually mounted on a building wall or freestanding sign.

Sign, internally illuminated. Any sign in which the source of light is entirely enclosed within the sign and not directly visible.

Sign, landmark. A permanent sign indicating individual historic landmarks, local historic districts, or otherwise determined by the City to have attained a high degree of community, cultural, aesthetic, or historic significance.

Sign, logo. A stylized group of letters, words, numbers, or symbols used to represent and distinguish a business, product, or organization.

Sign, marquee. A permanent sign structure placed over the entrance to a building and typically used for a theater or other entertainment use.

Sign, monument. A permanent freestanding sign with a solid base that is at least 60% the width of the sign face.

Sign, off-premise. Any sign that directs attention to a business, commodity, service, entertainment, product, structure, use, or property different from a structure or use existing on the property where the sign is located, and/or any sign on which space is rented, donated, or sold by the owner of said sign or property for the purpose of conveying a message.

Sign, permanent. A sign constructed of durable materials and intended to exist for the duration of time that the use or occupant is located on the premises.

Sign, pole. An elevated permanent sign typically supported by one or two poles, posts, or columns that do not meet the base width requirements for a monument sign.

Sign, projecting. A permanent sign that is attached to and extends perpendicular from a building from the wall.

Sign, service island canopy. A permanent sign mounted on or under a service island canopy, including on a fascia.

Sign, single-color or two-color LED. A permanent or temporary sign or portion of a sign composed of single-color or two-color LEDs that displays static or changeable sign messages using characters, letters, and numbers only. Examples of these signs include, but are not limited to, "open" or "closed" signs, time

and temperature" signs, or signs indicating the number of available spaces in a parking garage.

Sign, temporary. A sign constructed of paper, cloth, or similar expendable material, which is intended for a definite and limited period of display and which is designed to be moved easily and is not permanently affixed to a structure, sign area, or window.

Sign, wall. A permanent sign affixed to or erected against the wall or fascia of a building or structure, with the exposed face of the sign parallel to the plane of wall or fascia to which it is affixed or erected.

Sign, wall banner. A temporary sign constructed of cloth, bunting, plastic, paper, or similar non-rigid material, and securely attached to the wall or support structure for which it is advertising. Flags are not considered temporary wall banners.

Sign, window. A permanent or temporary sign posted, painted, placed, or affixed in or on a window, or otherwise exposed to public view through a window.

Sign, Yard, Type I. A small temporary sign typically constructed of corrugated plastic and supported on a wire frame used, for example, for advertising by local businesses or by election campaigns.

Sign, Yard, Type II. A temporary sign mounted on a single post installed securely in the ground with a small sign hanging from a cross-bar mounted parallel to the ground.

Sign, Yard, Type III. A temporary large sign mounted on two posts installed securely in the ground.

Sign copy. Any graphic, word, numeral, symbol, insignia, text, sample, model, device, or combination thereof that is primarily intended to advertise, identify, or notify.

Sign face. The exterior surface of a sign, exclusive of structural supports, on which is placed the sign copy.

Sign substructure. The supports, uprights, bracing and/or framework of a sign.

20.3 APPLICABILITY

20.3.1 Applicability

This article applies to all permanent and temporary signs within the city unless specifically exempted.

A. The provisions of this article shall be applied in a content-neutral manner. Non-communicative aspects of all signs, not related to the content of the sign, must comply with the provisions of this article. "Non-communicative aspects" include the time, place, manner, location, size, height, illumination, spacing, and orientation of signs.

B. Nothing in this article shall be construed to prohibit a person from holding a sign while picketing or protesting on public property.

20.3.2 Substitutions and interpretations

This article is not intended to, and does not, restrict speech on the basis of its content, viewpoint, or message. No part of this article shall be construed to favor commercial speech over non-commercial speech. A non-commercial message may be

substituted for any commercial or non-commercial message displayed on a sign without the need for any approval or permit from the City, provided that the sign is otherwise permissible under this article. To the extent any provision of this subsection is ambiguous, the term will be interpreted not to regulate on the basis of the content of the message.

20.3.3 Exemptions

The following signs are not regulated under this article and are not subject to the permitting requirements of Section 20.4:

A. Numerals and letters identifying an address from the street to facilitate emergency response compliant with City requirements.

B. Building identification signs not exceeding two square feet in area for residential buildings and four square feet in area for nonresidential and mixed-use buildings.

C. Any sign, posting, notice, or similar signs placed, installed, or required by law by a city, county, or a federal or state governmental agency in carrying out its responsibility to protect the public health, safety, and welfare, including the following:
   1. Emergency and warning signs necessary to warn of dangerous and hazardous conditions and that serve to aid public safety or civil defense.
   2. Numerals and letters identifying an address from the street to facilitate emergency response and compliant with City requirements.
   3. Traffic signs and signs at bus stops and in bus shelters.
   4. Signs required to be displayed by any applicable federal, state, or local law, regulation, or ordinance.
   5. Signs directing the public to points of interest.
   6. Signs showing the location of public facilities.
   7. Signs subject to the provisions of 23 M.R.S. § 1913-A.

D. Historic plaques and commemorative signs erected and maintained by non-profit organizations, building cornerstones, and date-constructed stones not exceeding four square feet in area.

E. Non-illuminated incidental signs which provide information including, but not limited to, credit card acceptance, business hours, open/closed, no soliciting, directions to services and facilities, or menus, provided these signs do not exceed an aggregate of two square feet in sign area in the Residential Sign District and six square feet in sign area in all other sign districts.

F. Landmark signs.

G. Signs posted on a community bulletin board, not to exceed 11 inches by 17 inches.

H. Signs not readable from the public right-of-way, such as:
   1. Signs or displays located entirely inside of a building and not visible
   2. from the building's exterior.
   3. Signs intended to be readable from within a parking area but not readable beyond the boundaries of the lot or parcel upon which they are located or from any public right-of-way.
   4. Signs located within City recreation facilities.
   5. Signs that are an integral part of an allowed vending machine or similar facility located outside of a business.

I. Temporary signs placed within the public right-of-way, subject to the provisions of 23 M.R.S.A. §1913-A.

20.4 REVIEW PROCEDURES

20.4.1 Review Authority

Table 20-A establishes the final review authority for sign-related applications.

20.4.2 Applications and fees

A. **Filing of applications.** An application for a permanent or temporary sign permit must be submitted to the Building Authority on an application form or in accordance with the application specifications published by the Building Authority. Each application must be accompanied by the applicable fee, which shall be established by the City Council.

B. **Review and approval**

1. Following receipt of a complete application, the Building Authority shall review all sign permit applications and supporting documentation for compliance with the standards of this article.
2. The Building Authority shall either:
   a. Issue the sign permit if the sign that is the subject of the application conforms to the requirements of this article, and also provided that any other required permits as determined by the Building Authority have been obtained, or
   b. Deny the sign permit if the sign that is the subject of the application fails to conform to the requirements of this article. If the sign permit application is denied, the reason shall be stated in writing.

TABLE 20-A: REVIEW AUTHORITY

Application Type	Building Authority	Planning Authority – Historic Preservation
Sign permit	●	-
Signs in historic districts	●	●

20.4.3 Permanent sign permits

A. **Sign permit required.** A sign permit is required to erect, install, construct, move, alter, replace, suspend, display, or maintain (i.e., removal of the sign so that structural elements supporting the sign may be maintained) any permanent sign, unless otherwise specified in this article. Each sign and change of copy (i.e., changing of the face or letters on a sign) requires a separate sign permit except as allowed in Subsection 20.7.4. Exceptions to the requirement for a sign permit include the exemptions listed in Subsection 20.3.3, as well as building-mounted directional signs, building-mounted directory signs, and window signs. Refer to Section 20.8 for permanent sign standards that apply even when no sign permit is required. Any sign not authorized pursuant to this article is not allowed.

B. **Assignment of permanent sign permits.** A current and valid permanent sign permit issued under this article shall be freely assignable to a successor as owner of the property or operator of the premises. The assignment shall not require approval by the Building Authority.

C. **Expiration.** A permanent sign permit will expire and become null and void if the work authorized in compliance with the permit is not commenced within 180 days

from the date of issuance of the permit, or if work is suspended or abandoned for a period of 180 days or more at any time after the work has commenced.

20.4.4 Temporary sign permits

A. **Sign permit required.** A temporary sign permit is required to display a temporary wall banner sign and an A-frame sign placed in the public right-of-way. All other temporary sign types do not require a sign permit.

B. **Duration of temporary sign permit**. A temporary sign permit for a wall banner is valid for 60 days from the date of issuance. There are no time limitations for A-frame signs installed in public right-of-way.

20.4.5 Signs in historic districts

A. **Applicability**. The standards established in this subsection shall be applied within historic districts in addition to the standards otherwise established in this article.

B. **Review.** In addition to being subject to the other provisions of this article, all permanent signs proposed in historic districts must be reviewed for approval by the Planning Authority in accordance with the sign standards included in Subsection 17.8.6 as detailed in the *Historic Resources Design Manual*. If there is a conflict between the standards included in Article 17 and the requirements of this article, the stricter shall apply.

20.4.6 Appeals

Appeals of sign permit decisions are within the jurisdiction of the Zoning Board of Appeals.

20.5 SIGN DISTRICTS ESTABLISHED

Table 20-B combines the zones established in Article 5 into sign districts based on similarity of use, building form, and character. For sign standards specific to overlay zones, see Article 8. If no sign standards exist within the overlay zone, the standards of the underlying zone shall apply.

20.6 GENERAL RESTRICTIONS FOR ALL SIGNS

20.6.1 Location restrictions

Except where specifically authorized in this article, signs may not be placed in the following locations:

A. **Public right-of-way.** Within, on, or projecting over public property, City rights-of-way, or waterways, except signs specifically authorized in this article.

B. **Obstructing traffic signals.** Any location that obstructs the view of any authorized traffic sign, signal, or other traffic control device.

C. **Obstructing intersection visibility.** At the intersections of streets or streets and driveways where the visual lines of sight for drivers of motor vehicles are obstructed. Signs shall observe corner clearance requirements as listed in Subsection 7.4.1.

D. **Ingress and egress.** Areas allowing for ingress to or egress from any door, window, vent, exit way, or fire lane required by Chapter 6 of the City of Portland Code of Ordinances or Fire Department regulations currently in effect.

E. **Landscape elements or utilities.** Tacked, painted, burned, cut, pasted, or otherwise affixed to trees, rocks, light and utility poles, posts, fences, ladders, benches, or

similar supports that are visible from a public way.

F. **Off-premises.** Off the premises of the business to which the commercial advertising sign refers, except as provided in Section 20.9.

G. **Roof-mounted.** Mounted on the roof of a building or structure.

TABLE 20-B: SIGN DISTRICTS ESTABLISHED

Sign District	Zones	Description
Residential Sign District	R-1 Residential Zone R-2 Residential Zone R-3 Residential Zone R-4 Residential Zone R-5/R-5a Residential Zone R-6/R-6a Residential Zone IR-1 Island Residential Zone IR-2 Island Residential Zone IR-3 Island Residential Zone	These zones comprise the vast majority of residential land in Portland. Signage is limited in these zones, as a variety of sign types could detract from the desired residential character.
Small Mixed-Use Sign District	R-P Residence-Professional Zone B-1/B-1b Neighborhood Business Zone B-2b & B-2c Community Business Zone IS-FBC UA, UN, and UT Zones I-B Island Business Zone O-P Office Park Zone	These zones allow a variety of sign types to achieve a diverse, mixed-use character appropriate for neighborhood residential, office, service, and retail uses.
Large Mixed-Use Sign District	B-2 Community Business Zone B-4 Commercial Corridor Zone EWPZ Eastern Waterfront Port Zone	These zones comprise the major commercial centers in Portland and allow a variety of sign types to achieve a diverse character appropriate for major office, service, and retail uses.
Downtown Sign District	B-3/B-3b/B-3c Downtown Business Zone B-5/B-5b Urban Commercial Mixed-Use Zone B-6 Eastern Waterfront Mixed Zone B-7 Mixed Development Zone WCZ Waterfront Central Zone	The downtown core zones allow a variety of sign types to achieve a diverse, mixed-use character appropriate for office, service, retail and mixed-uses in the Downtown.
Industrial and Transportation Sign District	A-B Airport Business Zone I-L/I-Lb Industrial Zone I-H/I-Hb Industrial Zone I-M/I-Ma/I-Mb Industrial Zone WPDZ Water Port Development Zone	These zones allow a number of sign types to achieve a character appropriate for industrial manufacturing, warehousing, and transportation uses.
Open Space Sign District	R-OS Recreation and Open Space Zone RPZ Resource Protection Zone	These zones prohibit most sign types, allowing only those necessary to provide information for primarily open space and recreation uses.

H. **Storage containers and receptacles.** On fuel tanks, storage containers, and/or solid waste receptacles or their enclosures, except for a manufacturer's or installer's identification, appropriate warning signs and placards, and information required by law.

20.6.2 Prohibited signs

Except as otherwise provided in this article, the following signs are prohibited:

A. Billboards.

B. Signs that could be confused with any authorized traffic signal or device or that interfere with, obstruct, confuse, or mislead traffic.

C. Bandit signs.

D. Signs or other devices that are inflatable or affected by the movement of the air or other atmospheric or mechanical means, including inflatable balloons, spinners, strings of flags and pennants, feather banners, fixed aerial displays, streamers, tubes, and inflated characters used as signs, whether attached to a sign or to vehicles, structures, poles, trees and other vegetation, or similar support structures, except as allowed in Section 20.9.

E. Any sign which advertises a business no longer in existence or a product or service no longer being sold, except for landmark signs.

F. Any temporary sign, other than those signs allowed pursuant to Section 20.9.

G. Any other signs not specifically allowed by the provisions of this article.

20.6.3 Display restrictions

Except as otherwise provided in this article, the following display features are prohibited:

A. Animated features which rotate, move, or give the appearance of moving by mechanical, wind, or other means. Barber poles no more than three feet in height and 10 inches in diameter and clocks are excepted from this restriction.

B. Sound, odor, or any particulate matter including bubbles, smoke, fog, confetti, or ashes.

C. Lighting devices with intermittent, flashing, rotating, blinking, or strobe light illumination, animation, motion picture, or laser or motion picture projection, or any lighting effect creating the illusion of motion, as well as laser or hologram lights.

D. Search lights or laser light displays when used as attention-attracting devices.

E. Strings of lights used in connection with commercial premises, except when used for temporary lighting for decoration, and lights arranged in the shape of a product, arrow, or any commercial message.

20.7 GENERAL REQUIREMENTS FOR ALL SIGNS

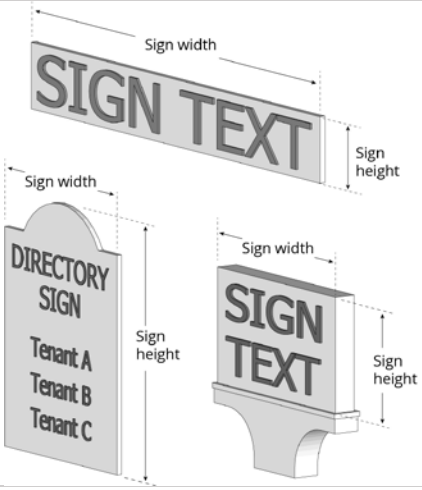
20.7.1 Sign measurement

Sign area and height shall be measured as described in Tables 20-C and 20-D.

20.7.2 Computation of the number of signs

When determining the number of signs, a single sign shall be considered either enclosed within a single frame or composed of modular parts with identical frame elements designed to be joined together to form a single composite sign.

TABLE 20-C: SIGN AREA MEASUREMENT

Signs on background panel	Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.	
Signs as individual letters	Sign copy mounted as individual letters or graphics against a building surface that has not been painted, textured, or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the sign.	

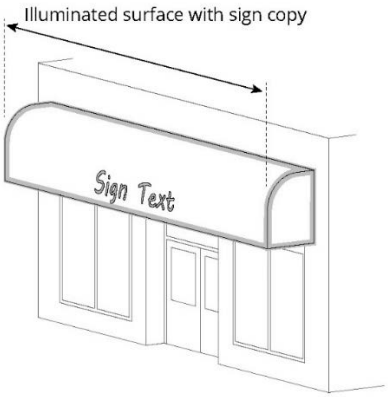
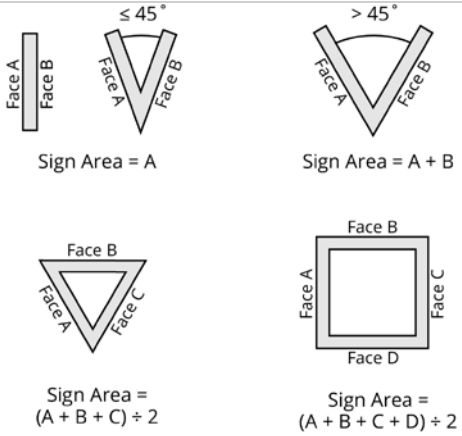
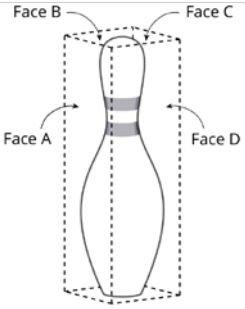
Signs on illuminated surface	Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.	

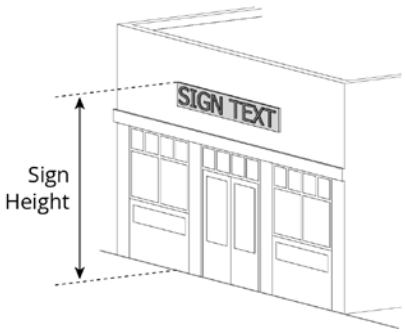
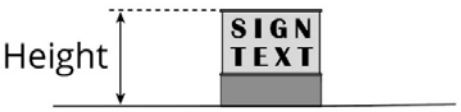
TABLE 20-C (CONT.): SIGN AREA MEASUREMENT

Irregular-shaped signs	Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.	
Multi-face signs	For two-face signs, if the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces. For three- or four-face signs, the sign area is 50 percent of the sum of the areas of all sign faces.	

Spherical, free-form, or sculptural signs	Spherical, free-form, or sculptural signs are measured as 50% of the sum of the areas of the four vertical sides of the smallest four-sided polyhedron that will encompass the sign structure. Signs with greater than four polyhedron faces are prohibited.	 Sign Area = (A + B + C + D) ÷ 2

Note: Numerals and letters used to identify an address are not included in the determination of sign area.

TABLE 20-D: SIGN HEIGHT MEASUREMENT

Building-mounted signs	The height of signs mounted on a building is the vertical distance measured from the base of the wall on which the sign is located to the top of the sign or sign structure.	
Freestanding signs	Sign height is measured as the vertical distance from the finished grade at the base of a sign to the top of the sign exclusive of any filling, berming, mounding, or landscaping solely for the purpose of locating the sign and excluding decorative embellishments as permitted in Section 20.8.	

20.7.3 Sign illumination

A. Sign illumination by sign district

1. Table 20-E identifies the type of illumination permitted (●) or not permitted ( ) by sign district. All allowed permanent signs may also be non-illuminated. All permanent signs for single-family residences or duplexes and all temporary signs must be non-illuminated.
2. The illumination level of a sign must be reduced if the Building Authority determines the light output to be excessive. The Building Authority shall use the following criteria to determine if the illumination is excessive:
   a. The amount of illumination is substantially greater than the illumination level of other nearby signs.
   b. The sign's illumination interferes with the visibility of other signs or with the perception of objects or buildings in the vicinity of the sign.
   c. It directs glare toward streets or motorists.
   d. It adversely impacts nearby residents or neighborhoods.
   e. The illumination reduces the night time readability of the sign.

B. Internal illumination. To minimize glare, internally-illuminated signs must either be constructed with an opaque background and translucent text and symbols, or with a colored background. Backgrounds must not be white, off-white, light gray, cream, or yellow.

TABLE 20-E: SIGN ILLUMINATION BY SIGN DISTRICT

Sign District Name / Type of Illumination	External	Direct	Internal (Cabinet Sign)	Internal (Individual Letters /Logo)	Neon	Single or Two-Color LED	Electronic Message Signs
Residential Sign District	-- [1]			-- [1]			-- [1]
Small Mixed-Use Sign District	●	● [2]	● [3]	●	●	●	
Large Mixed-Use Sign District	●	●	●	●	●	●	●
Downtown Sign District	●	●	●	●	●	●	
Industrial and Transportation Sign District	●	●	●	●	●	●	● [4]
Open Space Sign District	●						

[1] Allowed for institutional uses only.
[2] Only allowed in B-1/B-1b, B-2b/B-2c, IS-FBC, and I-B zones.
[3] Only allowed in B-2b, B2-c, and OP zones.
[4] Only allowed in I-L, I-Lb, I-M, I-Ma, I-Mb, I-H, and I-Hb zones.

C. External illumination

1. Externally-illuminated signs must be illuminated only with steady, stationary, fully-shielded light sources directed solely onto the sign without causing glare.
2. The light source for externally-illuminated signs must be arranged and shielded to substantially confine all direct light rays to the sign face and away from streets and adjacent properties as illustrated in Figure 20-A.

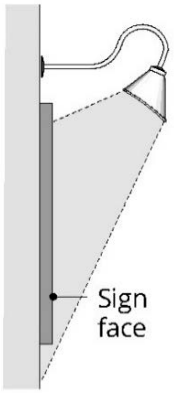


FIGURE 20-A: EXTERNAL ILLUMINATION

D. **Direct illumination.** All direct illumination must be turned off daily at the close of business or 10 p.m., whichever occurs last.

E. **Neon.** Exposed neon sign lighting must be turned off daily at the close of business or 10 p.m., whichever occurs last.

F. **Single-color or two-color LED signs.**

1. Single or two-color LED signs are exempt from the sign area limitations for window signs and building-mounted signs.
2. Single or two-color LED signs must be turned off daily at the close of business or 10 p.m., whichever occurs last.

G. **Electronic Message Signs**

1. One electronic message sign is allowed per lot.
2. Electronic message signs must not flash, blink, flutter, include intermittent or chasing lights, or display video messages (i.e., any illumination or message that is in motion or appears to be in motion). Electronic message signs may display changing messages provided that each message is displayed for no less than 30 seconds.
3. Electronic message signs must be equipped with photocell technology to control and vary the intensity of light output depending on the amount of ambient light that is present to prevent overly bright luminance at night. Automatic controls must limit night luminance to a maximum of 100 nits when the display is set to show maximum brightness in 100 percent full white mode.
4. The applicant shall provide a written certification from the sign manufacturer that the night time luminance has been factory pre-set not to exceed 100 nits as described in (3) above, and that this setting is protected from end-user modification by password-protected software or other method as deemed appropriate by the Building Authority.
5. Electronic message signs must be turned off daily at the close of business or 10 p.m., whichever occurs first.

20.7.4 Changeable sign copy

Changeable sign copy must comply with the following standards:

A. **Maximum area.** The maximum area of changeable sign copy shall be limited to 50% of

the total sign area, except for marquee signs. This does not apply to any signs required by law.

B. **Sign design.** The changeable sign copy must be an integral part of a permanent building-mounted or freestanding sign.

C. **Illumination.** Changeable sign copy may be non-illuminated or internally-illuminated.

20.7.5 Structure and installation

A. **Authority.** The construction of signs shall be enforced and administered by the Building Authority. All signs and advertising structures must be designed to comply with the provisions of this article and applicable provisions of Chapter 6 of the City of Portland Code of Ordinances and constructed to withstand wind loads, dead loads, and lateral forces.

B. **Electrical features.** Where electrical service is provided to freestanding signs or landscape wall signs, all such electrical service must be placed be underground and concealed. Electrical service to building-mounted signs, including conduit, housings, and wire, must be concealed or, when necessary, painted to match the surface of the structure upon which they are mounted. An electrical permit shall be issued prior to installation of any new signs requiring electrical service.

C. **Raceway cabinets.** Raceway cabinets, as illustrated in Figure 20-B, shall only be used in building-mounted signs when access to the wall behind the sign is not feasible, shall not extend in width and height beyond the area of the sign, and shall match the color of the building to which it is attached. Where a raceway cabinet provides a contrast background to sign copy, the colored area is counted in the total allowable sign area allowed for the site or business. A raceway cabinet is not a cabinet sign.

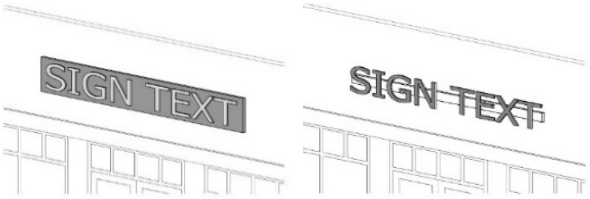


FIGURE 20-B: RACEWAY CABINET EXAMPLES

D. **Materials.** All permanent signs allowed by this article must be constructed of durable materials capable of withstanding continuous exposure to the elements and must be permanently attached to the ground, a building, or another structure by direct attachment to a rigid wall, frame, or structure.

20.7.6 Sign maintenance

All signs must be maintained by any property owner, lessor, lessee, manager, agent, or other person having lawful possession or control over a building, structure, or parcel of land, in a condition or state of equivalent quality to which was approved or required by the City. All signs together with their supports and appurtenances must be maintained in good structural condition, in compliance with applicable provisions of Chapter 6 of the City of Portland Code of Ordinances, and in conformance with this article. Maintenance of a sign includes periodic cleaning, replacement of flickering, burned out, or broken light bulbs or fixtures, repair or replacement of any faded, peeled, cracked, or

otherwise damaged or broken parts of a sign, and any other activity necessary to restore the sign so that it continues to comply with the requirements and contents of the sign permit issued for its installation and provisions of this article.

20.8 STANDARDS FOR PERMANENT SIGNS

20.8.1 Permitted sign types by sign district

Table 20-F establishes which sign types are permitted (●) or not permitted ( ) in each sign district. Any combination of allowed sign types may be used within a given sign district unless specifically prohibited.

20.8.2 Permanent building-mounted sign standards

The maximum total area for all building-mounted signs is established in Table 20-G. The area of all building-mounted signs is included in the maximum total sign area, except when specifically exempted. All permanent building-mounted signs shall comply with the corresponding sign type standards provided in Tables 20-H to 20-Q.

20.8.3 Permanent freestanding sign standards

All permanent freestanding signs shall comply with the standards of Table 20-R and the corresponding sign type standards established in Tables 20-S to 20-V. Unless specifically indicated, standards applicable within a sign district apply to single- and multi-tenant buildings. There is no setback requirement for permanent freestanding signs, provided that the sign is entirely located on the property where the sign is permitted, and the sign is located in compliance with Table 20-F.



TABLE 20-F: ALLOWED SIGN TYPES BY SIGN DISTRICT

	Sign Type	Residential Sign District [1]	Small Mixed-Use Sign District	Large Mixed-Use Sign District	Downtown Sign District	Industrial Sign District	Open Space Sign District
Building-Mounted	Awning Sign		●[2]	●	●	●	●
	Canopy Sign		●[2]	●	●	●	
	Blade Sign		●	●	●		
	Directional Sign		●[2]	●	●	●	●
	Directory Sign	●[3]	●	●	●	●	
	Marquee Sign			●	●		
	Projecting Sign		●[2]	●	●	●	
	Service Island Canopy Sign			●	●	●	
	Wall Sign	●	●	●	●	●	●
	Window Sign		●	●	●	●	●
Freestanding	Freestanding Directional Sign	●	●	●	●[4]	●	●
	Freestanding Directory Sign	●[3]	●	●	●[4]	●	●
	Monument Sign		●	●	●[5]	●	
	Pole Sign			●	●[5]	●	

[1] For institutional uses in residential zones, all permanent sign types are allowed except for the following: awning sign, blade sign, canopy sign, marquee sign, pole sign, projecting sign, service island canopy sign; and window sign.

[2] Not allowed in the R-P Zone.

[3] Not allowed in the R-1, R-2, R-4, IR-1, and IR-2 zones.

[4] Not allowed in the B-3 zone.

[5] In the B-3 and B-5 zones, freestanding signs are permitted only if the front façade of the building is set back a distance of at least 20 ft. from either of the front facades of abutting buildings. In the case of a multi-tenant building, the individual tenants' frontage must be set back a distance of at least 20 ft. from other tenant's frontages.

TABLE 20-G: DIMENSIONAL STANDARDS FOR BUILDING-MOUNTED SIGNS BY SIGN DISTRICT

Sign District			Total Area for All Signs (per Tenant or Façade)	Number of Signs (max.)
Residential	Single-family lots		2 SF max.	1 per lot (either freestanding or building-mounted)
	PRUDs, multi-family lots		10 SF max.	1 per street frontage
	Institutional use in all residential zones		1.5 SF per linear foot of building façade where the sign is placed 150 SF max.	1 per street frontage, plus 2 additional
Small Mixed-Use	Single-tenant building		I-B zone: 1 SF per linear foot of building façade where the sign is placed; Max. 40 SF All other zones: 1.5 SF per linear foot of building façade where sign is placed; Max. 100 SF	1 per street frontage, plus 1 additional
	Multi-tenant building		1.5 SF per linear foot of building façade where the sign is placed 150 SF max.	1 per tenant[5,6], plus 1 additional for the building.
Large Mixed-Use	Single-tenant building		2 SF per linear foot of building façade where the sign is placed 200 SF max.[1]	1 per street frontage, plus 2 additional
	Multi-tenant building		1.5 SF per linear foot of tenant façade where the sign is placed 150 SF max.	1 per tenant[6], plus 1 additional for the building.
Downtown	Single-tenant building		2 SF per linear foot of building façade where the sign is placed	1 per street frontage, plus 2 additional
	Multi-tenant building	Ground floor tenants	2 SF per linear foot of tenant frontage where the sign is placed	1 per tenant[5, 6]
		Building ID and upper floor tenants	5% of building wall area where sign is placed max.	1 per tenant, plus 2 additional for the building
Industrial & Trans.	Single-tenant building		2 SF per linear foot of building façade where sign is placed 250 SF max.	1 per street frontage, plus 2 additional
	Multi-tenant building		2 SF per linear foot of tenant frontage where the sign is placed 200 SF max.	1 per tenant, plus 2 additional for the building
Open Space	Commercial signs/facility signs[2, 3]		1 SF per linear foot of building façade where the sign is placed 20 SF max.[4]	1 per use (either freestanding or building-mounted)
	Sign placement		The total sign area for signs on single-tenant or multi-tenant buildings may be placed on any building elevation, provided that at least 1 sign must be placed above or associated with the building entry or tenant's building entry, in the case of a multi-tenant building.	

[1] Where a building features two principal entry facades facing parallel streets, each entry façade shall be eligible for the full amount of signage relative to its frontage, notwithstanding the total area.
[2] Standards do not apply to municipal stadiums with more than 6,000 seats. The standards for the Small Mixed-Use Sign District shall apply instead.
[3] Building signs shall be visually related to the building on which they are located in terms of materials, color, scale, etc., as determined by the Building Authority.
[4] Product trademarks limited to 5 percent of total sign area.
[5] On the peninsula, each tenant may have two signs, provided that one sign is a blade sign and one sign is placed parallel to the building façade.
[6] If a tenant faces additional street frontages, one additional sign is allowed per frontage for that tenant.

TABLE 20-H: STANDARDS FOR AWNING SIGNS

Standard	Requirements
Sign area (max.)	1 SF per linear foot of awning width
Mounting height	7 ft. min. from the bottom of the awning to the nearest grade or sidewalk 25 ft. max.
Sign placement	Must be placed above the doors and windows of the ground floor of a building. Awnings shall not project above, below, or beyond the edges of the face of the building wall or architectural element. Sign width shall not be greater than 60% of the width of the awning face or valance on which it is displayed (if an awning is placed on multiple storefronts, each business is permitted signage no greater than 60% of the width of the storefront). May project into public right-of-way with permit approval.
Valance height (max.)	6 in.
Horizontal distance from back of curb (min.)	2 ft.
Illumination	Illumination allowed under the awning.

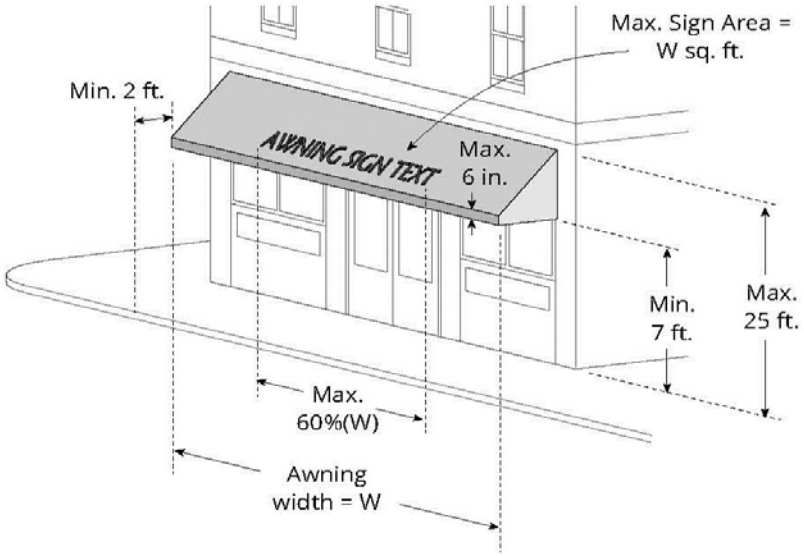


TABLE 20-I: STANDARDS FOR CANOPY SIGNS

Standard	Requirements
Sign area (max.)	1 SF per linear foot of canopy width
Mounting height	8 ft. min. from the bottom of the sign to the nearest grade or sidewalk 20 ft. max.
Sign placement	Must be placed above the doors and windows of the ground floor of a building. Sign width shall not be greater than 60% of the width of the canopy on which it is displayed (if a canopy is placed on multiple store fronts, each business is permitted signage no greater than 60% of the store width or tenant space). May project into public right-of-way with permit approval.
Horizontal distance from back of curb (min.)	2 ft.
Illumination	Direct illumination or internal illumination

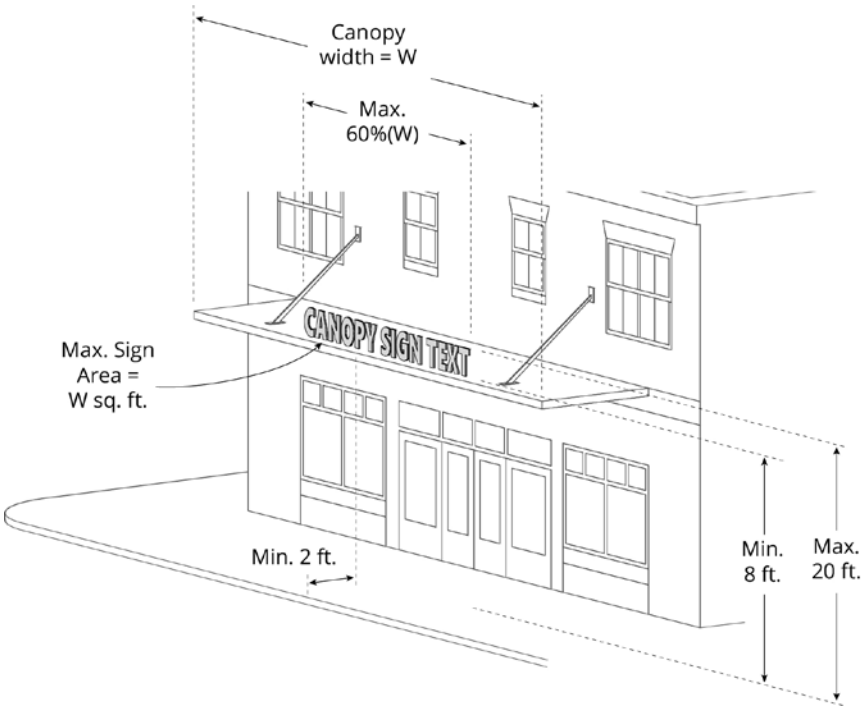


TABLE 20-J: STANDARDS FOR BLADE SIGNS

Standard	Requirements
Sign area (max.)	12 SF
Mounting height	8 ft. min. from the bottom of the sign to the nearest grade or sidewalk Must be mounted perpendicular to the building face or corner of the building.
Sign placement	If mounted below the underside of a walkway or overhead structure, must not extend beyond the edge of the structure on which it is located. May project into public right-of-way with permit approval.
Illumination	External illumination

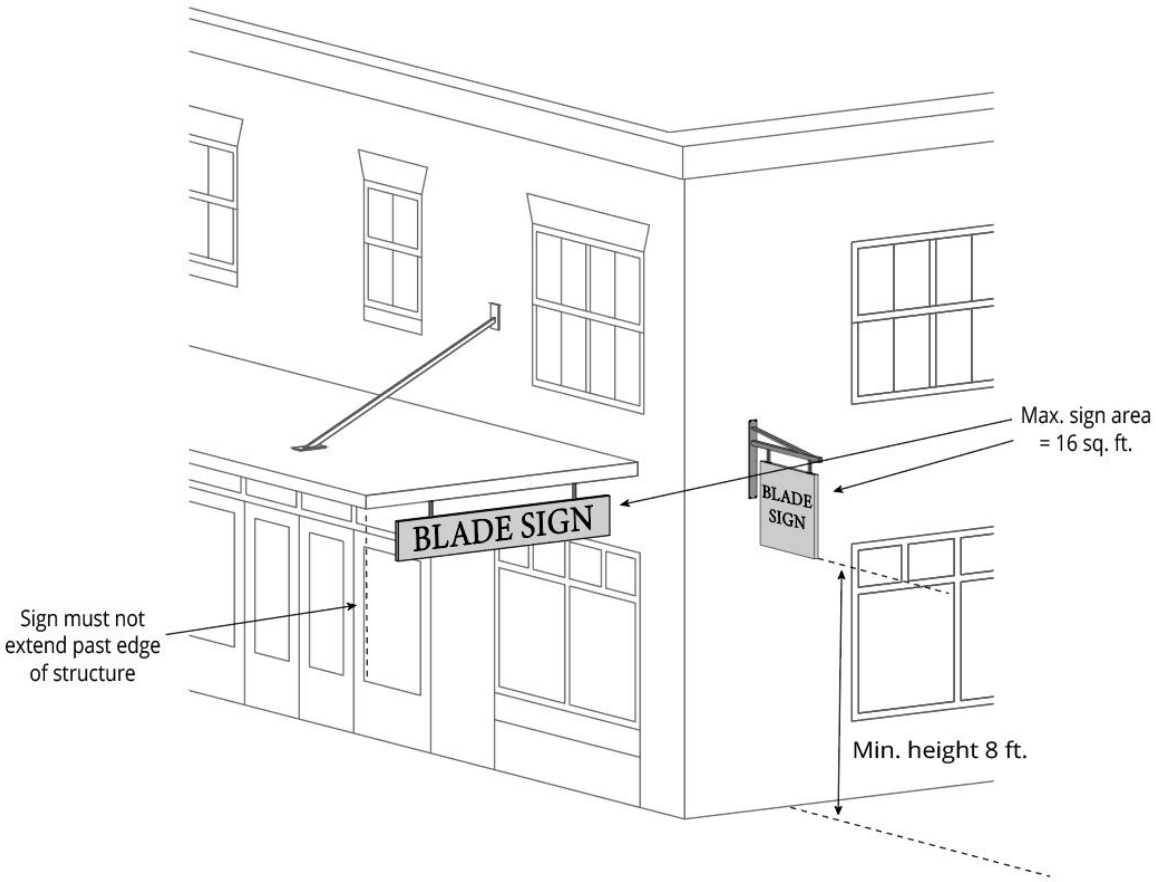


TABLE 20-K: STANDARDS FOR DIRECTIONAL SIGNS (BUILDING-MOUNTED)

Standard	Requirements
Sign area (max.)	3 SF per sign face (excluded from the total allowed sign area for all building-mounted signs)
Mounting height	6 ft. max. from nearest grade
Number of signs (max.)	1 at each driveway, drive-through lane, or alley, not to exceed 3 signs per lot (excluded from the total number of allowed signs for all building-mounted signs)
Illumination	Internal illumination

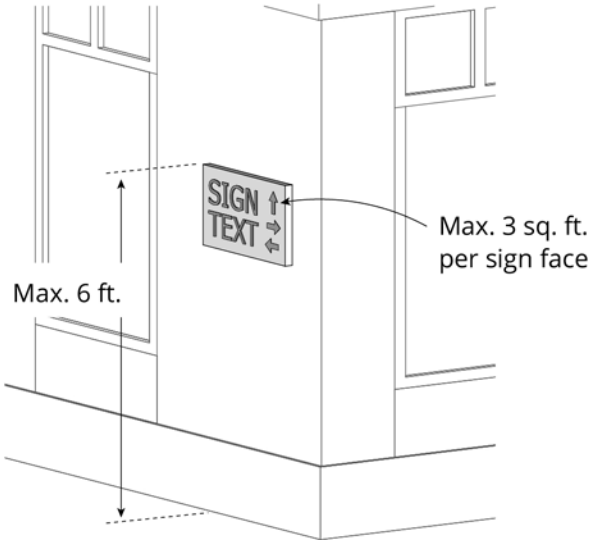


TABLE 20-L: STANDARDS FOR DIRECTORY SIGNS (BUILDING-MOUNTED)

Standard	Requirements
Sign area (max.)	1 SF per occupant of tenant space and 16 SF total max. (excluded from the total allowed sign area for all building-mounted signs)
Mounting height	8 ft. max. from nearest grade
Number of signs (max.)	1 per primary building entrance (excluded from the total number of allowed signs for all building-mounted signs)
Illumination	External illumination or internal illumination

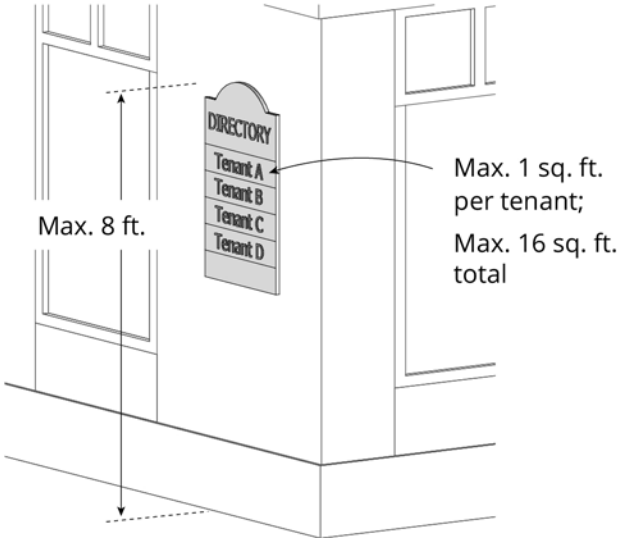


TABLE 20-M: STANDARDS FOR MARQUEE SIGNS

Standard	Requirements
Sign area (max.)	1 SF to 1 linear foot of marquee width
Mounting height	12 ft. min. from the bottom of the marquee to the nearest grade or sidewalk
Number of signs (max.)	1 per business
Sign placement	May project into public right-of-way with permit approval.
Horizontal distance from back of curb (min.)	2 ft.
Illumination	Direct illumination or internal illumination

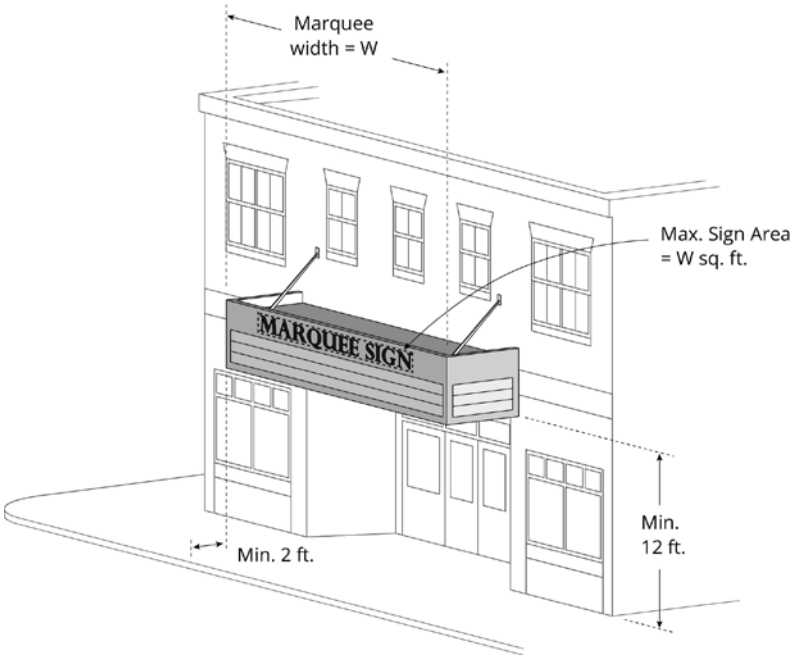


TABLE 20-N: STANDARDS FOR PROJECTING SIGNS

Standard	Requirements
Sign area (max.)	24 SF
Mounting height	8 ft. min. from the bottom of the sign to the nearest grade or sidewalk.
Sign placement	Only on the wall of a building. May project into public right-of-way with permit approval.
Number of signs (max.)	1 per business
Projection (max.)	4 ft. from the building wall to the outer edge of the sign
Illumination	External illumination, direct illumination, neon, or internal illumination of individual letters or graphics only.

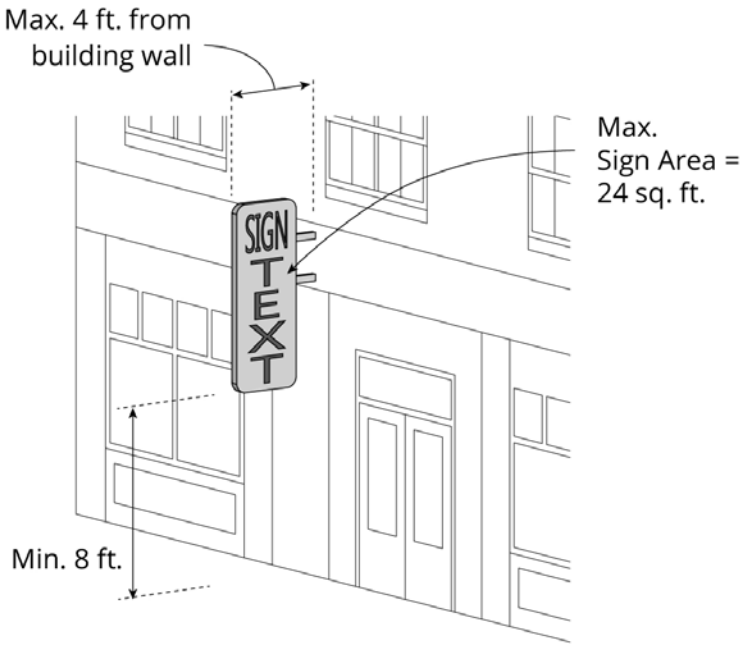


TABLE 20-O: STANDARDS FOR SERVICE ISLAND CANOPY SIGNS

Standard	Requirements
Sign area (max.)	20 SF
Number of signs (max.)	1 per canopy façade, not to exceed 2 signs total
Illumination	Internal illumination

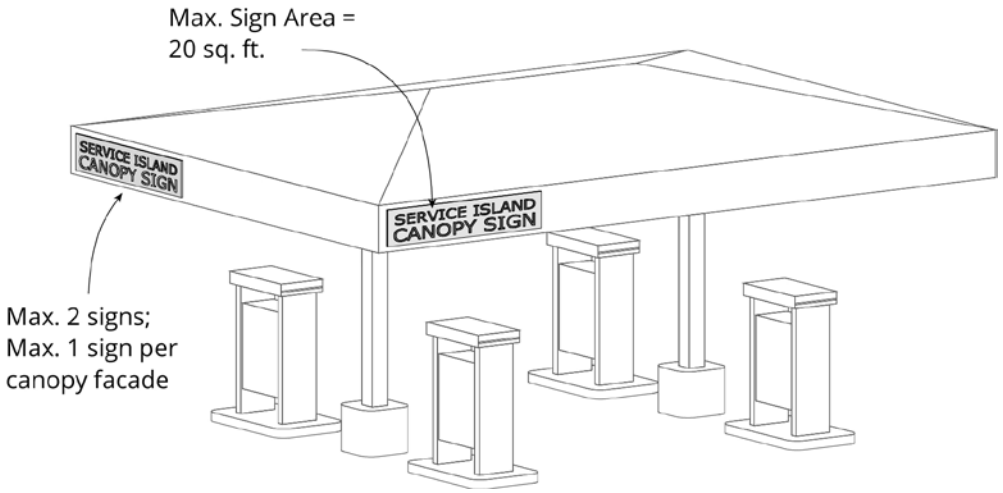


TABLE 20-P: STANDARDS FOR WALL SIGNS

Standard	Requirements
Sign area (max.)	As provided in Table 20-G
Number of signs (max.)	As provided in Table 20-G
Illumination	External illumination, direct illumination, internal illumination, or neon
Special provisions	Painted wall signs are allowed on any exterior building wall of an individual tenant space or building. The allowable area for painted wall signs shall be increased by 10% over the normal allowable sign dimensions for the zone.

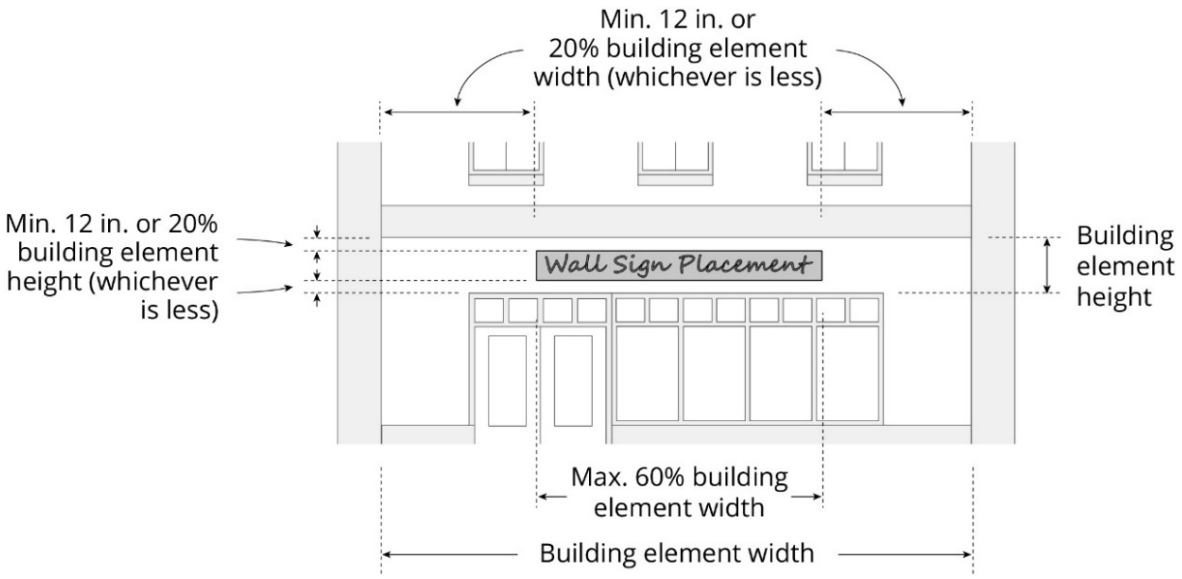
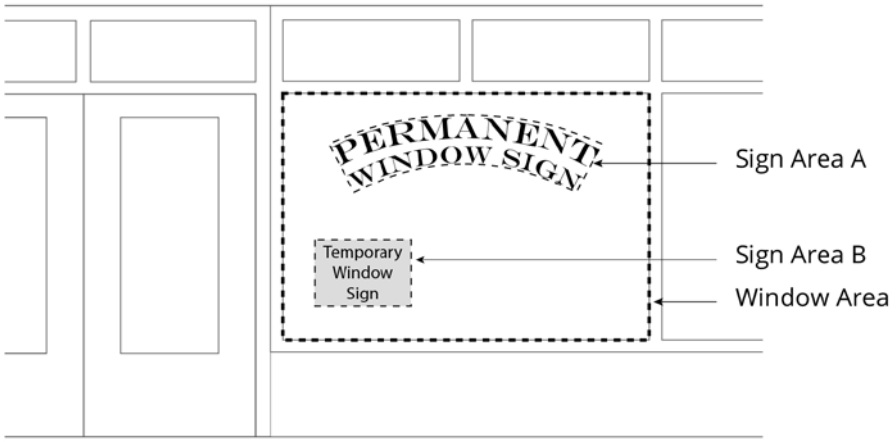


TABLE 20-Q: STANDARDS FOR WINDOW SIGNS

Standard	Requirements
Sign area (max.)	Combined area of temporary and permanent window signs must not exceed 50% of the area of the window on which they are displayed. Painted window signs or perforated vinyl signs are included in this calculation. Excluded from the total allowed sign area for all building-mounted signs.
Sign placement	Must be mounted or displayed on the interior of the window. Allowed on 1st and 2nd story windows only.
Illumination	Neon or single- or two-color LED signs



Sign Area A + Sign Area B ≤ 50% Window Area

TABLE 20-R: DIMENSIONAL STANDARDS FOR FREESTANDING SIGNS BY SIGN DISTRICT

Sign District				Area (max.)	Height (max.)	Number of Signs
Residential			Single-family lots	2 SF	5 ft.	1 per lot (freestanding or building-mounted)
			PRUDs, multi-family lots	15 SF	5 ft.	1 per major vehicular entrance
	Institutional		Street frontage ≤ 100 ft.	15 SF	6 ft.	1 per frontage[1, 2]
			Street frontage 100 – 250 ft.	25 SF	8 ft.	1 per frontage[1, 2]
			Street frontage ≥ 250 ft.	50 SF	8 ft.	1 per frontage[1, 2]
Small Mixed-Use			Single-tenant building	32 SF	B-1/B-1b, B-2b/B-2c zones: 16 ft. In all other zones: 8 ft.	1 per lot[1]
		Multi-tenant building	< 1 acre lot	32 SF		
			1 – 2.5 acre lot	100 SF		
			> 2.5 acre lot	140 SF		
			I-B Zone[3]	20 SF	10 ft.	1 per use
	OP zone		Center identification sign	50 SF	8 ft.	1 per major vehicular entrance
			Tenant sign	15 SF	5 ft.	1 per tenant[2]
Large Mixed-Use	Single-tenant building		Street frontage ≤ 200 ft.	65 SF	B-4 zone: 25 ft. In all other zones: 18 ft.	1 per lot[1]
			Street frontage > 200 ft.	100 SF		
	Multi-tenant building		< 1 acre lot	65 SF	B-4 zone: 25 ft. In all other zones: 18 ft.	1 per lot[1]
			1 - 2.5 acre lot	100 SF		
			> 2.5 acre lot	140 SF		
Downtown				16 SF	6 ft.	1 per frontage[1]
Industrial & Transportation			Single-tenant building	35 SF	10 ft.	1 per lot[1]
			Multi-tenant building	70 SF	15 ft.	1 per lot[1]
	AB zone	Single-tenant building	Street frontage ≤ 200 ft.	32 SF	16 ft.	1 per lot[1]
			Street frontage > 200 ft.	65 SF	16 ft.	1 per lot[1]
		Multi-tenant building	< 1 acre	32 SF	16 ft.	1 per lot[1]
			1 - 2.5 acres	100 SF		
			≥ 2.5 acres	140 SF		
Open Space[4]			Park identification signs[5]	20 SF	5 ft.	1 per major vehicular entrance
			All other signs[5]	16 SF[6]	8 ft.	1 per use (building-mounted or freestanding)

[1] Lots with multiple street frontages are allowed one freestanding sign for each frontage, provided that the signs are not concurrently visible from the public right-of-way.

[2] Where a lot contains more than one affiliated use or tenant, uses and tenants may be allocated space on a shared sign. Individual uses or tenants are not allowed to have individual freestanding signs.

[3] Only allowed for marine-related uses serving vessel traffic.

[4] Standards do not apply to municipal stadiums with more than 6,000 seats. The standards for the Small Mixed-Use Sign District shall apply instead.

[5] All signs must be integrated into existing landscape features or visually related to the materials, colors, scale, etc. of existing buildings as determined by the Building Authority.

[6] Product trademarks limited to 5% of total sign area.

TABLE 20-S: STANDARDS FOR DIRECTIONAL SIGNS (FREESTANDING)

Standard	Requirements
Sign area (max.)	3 SF per sign face (excluded from the total allowed sign area for all freestanding signs)
Height (max.)	6 ft. from nearest grade, except 4 ft. at driveway or drive-through lanes
Number of signs (max.)	1 at each driveway or drive-through lane, not to exceed 3 signs per lot (excluded from the total number of allowed signs for all freestanding signs)
Illumination	Internal illumination

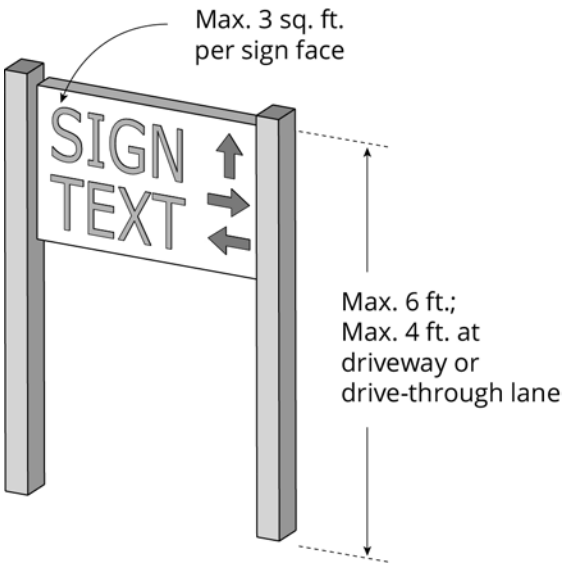


TABLE 20-T: STANDARDS FOR DIRECTORY SIGNS (FREESTANDING)

Standard	Requirements
Sign area (max.)	12 SF total 1 SF max. per occupant or tenant space (excluded from the total allowed sign area for all freestanding signs)
Height (max.)	6 ft. from nearest grade, except 4 ft. at driveway or drive-through lanes
Number of signs (max.)	1 per building (excluded from the total number of allowed signs for all freestanding signs)
Illumination	External illumination or internal illumination

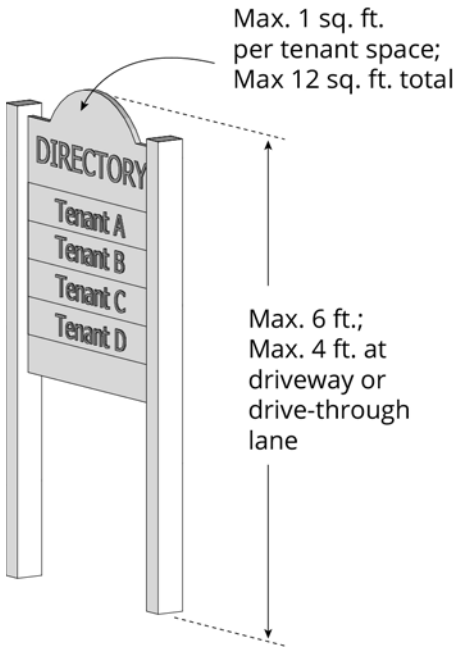
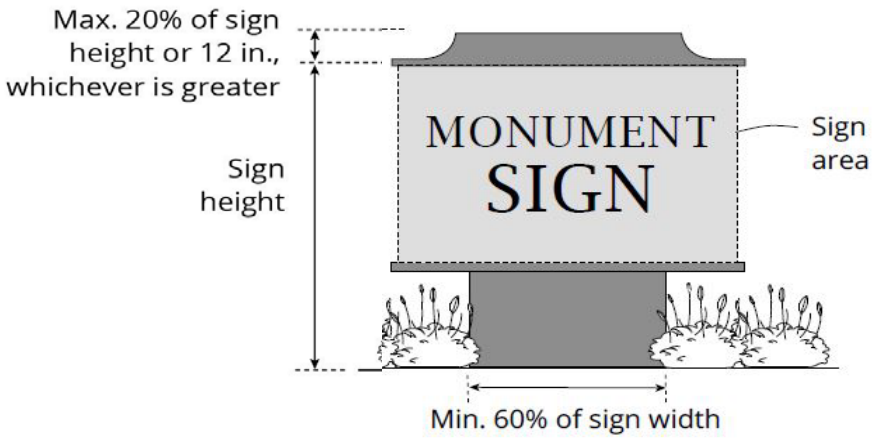


TABLE 20-U: STANDARDS FOR MONUMENT SIGNS[1]

Standard	Sign District					
	Residential Sign District[2]	Small Mixed-Use Sign District	Large Mixed-Use Sign District	Downtown Sign District	Industrial Sign District	Open Space Sign District
Sign area (max.)	50 SF	50 SF	140 SF	50 SF	70 SF	20 SF
Height (max.)	8 ft.	8 ft.	18 ft.	6 ft.	16 ft.	5 ft.
Base width (max.)	The base of a monument sign must be at least 60% of the width of the sign.					
Illumination	Non-illuminated, internal illumination, or external illumination					
Special provisions for sign height	Elements to enhance the design of a sign structure may extend above the sign to a max. of 20% of the sign's allowed height, or 12 inches, whichever is greater.					

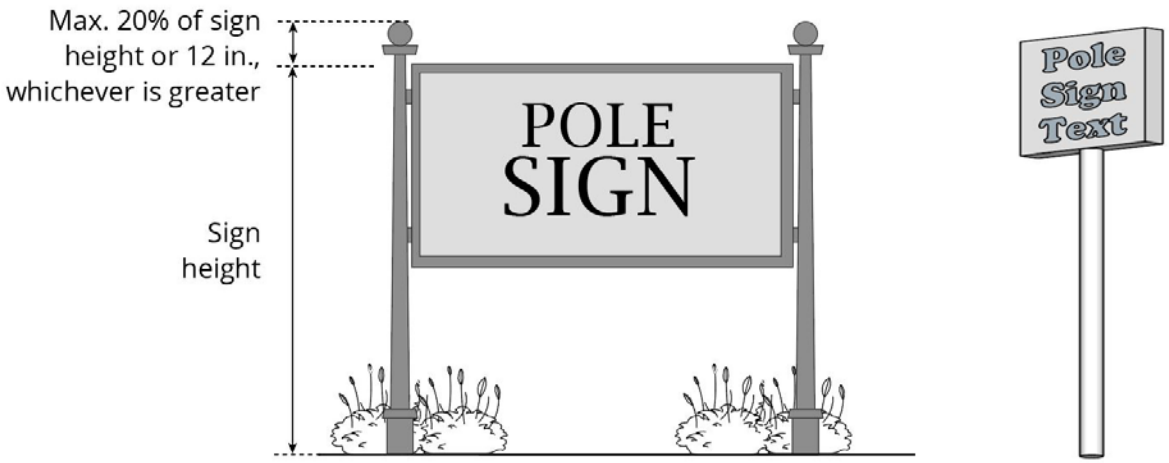


[1] The maximum sign area and sign height standards may be further limited by the standards established in Table 20-R. If no value is included in the table below, then a monument sign is not allowed in that sign district

[2] Allowed for institutional uses in residential zones only.

TABLE 20-V: STANDARDS FOR POLE SIGNS[1]

Standard		Sign District					
		Residential Sign District	Small Mixed-Use Sign District	Large Mixed-Use Sign District	Downtown Sign District	Industrial Sign District	Open Space Sign District
Sign area (max.)	Signs ≤ 8 ft. High	15 SF	24 SF	24 SF	24 SF	24 SF	20 SF
Height (max.)		5 ft.	8 ft.	8 ft.	6 ft.	8 ft.	8 ft.
Sign area (max.)	Signs 8 - 25 ft. high			140 SF		140 SF	
Height (max.)				25 ft.		16 ft.	
Illumination		Non-illuminated or internal illumination Signs ≤ 8 ft. in height may have external illumination					
Sign placement		Signs ≥ 8 ft. in height must have minimum 75 foot separation from other pole signs ≥ 8 ft. on the same side of the street.					
Sign height		Elements to enhance the design of a sign structure ≤ 8 ft. in height may extend above the sign to a max. of 20% of the sign's allowed height, or 12 inches, whichever is greater.					



1 The maximum sign area and sign height standards may be further limited by the standards established in Table 20-R.

20.9 STANDARDS FOR TEMPORARY SIGNS

20.9.1 In general

Temporary signs are allowed only in compliance with the provisions of this section.

A. **Information required for display.** All temporary signs are required to display the name and address of the entity placing the sign, and the date the sign was erected.

B. **Not included in permanent sign allowances.** Temporary signs are not counted toward the maximum total sign area established in Section 20.8.

C. **General time, place, and manner restrictions.** Unless specifically exempted by this section, temporary signs must be placed in compliance with Subsection 20.6.1. Temporary signs must not be placed to create a hazard for pedestrian or vehicular traffic and must allow for a 4-foot wide sidewalk to comply with the Americans with Disabilities Act.

D. Any form of illumination, including flashing, blinking, or rotating lights; animation; reflective materials; and attachments such as balloons, ribbons, and loudspeakers are prohibited.

E. Temporary signs must be of sufficient weight and durability to withstand wind gusts, storms, and other exterior elements.

20.9.2 Additional standards for temporary signs

All temporary signs shall comply with the standards of Tables 20-W and 20-X.

TABLE 20-W: TEMPORARY SIGN STANDARDS BY SIGN DISTRICT

	Standard	Requirement
Residential	**Total area of all temporary signs at any one time** (max.)	16 SF per lot.
	Number of signs (max.)	Unlimited except that the total sign area must not exceed 16 SF
	Time limit (max.)	None
Other	**Total area of all temporary signs at any one time** (max.)	24 SF per tenant, with a total of max. 72 SF per lot (excludes the area of temporary window signs and permitted wall banner signs) Exception: In the Downtown Sign District and historic districts, max. 12 SF per tenant (excludes the area of temporary window signs and permitted wall banner signs)
	Number of signs (max.)	1 wall banner per tenant in a multi-tenant building. All other temporary sign types unlimited, except that the total sign area of all temporary signs (excludes the area of temporary window signs and permitted wall banner signs) must not exceed the total square footage provided above. Exception: In multi-tenant shopping centers or offices, max. 2 temporary wall banner signs per 150 linear feet of property frontage, not to exceed 24 SF combined.
	Time limit (max.)	60 days per temporary sign permit, and up to 180 days per calendar year.

TABLE 20-X: STANDARDS FOR TEMPORARY SIGN TYPES

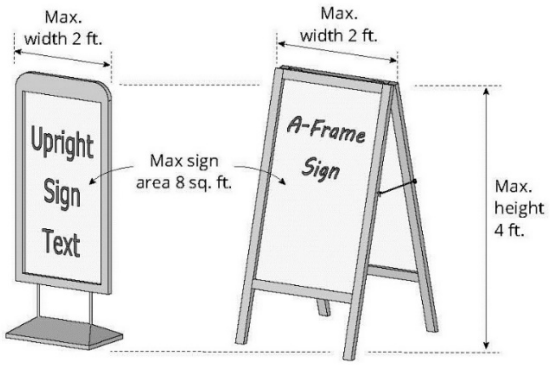
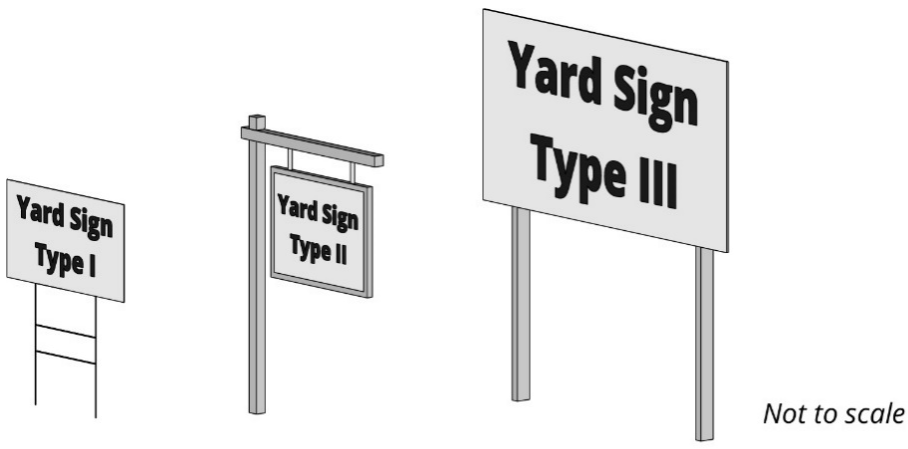
Temporary Sign Type[1]	Standard: Height	Standard: Width (max.)	Standard: Area (max.)	Other Requirements
	Min. 30 in. Max. 4 ft.	2 ft.	8 SF	Prohibited in residential zones. Must not be placed in public right-of-way except as permitted by the City. [3] If advertising a business, only permitted during regular business hours.
A-frame or upright sign[2]				
			32 SF	Prohibited in residential zones. Must be mounted on a building wall or on T-posts or stakes installed ≤ 6" from a wall on which the wall banner will be hung. Mounting height (max.): 25 ft. to top of banner.
Wall banner				

TABLE 20-X (CONT.): STANDARDS FOR TEMPORARY SIGN TYPES

Temporary Sign Type[1]	Standard: Height (max.)	Standard: Width (max.)	Standard: Area (max.)	Other Requirements
Window sign			See End Note[4]	Mounting height (max.): Placed no higher than second story windows. Inside mounting required. Not included in the total sign area for all temporary signs.
Yard sign (Type I)	4 ft.	2 ft.	3 SF	Installation requirements: Installed securely in the ground.
Yard sign (Type II)	6 ft.	2 ft.	4 SF	Installation requirements: Installed securely in the ground.
Yard sign (Type III)	6 ft.	8 ft.	32 SF	Installation requirements: Installed securely in the ground.



[1] Other temporary sign types may be allowed (e.g. fuel pump topper signs; wrap around waste receptacles) provided the max. area limitation for all temporary signs is not exceeded.
[2] These signs may be used to identify businesses located down a wharf in the EWPZ and WCZ Zones that have no street frontage and where no other options for on-site permanent signage are available.
[3] A min. 4-foot wide pedestrian walkway must be maintained at all times.
[4] The area of temporary and permanent window signs combined (including signs constructed of perforated vinyl or painted on the window) must not exceed 50% of the area of the window on or within which they are displayed.

20.10 NONCONFORMING SIGNS

20.10.1 Applicability

A. **Maintenance.** Nonconforming signs may be maintained, expanded upon, and/or reduced only in accordance with the provisions of this section.

B. **Continuation.** All lawfully nonconforming signs may be continued, subject to this section.

1. Lawfully nonconforming permanent directional signs for existing nonconforming businesses that are established and operational in any residential zone may continue to be used subject to this section.
2. Lawfully nonconforming permanent signs for nonconforming uses established and operational in any residential zone may continue to be used subject to this section.

20.10.2 Removal or replacement of a nonconforming sign

Lawfully nonconforming signs must be made to conform or shall be removed if any of the following occurs, unless the improvements are required to achieve compliance with applicable federal, state, or local regulations, other than the provisions of this article, and the improvements do not require replacement of the nonconforming sign. In no event will the degree of nonconformity of any sign or type of signage on any lot be increased.

A. **Major site plan review.** Major site plan review is sought for any new structures or building additions on the site, except as provided in (E) below.

B. **New building permit for rehabilitation.** A building permit is sought for a rehabilitation of a building where the value of the rehabilitation exceeds 50% of the assessed value of the building, or $100,000, whichever is less, provided that where rehabilitation is of a multi-tenant building, only the tenant or tenants whose building or area is being rehabilitated shall be required to come into conformance with this article.

C. **New sign permit.** An application is filed for a new sign permit in accordance with the following:

1. When an application is filed for a new building-mounted sign, all building-mounted signs on the lot must come into compliance with all requirements of this article for building signs.
2. When an application is filed for a new freestanding sign, all freestanding signs on the lot must come into compliance with all requirements of this article for freestanding signs.

D. **Modification of sign.** A sign is modified in any way, except for routine maintenance or repair of sudden and accidental damage, or for a change in the message panel only, unless otherwise required to conform under this subsection. Repair of sudden and accidental damage will not include replacement of the entire sign, which is treated as a modification under this subsection. Letters on nonconforming signs designed for changeable messages may be changed without triggering the terms of this subsection as long as no other change is made to the sign.

Replacement of an awning covering with substantially the same material and text is not considered a modification.

E. Signs on multi-tenant properties

1. In the case of nonconforming freestanding shared signs for multi-tenant properties, signs may be added or modified to reflect a change in individual tenants without triggering the terms of this subsection, provided that the degree of nonconformity is not increased.
2. In the case of building signs on multi-tenant properties, this subsection shall apply only to the individual business tenant that is adding or modifying a sign or seeking major site plan review and shall not trigger the conformance requirement for other tenants' building signs.

F. Abandoned or vacant site. Removal of a nonconforming sign, or replacement of a nonconforming sign with a conforming sign, is required when the use of the sign and/or the property on which the sign is located has been abandoned, ceased operations, become vacant, or been unoccupied for a period of 180 consecutive days or more, as long as the period of non-use is attributable at least in part to the property owner, tenant, or other person or entity in control of the use. For purposes of this section, rental payments or lease payments and taxes are not considered as a continued use. In the event this should occur, such conditions will be considered as evidence of abandonment, requiring removal of such sign by the owner of the property, his or her agent, or person having the beneficial use of the property, building, or structure upon which such sign or sign structure is erected within 30 days after written notification from the Planning Authority. If such sign(s) is (are) not removed within the 180-day period, enforcement action will be pursued consistent with Section 20.11.

20.10.3 Permanent directional signs in residential zones

A. A lawfully existing business located in a residential zone is allowed an off-premise sign in the public right-of-way if it meets the following requirements:

1. The business is not a home occupation.
2. The business is not located within 500 feet of a major or minor arterial.
3. The off-premise sign will be no larger than 12 inches by 48 inches and complies with the requirements established in the *MDOT/MUTCD Standard Sign Manual*.

B. Such lawfully existing retail business may qualify for one two-sided or two one-sided off-premise signs that must be located within the public right-of-way of a major or minor arterial in a location determined safe by the City Traffic Engineer and upon the payment of an initial fee of $300, with an annual renewal fee of $30.

C. In the event the sign is damaged or destroyed, the replacement of the sign shall be the sole responsibility of the permittee. The permittee shall be required to obtain a permit for the replacement sign from the Planning Authority, after securing $400,000 insurance and naming

the City of Portland as an additional insured.

20.10.4 Nonconforming signs in residential zones

A. Lawfully-existing permanent signs for lawfully existing nonconforming uses in any residential zone may continue to be used.

B. If an application is filed for new or replacement building-mounted sign(s) for a lawfully-existing nonconforming use located in a residential zone, the building-mounted sign(s) must either be the same size and number as the lawfully existing building-mounted sign(s), or must comply with the standards established for the Small Mixed-Use Sign District in Table 20-G, whichever is less. Sign types shall be limited to blade, directory, wall, and window signs. Illumination shall be limited to external illumination only.

C. If an application is filed for replacement freestanding sign(s) for a lawfully-existing nonconforming use located in a residential zone, the freestanding sign(s) must be the same size and number as the lawfully existing freestanding signs, or must comply with the standards established for the Small Mixed-Use Sign District in Table 20-R, whichever is less. No new freestanding signs for a nonconforming use in a residential zone shall be permitted. Illumination shall be limited to external illumination only.

20.11 ENFORCEMENT

20.11.1 Authority

The requirements of this article shall be enforced by the Building Authority as stated in Article 1. The Building Authority has the authority to order the repair, maintenance, or removal of any sign or sign structure that has become dilapidated or represents a hazard to public health, safety, or welfare.

20.11.2 Violations

A. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, display, maintain, or use a sign within the City contrary to, or in violation of, any provision of this article. Any work commenced without a sign permit, or beyond the authorized scope of a sign permit constitutes a violation of this article and is grounds for the Building Authority to issue a correction notice and/or to stop all work on the sign until appropriate permits are obtained.

B. Permits issued for work commenced without a sign permit, or any work beyond the authorized scope of a sign permit shall be assessed double the required permit fees for the sign(s).

C. Failure to perform any act required by this article, failure to obtain any permit required, or the performance of any act prohibited by this article constitutes a violation and is subject to penalties as set forth in 30-A M.R.S. §4452.

D. Each day on which a violation exists will constitute a separate violation for purposes of this section.

21 PUBLIC ART PROGRAM

21.1 ESTABLISHMENT

It shall henceforth be the policy of the City to provide on an annual basis regular funding for the preservation, restoration, and enhancement of its public art collection. This article and the funding contemplated are in recognition of the fact that only by instituting a steady stream of funding for this effort and standing by that commitment, will the City over time be able to fulfill its role as steward of its public art collection and help nurture and enrich thereby the quality of life in this city.

21.2 PURPOSE

The purpose of this article is to promote the educational, cultural, economic, and general welfare of the City of Portland by providing the means to fund the acquisition and care of art works by the City of Portland, which shall be the City's public art collection. The Public Art Program seeks to:

A. Care for and maintain the public art collection of the City of Portland by documenting, preserving, restoring, and repairing the collection.
B. Commission or acquire works of public art, and to seek donations of art work for the City's public art collection.
C. Provide curatorial expertise and project management for the care of Portland's public art collection.
D. Enhance and enrich the lives of the city's residents, visitors, and employees by incorporating the visual arts into public spaces.
E. Contribute to the city's civic pride and sense of identity.
F. Increase access to works of art for residents and visitors to the area.
G. Enhance Portland's growing reputation as a city which celebrates the arts.
H. Celebrate the multi-cultural and diverse character of Portland's communities with place-specific art.
I. Encourage collaboration between artists, landscape architects, urban planners, architects, engineers, and other designers.

21.3 DEFINITIONS

Art work. For the purposes of the Public Art Program, art work shall include the following:

A. Sculpture, statues, or monuments in any material or combination of materials.
B. Painting.
C. Graphic arts, printmaking, and drawing.
D. Photography.
E. Crafts in clay, fiber and textiles, wood, metal, plastics, glass, and other materials.
F. Mixed media, any combination of forms or media, including collage.
G. Functional art such as street furniture, as described in the *Guidelines for the Public Art Ordinance.*
H. Environmental art consisting of landforms and artistic landscape composition.

The following shall not be considered public art for the purposes of the Public Art Program:

A. Reproductions by mechanical or other means of original works of art, except for limited editions, controlled by the artist, of original prints, cast sculptures, photographs, or other works of art.
B. Decorative, ornamental, or functional elements which are designed by the building architect or consultants engaged by the architect which are

a traditional and typical element of architectural design.

C. Those elements generally considered to be conventional components of a landscape architectural design including, but not limited to, plant materials, pools, paths, benches, receptacles, fixtures, and planters except as allowed by (G) and (H) in the list of included art work above.

D. Art objects which are mass produced or of a standard design, such as playground sculpture or fountains, except pieces of historical significance to the city.

E. Directional or other functional elements, such as supergraphics, signage, color coding, and maps, except where sculptural pieces are used to define gateways in the city.

F. Electrical, water, or mechanical service for activation of the work.

G. Exhibitions and educational programs related to the work.

H. Performing arts.

I. Art that displays slogans, logos, mascots, or commercial advertising.

Public art collection. Art objects that are owned by the City of Portland which are permanently installed in public, accessible locations. Permanent public art must be located in a public place with public visibility and impact, and shall have a permanence at least comparable to associated capital projects.

Public art guidelines. The regulations adopted by the committee and approved by the City Council which establish procedures to carry out the purpose of this article. The guidelines shall include but not be limited to criteria for selection of artists and art works, maintenance of a file of interested artists, procedures for artistic competitions, and requirements for the maintenance of works of art.

21.4 FUNDING

21.4.1 Establishment of Public Art Fund

The City shall establish a special revenue fund designated as the Public Art Fund in the City treasury from which expenditures may be made in accordance with this ordinance. The Public Art Fund shall contain a capital account to fund permanent public improvements in the form of the purchase, acquisition, or commission of new public art, or major restorations, and an operations and maintenance account. Authorized expenditures include, but are not limited to, associated site installation costs, such as lighting and landscaping, and costs associated with the commission, engineering, contract administration, unveiling, and dedication activities. Also authorized are expenditures associated with preservation, conservation, and repair of existing public art. Capital funds may come from any source, including the sale of general obligation bonds. The City's capital improvement program shall contain an annual appropriation for the Public Art Fund calculated in accordance with Subsection 21.4.2. Funds for the operation and maintenance account may come from any source except bonds.

21.4.2 City-funded projects

A percentage of the City's Capital Improvement Program (CIP) shall be calculated and appropriated annually to the Portland Public Art Fund. The annual appropriation shall be .5% of the total annual CIP. Nothing contained herein shall preclude funding the acquisition of art for municipal property in other ways.

21.5 ADMINISTRATION

21.5.1 Public Art Committee responsibilities

The City Public Art Program shall be administered by the Public Art Committee whose members shall be appointed by the City Council, and shall have the following responsibilities:

A. Develop an annual art plan for Portland which shall be presented to the City Council for approval.

B. Establish such guidelines as are necessary to carry out the purpose of this article. The guidelines shall include but not be limited to criteria for selection of artists and art work, maintenance of a file of interested artists, review criteria for proposed gifts of art work to the City, procedures for artistic competitions, and requirements for the maintenance of art work. Any and all guidelines or changes to guidelines shall be placed on a City Council agenda as a communication. The guidelines shall take effect 45 days after the date of placement on the council agenda, unless the City Council takes official action disapproving the guidelines, in whole or in part, prior to the expiration of the 45-day period. If a part of a guideline is vetoed, the remainder shall continue in effect. Any guideline adopted, which is not required by the statutes of the state or by this article, may be waived by the chair upon good cause being shown.

C. Recommend to the City Council the expenditure of funds for the acquisition or commissioning of public art, for maintenance of public art, and for administration of this program.

D. Seek private donations of funds and/or works of art for the purposes of expanding the public art collection or the maintenance of the collection.

E. Oversee the maintenance, care, and repair of the public art collection.

F. Review the appropriateness of proposed public art which is intended to fulfill all or part of the contribution required by this article.

G. Review potential gifts of art to the City on City property, and assist in the development process of such gifts, in accordance with the *Guidelines for the Public Art Ordinance.*

H. Recommend appropriate locations and accessibility to the public for permanent art, with suggestion as to the type of art which is appropriate.

I. Solicit advice from arts professionals, the business community, and from local residents on the appropriateness of proposed art.

J. Recommend revisions to policies and guidelines for the improved implementation of this program.

K. Ensure that the use of funds collected under this program will increase the amount of art in the city that is available to the public.

21.5.2 Public Art Committee structure

A. The Public Art Committee shall be composed of eleven voting members who are appointed by the City Council. The City Council shall appoint one of its members, the City Manager shall recommend a member, and Creative Portland shall recommend one of its members to serve on the Public Art Committee. The City Council shall appoint the remaining eight members who shall be volunteers and have interest and/or expertise in public art. Such experience may include, but shall not be limited to, education and experience as an architect, a

landscape architect, a professional curator, a professional artist, and/or an art educator. Persons appointed to the Public Art Committee must live or work in Portland and shall be appointed through the City's annual appointment process.

B. Each Public Art Committee member shall serve for a period of three years. The appointments shall be staggered so that three appointments terminate each year.

C. Whenever a vacancy shall occur, the vacancy shall be filled by the City Council.

D. The Public Art Committee shall adopt its own rules for the conduct of its business not inconsistent with the statutes of the state and this article. Any and all rules or changes to rules shall be placed on a City Council agenda as a communication. The rule or rules shall take effect 45 days after the date of placement on the council agenda, unless the City Council takes official action disapproving the rules, in whole or in part, prior to the expiration of the 45-day period.

E. The members of the Public Art Committee shall annually elect one of their members as a chair to preside at all meetings and hearings and to fulfill the customary functions of that office, and another of their members as vice-chair.

22 REGULATION OF EXPLOSIVES

22.1 PURPOSE

The purpose of this article is to protect the public's health, safety, and general welfare by regulating and controlling blasting operations within the city.

22.2 APPLICABILITY

This article shall apply to all blasting operations related to construction and development of real estate within the city. The City of Portland *Technical Manual* is incorporated into this article by reference. Standards listed in the *Technical Manual* shall be additional to the provisions of this article.

22.3 REVIEW PROCESS

22.3.1 Permit Required

No person may conduct blasting operations within the city without first obtaining a permit from the Fire Department, as required by the National Fire Protection Association 1 Fire Prevention Code, as adopted and amended in Chapter 10 of the City of Portland Code of Ordinances. Fees for this permit shall be as established by order of the City Council.

22.3.2 Application Requirements

Prior to the issuance of a permit the following information shall be submitted to the City:

A. A blasting plan shall be submitted by the applicant to the Planning Authority for all projects where more than 300 cubic yards of material shall be removed. The blasting plan shall conform to the provisions of this article and of Section 3 of the City of Portland *Technical Manual*.

B. A blasting submittal shall be submitted to the Planning Authority where between 50 and 300 cubic yards of material shall be removed. The blasting submittal shall conform to the provisions of this article and of Section 3 of the City of Portland *Technical Manual*.

C. A blasting application shall be submitted to the Planning Authority where less than 50 cubic yards of material shall be removed, or where utility trench work in the accepted public right of way, including City or Portland Water District infrastructure is proposed. Small blasts where less than 50 cubic yards of material shall be removed are not required to submit either a blasting plan or blasting submittal. Such projects must conform to the National Fire Protection Association Fire Prevention Code and applicants shall submit a monitoring report upon request. Information provided in the blasting application shall confirm that the proposed small blast conforms to all applicable provisions of this ordinance and of Section 3 of the City of Portland *Technical Manual*.

D. A blasting plan or blasting submittal may be required for any blasting operation at the discretion of the Planning Authority when it determines that conditions at or near the site of the blasting operations warrant the provision of a plan.

22.4 STORAGE AND HANDLING

All explosives shall be stored and handled in accordance with the provisions of this code, the laws of the State of Maine, and the National Fire Protection Association 1 Fire Prevention Code.

22.5 ENFORCEMENT

In the event that there are more than three documented violations of the blasting plan, blasting submittal, or blasting permit, or any other violation of this article, a stop work order may be issued on

all construction or development related to the permitted operation. The permittee shall then be required to submit a revised blasting plan to the Planning Authority for review and approval. Work shall not be allowed to continue until the revised blasting plan is approved.

22.6 PENALTIES

In addition to the possibility of a stop work order in the event of a violation, the permittee shall be subject to the following penalties:

1st offense	$500
2nd offense	$1,000
Subsequent offenses	$1,000

22.7 NOTICE REQUIREMENTS

22.7.1 Basic noticing requirements

At least 10 days prior to the start of any blasting operation, notice shall be published in a newspaper of local publication and shall be mailed by first class mail to all property owners within the distance specified below of the perimeter of the blasting site:

A. **Small blast (trench blast or under 50 cubic yards of rock removed).** All property owners within 250 feet of the perimeter of the blasting site.
B. **Medium blast (removal of 50-300 cubic yards of rock material).** All property owners within 500 feet of the perimeter of the blasting site.
C. **Large blast (removal of over 300 cubic yards of rock material).** All property owners within 600 feet of the perimeter of the blasting site.

22.7.2 Content of notice

Notice shall conform to the model notice contained in Section 3 of the City of Portland *Technical Manual* and shall include a description of the proposed blasting operations, estimated schedule and duration of blasting operations, description of the blasting signals to be used during operations, the complaint protocol and the complete address, telephone numbers and email contact for the blasting contractor, the Planning Authority, and Fire Department where neighbors and property owners may request further information and notification.

22.7.3 Additional noticing requirements

A. For medium blasts where 50-300 cubic yards of rock material is to be removed, and large blasts where over 300 cubic yards of rock material is to be removed, additional notification requirements shall apply during construction, as detailed in Section 3 of the City of Portland *Technical Manual*.
B. If blasting operations are to occur within 250 feet of any structure, additional notification requirements shall apply, as detailed in Section 3 of the City of Portland *Technical Manual*, in order to prevent adverse public health and safety impacts due to blasting-related carbon monoxide migration.

22.8 HOURS OF BLASTING

Blasting shall occur Monday through Friday, between the hours of 9 a.m. and 4 p.m., unless otherwise approved by the Planning Authority. Requests for extension of hours of blasting must be submitted by the applicant in writing.

22.9 WAIVERS

Upon written request by the applicant, the Planning Authority, based on a positive recommendation by the Fire Department, may waive all or a portion of the blasting provisions of Section 3 of the City of Portland *Technical Manual*, provided that all waivers

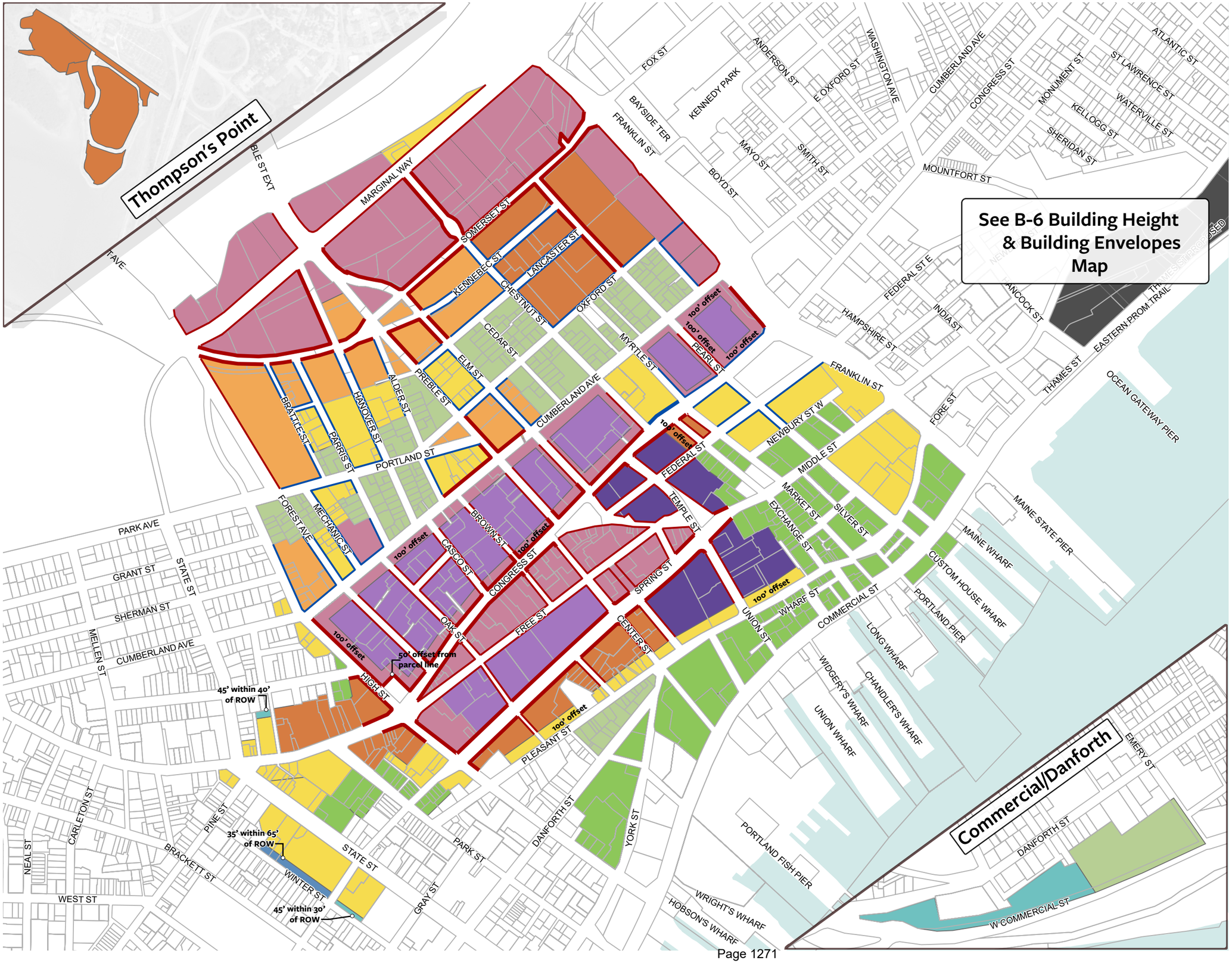
are consistent with the purposes set forth in Section 22.1.

22.10 SUSPENSION OF BLASTING OPERATIONS

If it is determined that blasting operations pose any risk to public health, safety, or general welfare, the Planning Authority or the Fire Chief or their designee shall have the authority to suspend the blasting permit at any time until they deem it safe for blasting operations to continue.

Portland, ME

Height Map



Max. height (ft.)

- 45 ft.
- 55 ft.
- 65 ft.
- 85 ft.
- 105 ft.
- 125 ft.
- 180 ft.
- 250 ft.
- 325 ft.

Maximum street wall height (ft.)

- 50 ft. max. street wall height with 15' stepback
- 90 ft. max. street wall height with 15' stepback
- 50 ft. max. street wall height with 30' stepback
- 90 ft. max. street wall height with 30' stepback

Multiple stepbacks cumulatively reaching at least the minimum noted above (15 and 30 ft.) are acceptable.

No new construction of any building shall be less than 35 ft. in height within 50 ft. of any street frontage. See Land Use Code for exceptions.

Boundary offsets are from street centerline unless otherwise noted.

No rooftop structure located between the projections of the centerlines of Emery St. and Fletcher St. shall exceed a height of 62 ft. as measured from average grade of the building at its foundation.

City of portland

Planning & Urban Development
Christine Grimando, AICP
Director

To: Brandon Mazer, Chair, and members of the Planning Board

From: Christine Grimando, Planning & Urban Development Director

Date: June 30, 2023

RE: Master Development Plan Pending Proceeding

A question was raised in the course of the review of recent site plan applications for Portland Foreside/58 Fore Street, regarding whether a Master Development Plan (MDP) approved under a previous iteration of the Land Use Code (Code) was subject to the expiration provisions of the current Code, or whether the section in the Code in place at the time of MDP approval (for 58 Fore Street, December 2016, but the question extends to all MDPs) would apply. The Planning & Urban Development Department has determined the current Code's expiration section applies to this and other previously approved MDPs. Discussion of prior and current expiration sections, how pending proceeding is determined, and how the applicable Code standard is determined follows below.

MDP Expiration Under 2016 & 2023 Versions Of The Land Use Code
The current Code states:

> *Master development plans approved under this article shall expire six years from the date of approval if no site work or building construction has commenced.* (sec. 14.12.2) and *Master development plan approvals may be extended by the Planning Authority up to two times, for up to two years from the date of expiration of the original master development plan approval.* (sec. 14.13.4).

The Code in effect in December 2016 states:

> *Master Development Plan approval may be sought separately or currently with the Phase I Final Level III site plan approval, and shall have an initial approval period of six (6) years, with potential extension periods as provided for in section 14-532(d). (14-524(f)(i))*
>
> *Prior to the expiration of the Master Development Plan, an applicant may submit a written request to the Planning Authority for an extension of a Master Development Plan approval and associated waivers. Only two (2) such extensions may be granted by the Planning Authority, and*

each such extension shall be limited to two (2) years from the date of expiration of the Master Development Plan. (14-532(d))

The expiration language currently in effect means that once site work has commenced, the MDP won't expire, whereas the 2016 MDP expiration language included a finite 10 year end, assuming two two-year extensions were granted. Under the current and 2016 versions of the Code, Individual Site Plan approvals, including those that are part of an MDP, expire in one year, with possible extensions up to a maximum of three years. Lapses in construction for a period in excess of 12 months will also result in a site plan expiration. (2016 14-532(c)(1), 2023 14.12.1; 14.13.3)

Pending Proceeding

Pending proceeding is a term that, in context of development applications, indicates that substantive review has begun, which, in turn, determines which set of regulations an application is reviewed under. For the purposes of applications that are within the jurisdiction of a land use (Historic or Planning) Board, pending proceeding status is conferred when the Board holds its first review, whether that is a workshop or public hearing. For the purposes of administrative/staff reviewed applications, this occurs when the first substantive comments are provided. For applications in-review when the City adopts, through Council action or referendum, amendments to the City Code, it is important to understand whether an application is pending in order to determine what standards they are held to. A submitted application, accepted for the purposes of beginning review, does not have pending proceeding status, but a development application that has been before the Board for an initial workshop does, and may continue in the review and approval process under the Code in effect at the time of the first workshop.

Determining when an application has pending proceeding status is not outlined in the Land Use Code, but there are two references to the term in the Land Use Code: 1) Section 14.5.1 states that voluntary, non-binding pre-application meetings do not confer pending proceeding status; and 2) Section 14.3.2 (formerly 2016 Section 14.524(f)(iv)) states MDP a*pproval shall confer pending proceeding status upon the development with the effect of maintaining the applicability of regulations in effect at the time of approval for as long as the master development plan approval remains valid, including permissible extensions if granted*.

Sec. 14.3.2 is the reason a subsequent site plan application (or subdivision application where applicable) that is a component of an MDP is still reviewed under the regulations in effect at the time of the MDP approval, even if standards of the Code are amended over time. Pending proceeding status is one of the benefits of an MDP approval, and it offers a degree of regulatory predictability for both property developers and the City for these large multi-year phased projects. Without pending proceeding status, it would be difficult to predict all of the potential regulatory changes that could impact a project that is expected to be built out over years. For instance, if maximum heights were reduced, or minimum parking standards increased (to name a few examples of standards that could change over time in the City's Code), site plans that are phases of previously approved MDPs are not held to more stringent or restrictive standards that were adopted during a valid MDP approval period.

Though an MDP and its associated applications have pending proceeding status for the life of the MDP's approval, nothing *prohibits* an applicant of an MDP approved under a previous version of the Code from seeking review under the current version of the Code. Becoming more conforming with the adopted Land Use Code is generally something the standards encourage; a previous approval may proceed under the Code it was reviewed under, but it is not compelled to remain non-compliant with current standards.

In the event an applicant proposes to develop a site to meet current regulations that differ from the regulations in effect at the time of MDP approval, they may do so. However, substantive changes to an approved MDP would require an amendment, and substantive amendments related to areas of the Code that have been changed since the application was originally approved would be reviewed under the current Code. An applicant with an approved site plan who wishes to make use of a new provision in the Land Use Code is also free to apply for an amendment, and this also could subject them to new sections of the current Code if the amendment broaches sections that have since been amended. For example, a proposed change to the total housing units would be reviewed for consistency not only with residential density standards, but with other applicable Code requirements such as inclusionary zoning; or, as previously mentioned, if maximum heights were lowered since an approval was granted, and an amendment to a prior approval was submitted to alter heights of buildings, the new standards would apply.

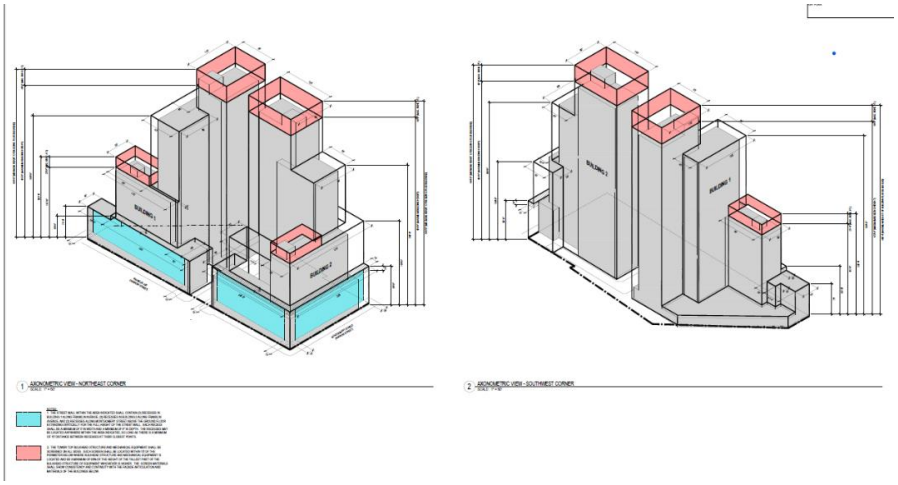
MDP Worksheet | June 13, 2025 | PL-003359-2025| 385 Congress Street
Submission #1: May 22, 2025
Planner: Zach Powell (zpowell@portlandmaine.gov)

City Staff have completed the latest review of this application based off of the most recent submission. Please submit a written response to the comments below and upload the response, revised submissions, and new material to Project Dox. Once uploaded, please send an email to zpowell@portlandmaine.gov as notification of the resubmission.

Be advised that additional comments may be forthcoming and other changes may still be required if the comments are not addressed adequately. If you have any questions, please do not hesitate to ask.

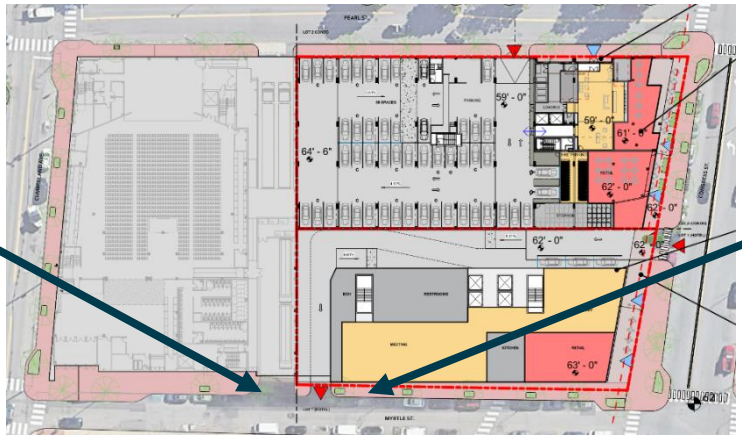
GENERAL

- City Staff are requesting simplified MDP application materials that show the proposed building footprints (not including floor plans), areas proposed for open space (i.e., expanded sidewalks on Congress Street & podium area), along with the proposed amenities (i.e., street trees and tree wells, lighting, outdoor seating and sidewalk material), and a building envelope to approve, similar to Image 4 on the Massing Evolution Page in the MDP Amendment package (see example below). Simplified materials can show the envelope that would be approved, as well as the anticipated envelope based on the current building designs.



- Submit a narrative summary identifying all proposed changes from the approved MDP, including changes to the boundary, program of uses (including, but not limited to, the number of residential units and parking spaces), and building heights.
- The listed number of parking spaces (457) does not match what is shown in the proposed plans (449).
- Update plan sheets to reflect updates to the MDP boundary and landscaping reviewed under hotel site plan application (PL-002156-2022).

Tree shown in middle of proposed driveway



As part of PL-002156-2022, street trees were determined not to be viable along Myrtle Street and landscaping beds against the wall of the hotel were proposed instead.

Master Development Plan Review Standards		
§14.7.1 – In general		
Standard	***Discussion***	***Finding***
Integration with the surrounding context	Overview: The proposed uses of the site for multifamily housing, hotel, retail, and structured parking are similar & compatible with the surrounding area. Shadow studies have been submitted confirming that the proposed design will not result in negative shadow impacts on adjacent open spaces (Ganley Plaza & Lincoln Park). The surrounding area is a mix of historic and new architecture and has been designated as a site with one of the tallest permitted heights to facilitate redevelopment of a site dominated by surface parking. A linear park has been proposed along Congress Street to reflect the surrounding street wall and neighboring urban open spaces. The original MDP necessitated the submission of a Traffic Movement Permit (TMP), which was approved on February 9, 2023. Based on the changes to the MDP boundary and current TMP review for the adjacent music hall, Consulting Traffic Engineer has confirmed with MaineDOT that a modification to the TMP will need to occur that aims to rewrite the permit to reflect changes in mitigation. Staff are requesting additional information on the proposed garage operations for the hotel, with additional detail related to the ramping. City Staff encourage the implementation of shared parking facilities between the hotel and the condominium to minimize valet operations on Myrtle Street, Cumberland Avenue, and Pearl Street/eliminate the need for a curb cut on Myrtle Street. The subsequent site plan application for the hotel will require the submission of a waiver to Technical Manual §1.5.1. for driveway separation for the Myrtle Street. The major site plan application for the condominium building will necessitate the submission of a parking demand study since the proposed parking (311) exceeds 110% of the required parking (159) for the proposed uses. As discussed in the Infrastructure section of this worksheet, additional information is requested on any proposed changes to stormwater management and sewer infrastructure as a result of the change to the MDP boundary. Updates Requested • Formal narrative request to modify the MDP TMP. • Narrative discussing the operations of the structured parking for the hotel.	Not Met

Consistency with City plans	Overview: The submitted MDP is consistent with Council-approved master plans by: • Proposing the construction of dense housing in Downtown and pedestrian enhancements such as curb extensions and expanded sidewalks to promote walkability and traffic calming (**Peninsula Transit Plan, 2009**) • Providing infill development within a transit-oriented location with pedestrian-oriented streets to make walking more inviting, and connection to bus routes, bike networks, and other mobility options easier to access to other parts of the city. Providing residential density as well as employment and job density that can support and drive transit ridership as well as walk to work opportunities (**One Climate Future, 2021**) The MDP aligns with the City's Comprehensive Plan by infilling an undeveloped site primarily used for automobile parking located at the heart of Portland's walkable downtown, proximate to some of the tallest structures in the city, with residential units, commercial uses, and pedestrian improvements that better reflect the downtown location.	Met
§14.7.2 – Natural features and open space		
Standard	***Discussion***	***Finding***
Preservation of Natural Features	Overview: The proposed development considers the existing topography by prioritizing street-level activation uses at the block corners while reflecting the prominence of Congress Street. Public open space has been proposed through a linear park along Congress Street, with private open space proposed on top of the podium level of the building, as well as private balconies for condominium units. The property is currently entirely developed, with minimal landscaping around the perimeter and no significant natural features. The MDP contemplates eliminating all of the existing landscaping and proposing the planting of 15 trees, which will be an increase of 11 trees in the streetscape. Based on the review of the hotel, tree plantings on Myrtle Street were deemed not to be viable by the Department of Public Works. Staff are requesting that the plan sheets be updated to reflect the requested landscaped planting beds along the wall of the hotel. Staff is recommending that an existing condition for the MDP carry that existing street trees along Congress Street shall be reevaluated for preservation by the Applicant and the City Arborist as part of future site plan submission.	Met
Provisions for open space	Overview: Expanded sidewalks are proposed on Congress Street in front of the hotel and condominium building to serve as a linear park, with private balconies proposed for the condominium units. Conversations with the applicant team have indicated that a shared, private open space on the top of the podium level is proposed. Staff are requesting updated plans showing the location of the shared open space and additional information on who will manage the space.	Not Met
	Updates Requested • Updated plans showing the location of the open space on top of the podium level, as well as supporting information on the management of the open space.	

§14.7.3 – Historic Preservation		
Standard	***Discussion***	***Finding***
Compliance with Article 17	Overview: Not applicable. The site is not a designated landmark or located within a historic district or historic landscape district.	Not Applicable
Compatibility of development within 100-feet of a local historic designation	Overview: The site is located within 100 feet of the Congress Street Historic District, including 380 & 389 Congress Street with two locally designated landmarks (Central Fire Station & Portland City Hall). The massing proposes the use of a base | middle | top design that reflects the character of the Congress Street Historic District and City Hall. Contextual setbacks are proposed to align with City Hall and provide a visual connection to Ganley Plaza. Subsequent major site plan application design reviews will ensure that more specific elements of the buildings (e.g., materiality) are compatible with the surrounding context.	Met
14.7.4 – Infrastructure		
Standard	***Discussion***	***Finding***
Adequacy of infrastructure capacity	Overview: The proposed development will be serviced by public water, sanitary sewer, electric, natural gas, and telecommunications. As part of the original MDP, a shared subsurface detention system for the block was proposed that separated stormwater and sewer to lines on Cumberland Avenue and Pearl Street. Given the change in the MDP boundary, Staff are requesting additional information on the proposed stormwater & sewer management for the MDP, with more detailed plans to be submitted as part of each major site plan application.	Not Met
	Updates Requested • Additional information on the proposed stormwater & sewer management for the MDP given the change in the proposed MDP boundary.	
Continuation of street grid	Overview: The MDP occupies half of a city block, which reflects neighboring sites that occupy the majority to all of city blocks.	Met
14.7.5 – Design		
Standard	***Discussion***	***Finding***
Creation of a cohesive identity	Overview: As noted in the attached design review memorandum, the proposed Master Development Plan amendment generally conforms with the MDP Design review standards, with additional detail on materiality to be reviewed through subsequent site plan applications. Additional information has been requested on the proposed open spaces and amenities for the site, requests to expand the proposed ground floor massing along Congress Street to ensure that a continuous street wall wrap at the corner of Pearl Street, and provide additional information documenting how the proposed design is meeting the requirements of §7.5.3 of the Land use Code through massing diagrams.	Not Met.
	Updates Requested • Resubmit plans and documents that indicate the streetscape and pedestrian amenities along the property frontages to clarify furnishings within the public realm.	

	• Resubmit plans and documents that include the Congress Street linear park with publicly accessible street-level amenities in Lot 1 and Lot 2 to justify the expanded front setback along the property frontage. • Staff requests that the MDP amendment expand the ground-floor building massing along Congress Street (particularly at the corner of Pearl Street) to create a continuous street wall. • Resubmit plans and documents that incorporate tower stepback dimensional standards under the current Land Use Code's §7.5.3 into the proposed building massing diagrams.	

Design Review
Planning and Urban Development Department

City of portland

Subject:	385 Congress Street – Master Development Plan Amendment
Zone:	B-3 (Downtown Business)
Date of Review:	Wednesday, July 2, 2025
Reviewer(s):	Design Review Sean King (Urban Designer), Kevin Kraft (Director), Taylor Colbeth (Planner), Zach Powell (Senior Planner)
Project ID:	PL-003359-2025

I. INTRODUCTION

The project at 385 Congress Street is subject to the Master Development Plan Review Standards under the City's land use code at the time the application was originally approved on August 9, 2022.

The proposed Master Development Plan Amendment for a mixed-use hotel and condominium is reviewed solely under the Master Development Plan criteria. The project will be subject to future staff design review subject to the design standards of the City of Portland *Design Manual* – ***[b] B-3 Downtown Business Zone, Appendix 1***.

II. DESIGN REVIEW COMMENTS:

The project at 385 Congress Street shall meet the following standards of ***Master Development Plan Review Standards, applicable at the time the application was originally approved.***

A. Creation of a cohesive identity.

A master development plan shall be designed to create a cohesive identity through building scale, massing, and articulation;

Staff comment: The proposed amendment to the approved Master Development Plan removes Lot 3 from the development plan and continues to include Lot 1 and 2 for a hotel and condominium units at the 385 Congress Street site, bordered by Congress Street, Pearl and Myrtle Streets. The proposed development intends to create a cohesive identity through building scale with a 4-story podium level as above-grade parking structure with active ground-floor uses along Congress Street. The building scale is reduced with stepbacks in the massing for the proposed towers.

The composition and articulation of the building facades shall maintain the master development plan approach to activate the street frontage along the ground-floor with storefronts windows, exterior façade materials for screening, and rhythm of fenestration; the towers shall maintain a regular rhythm of vertically proportioned windows and sculpt massing to reduce the scale with façade composition in response to the street and "no build zone" that allow for light and air between the lots.

Use of quality exterior material and architectural detailing at the pedestrian scale;

Staff comment: The proposed Master Development Plan Amendment does not indicate exterior materials or architectural detailing at the pedestrian scale, which Staff will evaluate during site plan review. Staff will require the Applicant submit additional plans and documents during site plan review that provide a pedestrian-scaled façade composition, quality of exterior façade materiality, color, and articulation. These aspects will be reviewed with special attention to the ground floors and areas most visible to pedestrians and in relationship to the surrounding context.

Congress Street – Material placement, detail, and articulation should emphasize the established historic Congress Street patterns of massing, proportions, and façade composition, regulating lines and building base. The ground floors should consider pedestrian comfort and scale, especially in the placement of doors, windows, canopies, and details in the materials and articulation. The hotel, in order to stand apart in character and use, should have a more contemporary expression but will continue the base and regulating lines found along Congress Street.

Consistency of design and materials for streetscape and pedestrian amenities;

Staff comment: Staff recommends the building design and arrangement of exterior façade materials reinforce active uses fronting the street. The sidewalk should be as wide as possible to accommodate a consistency of streetscape amenities such as street trees, tree wells, permanent outdoor seating, lighting and other pedestrian amenities located in the furnishing zone along Congress, Myrtle and Pearl Streets. Planters or landscape areas should not be placed between the sidewalk and the building, with the exception of recessed building entries and/or driveway access points. Final design of streetscape elements will be evaluated during site plan review, especially to ensure the viability of street trees and ease of maintenance.

Framing of outdoor open space and linkages;

Staff comment: The proposed Master Development Plan amendment deviates from the original approved MDP with the elimination of the Level 2 amenity terrace, however the amendment continues to indicate the linear park along Congress Street. The linear park should be continuous along Congress Street and include enhanced streetscape amenities to justify the increased setback along the property frontage.

A clear conveyance of the function and significance of various buildings, entrances, and features;

Staff comment: The proposed Lot 1 hotel is differentiated from the proposed Lot 2 condominium units primarily through the façade composition along Congress / Myrtle Street corner with a glass façade, regularity of fenestration for the hotel rooms, and a primary building entry and vehicle access driveway at Congress Street.

The proposed Lot 2 condominium building includes an active street-level retail use and street wall along Congress Street to the Pearl Street corner. The primary residential building entry is located on Pearl Street within close proximity to the corner.

And to generally comply with design and development standards of the zone in which it is located.

Staff comment: The proposed 4-story parking podium along street frontages on Congress, Myrtle and Pearl Street poses a particular challenge to distinguish the lower thirty-five feet of building facades. In addition, the development frontage along Congress Street is subject to the Pedestrian Activities District (PAD) Overlay Zone to maintain street-level facades that are active, walkable and pedestrian-oriented and consist of uses to occupy a minimum of forty feet depth measured from the street-facing façade of the building.

Signage shall be integrated into the building design and respond to the storefront façade at the ground level and be pedestrian-scaled, especially along the Congress Street historic district. Final design shall be coordinated with City staff.

Design Review
Planning and Urban Development Department

City of portland

Subject:	385 Congress Street – Master Development Plan Amendment
Zone:	B-3 (Downtown Business)
Date of Review:	Friday, June 13, 2025 Design Review
Reviewer(s):	Sean King (Urban Designer), Kevin Kraft (Director), Taylor Colbeth (Planner), Zach Powell (Senior Planner)
Project ID:	PL-003359-2025

I. INTRODUCTION

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The proposed Master Development Plan Amendment for a mixed-use hotel and condominium is reviewed solely under the Master Development Plan criteria. The project will be subject to future staff design review subject to the design standards of the City of Portland *Design Manual* – [*b*] ***B-3 Downtown Business Zone, Appendix 1.***

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Staff comment: The proposed amendment to the approved Master Development Plan removes Lot 3 from the development plan and continues to include Lot 1 and 2 for a hotel and condominium units at the 385 Congress Street site, bordered by Congress Street, Pearl and Myrtle Streets. The proposed development intends to create a cohesive identity through building scale with a 4-story podium level to create an above-grade parking structure with active ground-floor uses along Congress Street. The building scale is reduced with stepbacks in the massing for the proposed towers.

The composition and articulation of the building facades shall maintain the master development plan approach to activate the street frontage along the ground-floor with storefronts windows materials for screening, and rhythm of fenestration; the towers shall maintain a regular rhythm of vertically proportioned windows and sculpt massing to reduce the scale with façade composition in response to the street and "no build zone" that allow for light and air between the lots.

Use of quality exterior material and architectural detailing at pedestrian scale;

Staff comment: The proposed Master Development Plan Amendment does not indicate exterior materials or architectural detailing at the pedestrian scale. Staff will require the Applicant submit additional plans and documents during site plan review that provide a pedestrian-scaled façade composition, quality of exterior façade materiality, color, and articulation. These aspects will be reviewed with special attention to the ground floors and areas most visible to pedestrians and in relationship to the surrounding context.

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Consistency of design and materials for streetscape and pedestrian amenities;

Staff comment: Staff recommends the building design and arrangement of materials reinforce active uses fronting the street. The sidewalk should be as wide as possible to accommodate street trees, tree wells, permanent outdoor seating, lighting and other pedestrian amenities in the furnishing zone. Planters or landscape areas should not be placed between the sidewalk and the building, with the exception of recessed building entries and/or access points. Final design shall be coordinated with City staff, especially to ensure viability of street trees and ease of maintenance.

Staff requests that the Applicant resubmit plans and documents that indicate the streetscape and pedestrian amenities along the property frontages to clarify furnishings in the public realm (i.e., street trees and tree wells, lighting, outdoor seating and sidewalk material).

Framing of outdoor open space and linkages;

Staff comment: The proposed Master Development Plan amendment removes the Level 2 amenity terrace. Staff requests that the Applicant resubmit plans and documents that include the Congress Street linear park with publicly accessible street-level amenities in Lot 1 and Lot 2 to justify the setback along the property frontage.

A clear conveyance of the function and significance of various buildings, entrances, and features;

Staff comment: The proposed Lot 1 hotel is differentiated from the proposed Lot 2 condominium units primarily through the façade composition along Congress / Myrtle Street corner with a glass façade, regularity of fenestration for the hotel rooms, and a primary building entry and vehicle access driveway at Congress Street.

The proposed Lot 2 condominium building includes an active street-level retail use along Congress Street to the Pearl Street corner. The primary residential building entry is located on Pearl Street within close proximity to the corner.

And to generally comply with design and development standards of the zone in which it is located.

Staff comment: The proposed 4-story parking podium along street frontages on Congress, Myrtle and Pearl Street poses a particular challenge to distinguish the lower thirty-five feet of building facades. In addition, the development frontage along Congress Street is subject to the Pedestrian Activities District (PAD) Overlay Zone to maintain street-level facades that are active, walkable and pedestrian-oriented and consist of uses to occupy a minimum of forty feet depth measured from the street-facing façade of the building.

Signage shall be integrated into the building design and respond to the storefront façade at the ground level and be pedestrian-scaled, especially along the Congress Street historic district. Final design shall be coordinated with City staff.

Staff requests that the proposed Master Development Plan amendment expand the ground-floor building massing along Congress Street, particularly at the Pearl Street corner, to create a continuous street wall. In addition, Staff requests that the Applicant resubmit plans and documents that incorporate tower stepback dimensional standards under LUC §7.5.3 into the proposed building massing diagrams.

385 Congress LLC
2730 Transit Road
West Seneca, NY 14223

Fathom Congress, LLC
80 Exchange Street, Ste 400
Portland, ME 04101

April 24, 2025

Kevin Kraft
City of Portland
Office of Planning and Urban Development
389 Congress Street
Portland, ME 04101

385 Congress Street Master Development Plan Amendment (PL-001970-2022)
Dear Kevin:

As a follow up to your email on March 28, 2025 acknowledging our request to amend our Master Development Plan (PL-001970-2022) for 385 Congress Street approved by the Portland Planning Board on August 9, 2022, please find enclosed the MDP Amendment Submission for consideration. As you are aware, on March 20, 2025 in connection with the Site Plan Application filed by Mile Marker Investments, we sent a formal request for Lot 3 be removed from the above referenced Master Development Plan which is reflected in the MDP Amendment.

We understand that this is considered a major amendment and feel that it will be helpful to the Planning Board if this is reviewed concurrently with the Site Plan Application being considered for what was formerly known as Lot 3. Lot 1 and Lot 2 will remain in the Master Development Plan and the amendment reflects changes to the podium approach and overall building height given the additional height allowed under the new City of Portland code. The new podium includes providing parking above grade due to the challenging site conditions that are prohibitive for underground parking planned in the approved MDP and required due to the previous height limitations of the site. This shift of above grade parking also eliminates the public amenity deck as access will no longer feasible. The other notable change is increasing the height of both the hotel and proposed residential tower to the maximum permitted building height under the recode.

Our team could not find a formal application to amend the MDP and are hopeful that the attached submission is acceptable, please let us know if there is a different format or additional information required. Sebago Technics is prepared to update the City of Portland staff and Planning Board with the applicable data related to the minimal traffic impacts associated with this amendment.

If you have any comments, questions or concerns, feel free to contact us.

Sincerely,

Joseph Dasco
385 Congress, LLC

Marieke Thorman
Fathom Congress, LLC



May 13, 2025

385 CONGRESS STREET
MDP AMENDMENT

cbt REGER DASCO PROPERTIES Fathom COMPANIES SEBAGO TECHNICS

cbt

GENERAL APPROACH & GOAL

Our approach is to create a **cohesive and complementary design** that **builds upon the historic context** of Downtown Portland with forward and innovative vision of providing **activation and scaled environment to the public realm and the neighborhood.**

1. **Respect historic context**
2. **Well scaled street environment**
3. **Create skyline**
4. **Timeless design approach**
5. **Sustainable approach**

cbt

CONTEXT IMAGES



NORTH-EAST VIEW



SOUTH-EAST VIEW



SOUTH-WEST VIEW



NORTH-WEST VIEW

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NEIGHBORHOOD CONTEXT MAP & ZONING ANALYSIS



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VIEW ANALYSIS



CUMBERLAND AVE

NORTH @ 150'



PEARL STREET

EAST @ 150'



CONGRESS STREET

SOUTH @ 150'



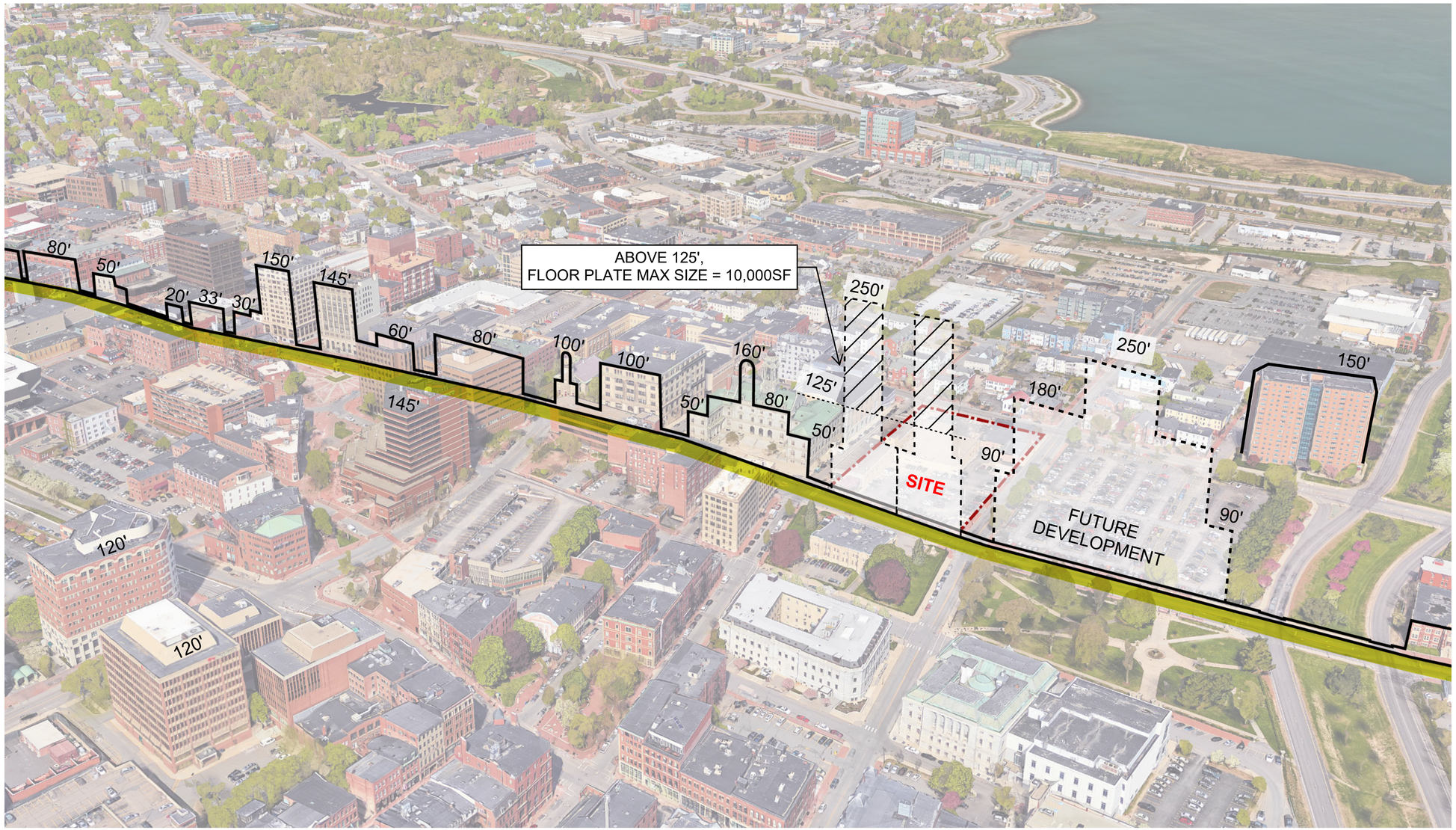
MYRTLE STREET

WEST @ 150

cbt

CONTEXT HEIGHT ANALYSIS

CONGRESS ST NORTH



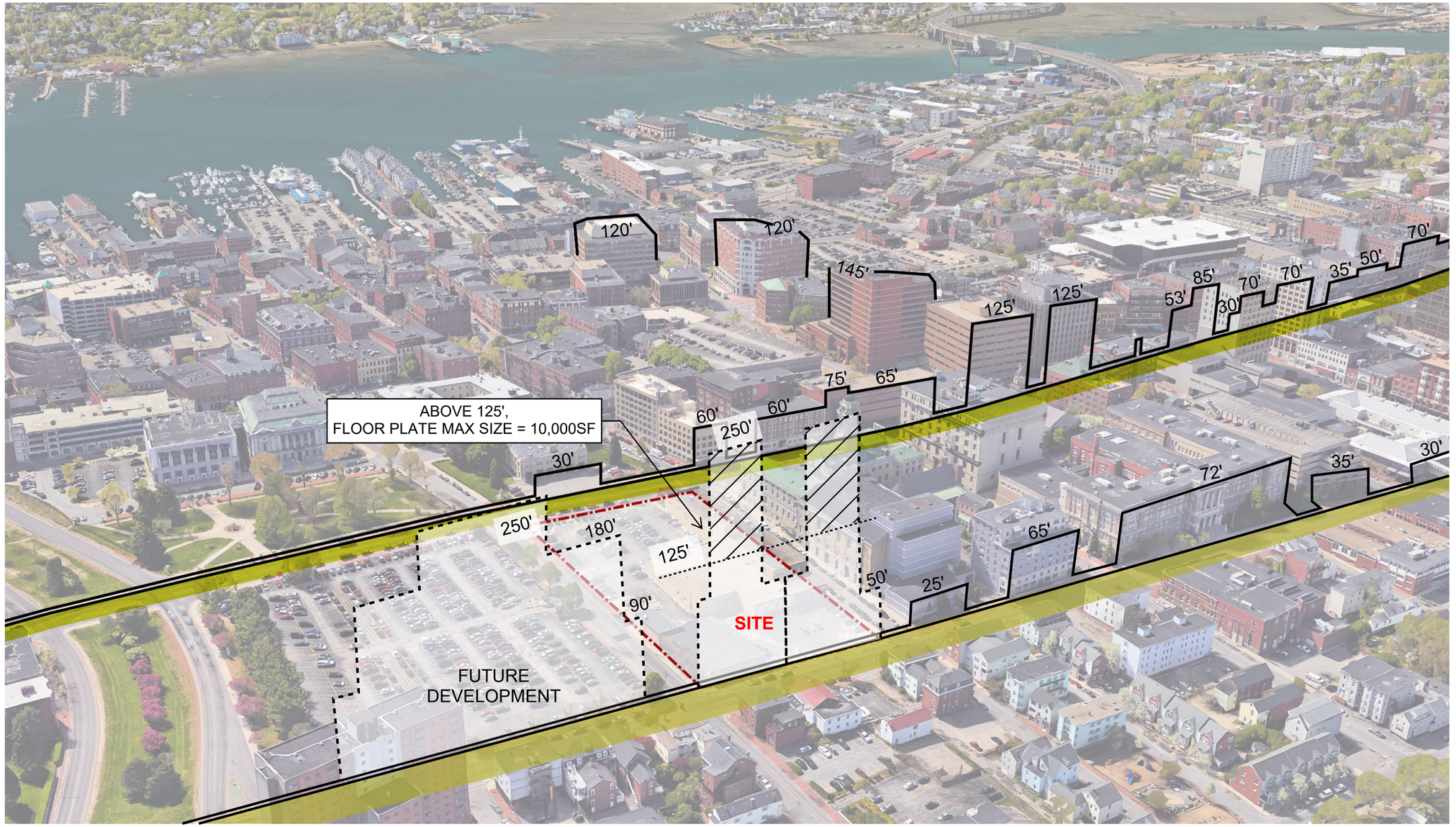
CONGRESS STREET - NORTH

ESTIMATED VIEW HEIGHTS

cbt

CONTEXT HEIGHT ANALYSIS

CUMBERLAND AVE



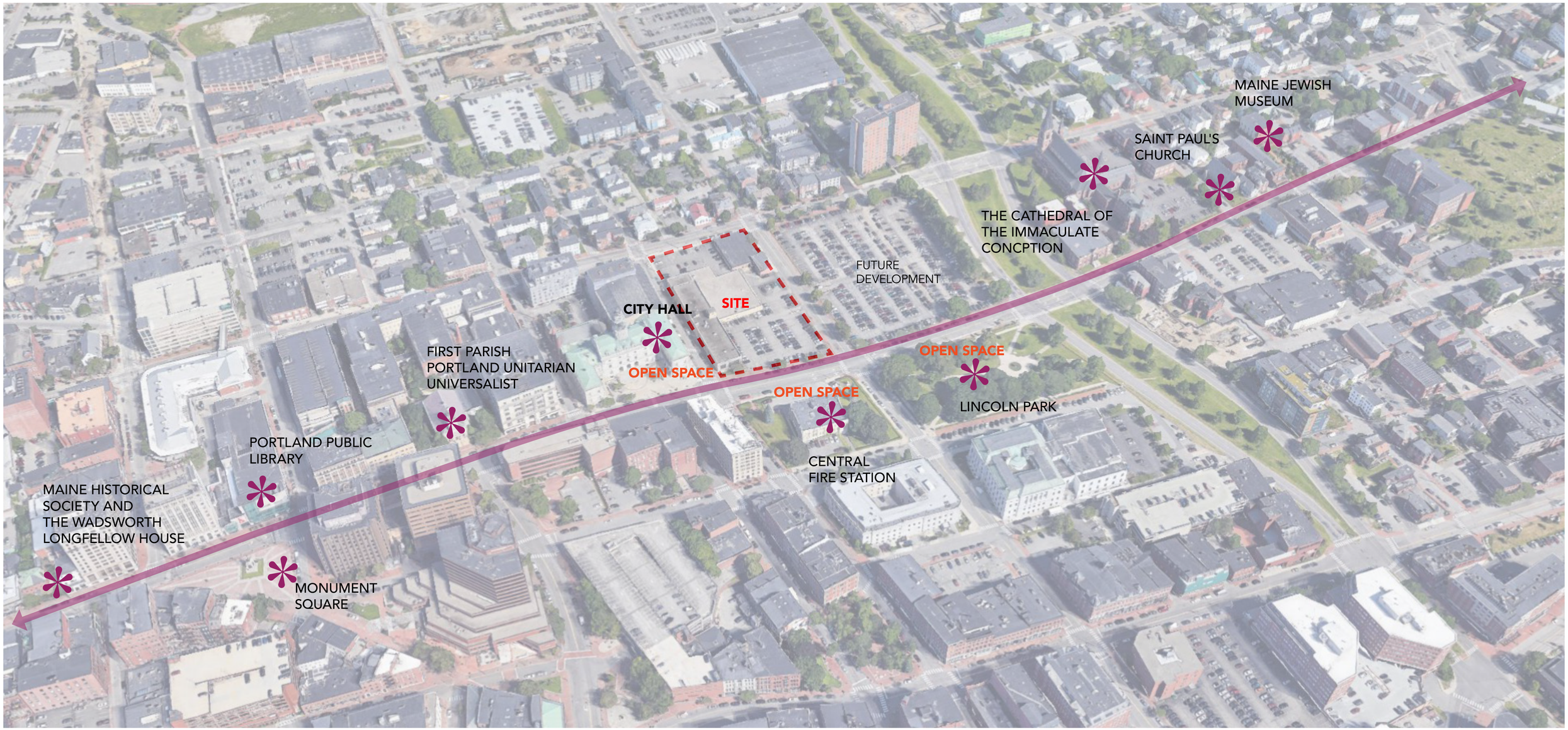
CONGRESS STREET - SOUTH
CUMBERLAND AVE - SOUTH

ESTIMATED VIEW HEIGHTS

cbt

CONGRESS STREET ACTIVATION

THIS SITE PROVIDES THE OPPORTUNITY TO EXTEND THE ACTIVITY OF CONGRESS STREET TO THE EAST AND BRIDGE THE GAP BETWEEN DOWNTOWN AND THE EAST END. BY PROVIDING PROGRAMS THAT CAN BE ENJOYED BY THE BUILDING TENANTS AND MEMBERS OF THE PUBLIC, THIS PROJECT WILL ADD TO THE ALREADY VIBRANT NETWORK OF SPACES ALONG CONGRESS STREET.

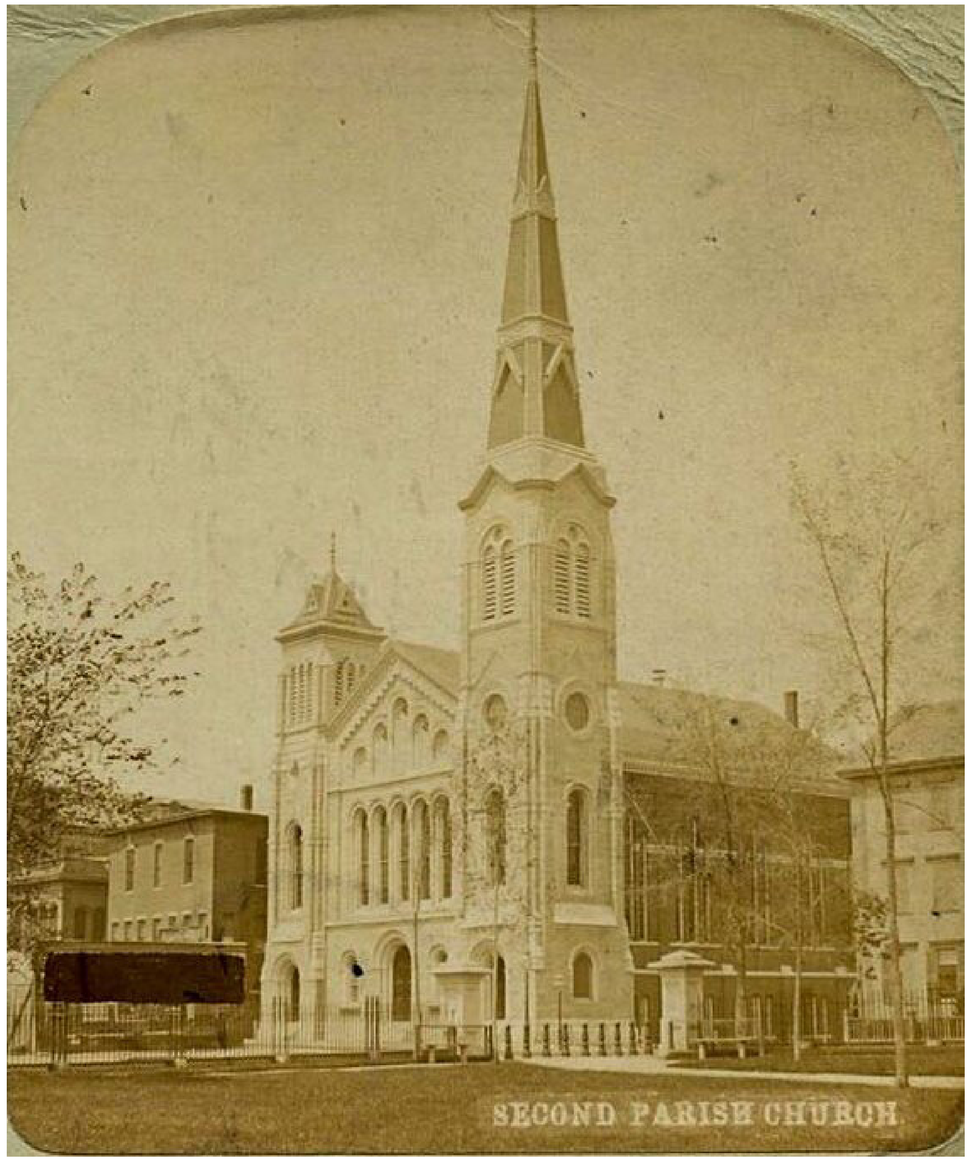


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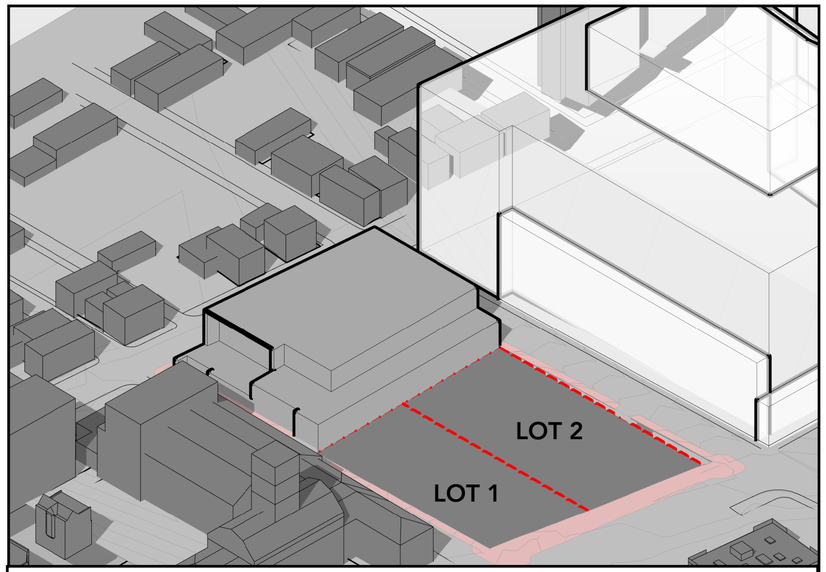
HISTORIC CONTEXT

HISTORICAL MAPS REVEAL THAT THIS PARCEL WAS FORMERLY THE SECOND PARISH CHURCH.

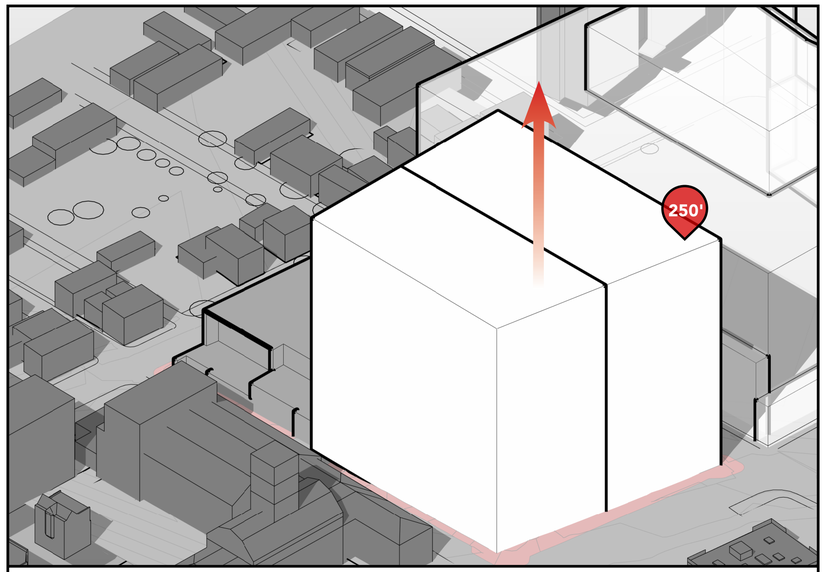




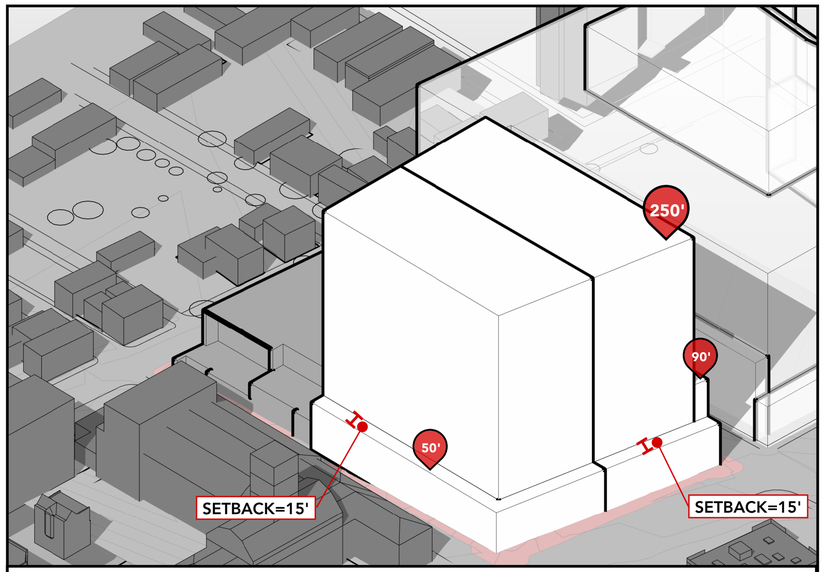
MASSING EVOLUTION



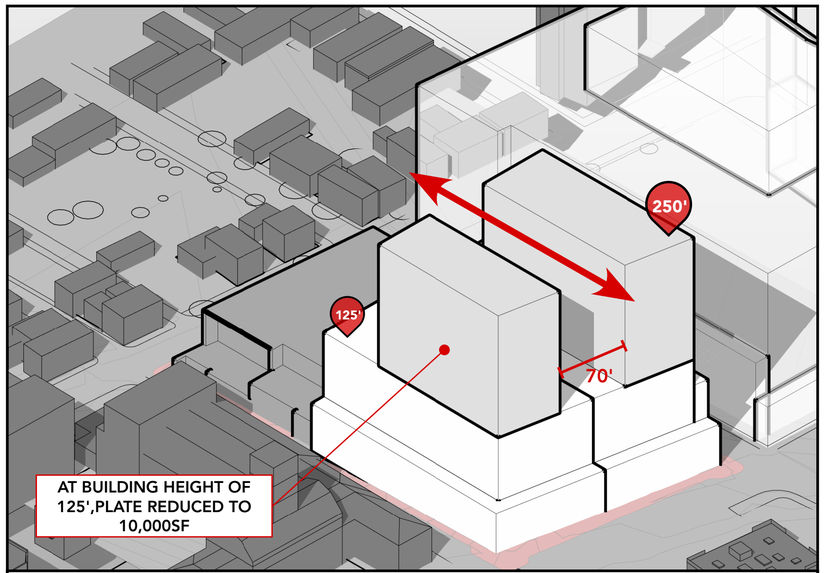
1_SUB-DIVIDE SITE



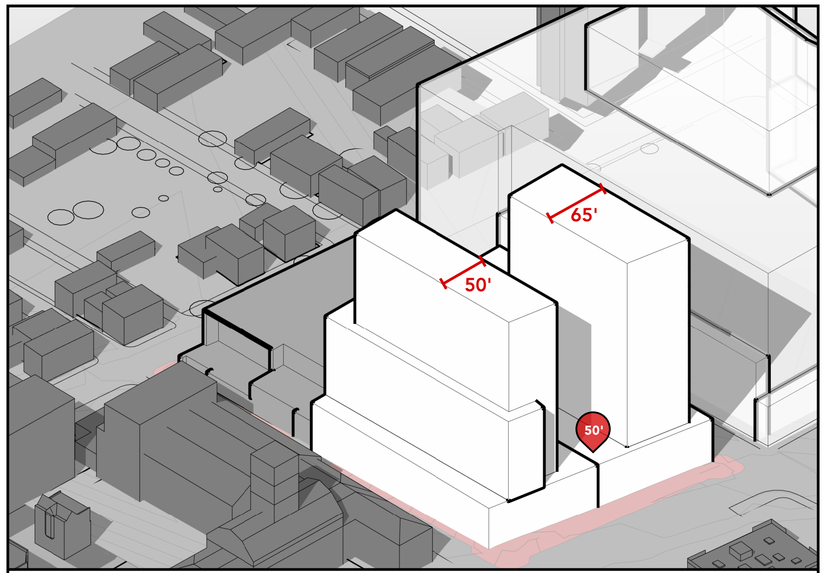
2_EXTRUDE SITE FOOTPRINTS



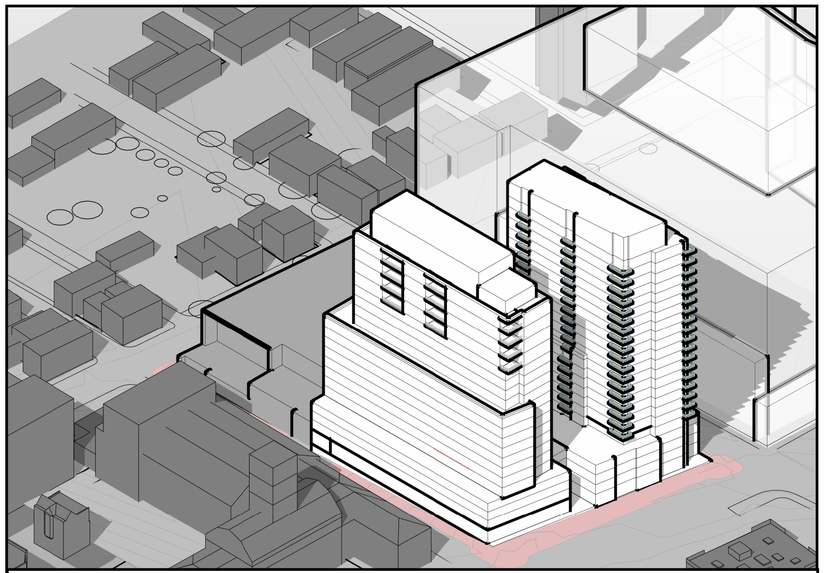
3_STREET WALL SETBACKS (PER ZONING)



4_REDUCE TOWER FOOTPRINTS ABOVE 125'



5_SHAPE BUILDING FOOTPRINTS FOR PROGRAM



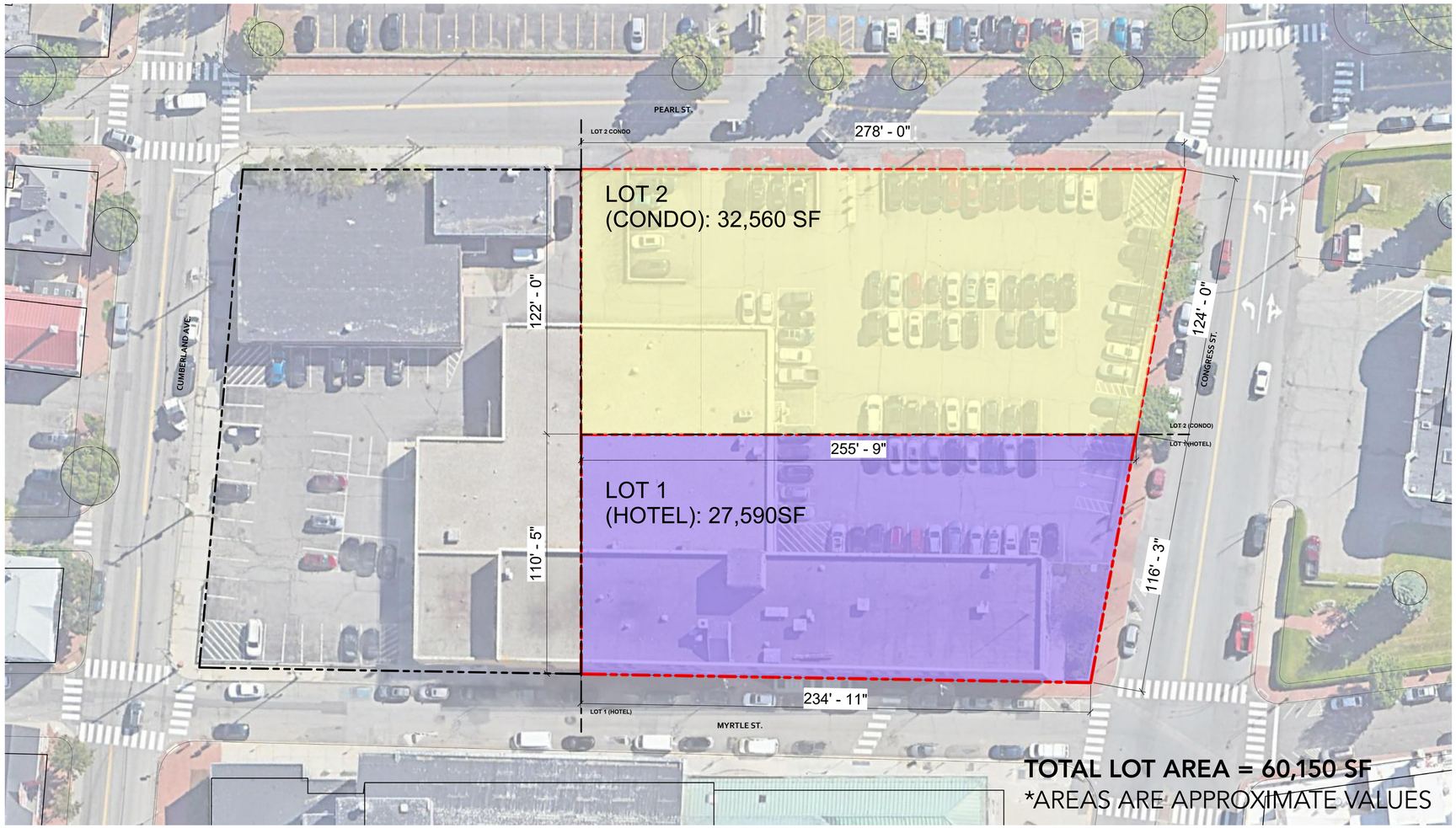
6_SCULPT MASSING TO SCALE ARCHITECTURE

cbt

PARCEL SUBDIVISIONS

**VALUES ARE APPROXIMATE

		HOTEL NSF	KEY COUNT	RESI NSF	UNIT COUNT	RETAIL SF	PARKING SF	PARKING COUNT	GSF TOTAL
Lot 1 - Hotel	Myrtle	163,300	156	45,000	9	2,000	79,900	135	288,200
Lot 2 - Condo	Pearl			189,257	140	4,000	117,500	322	350,600
GRAND TOTALS		163,300	156	234,257	149	6,000	197,400	457	638,800



cbt

PROGRAM SUMMARY



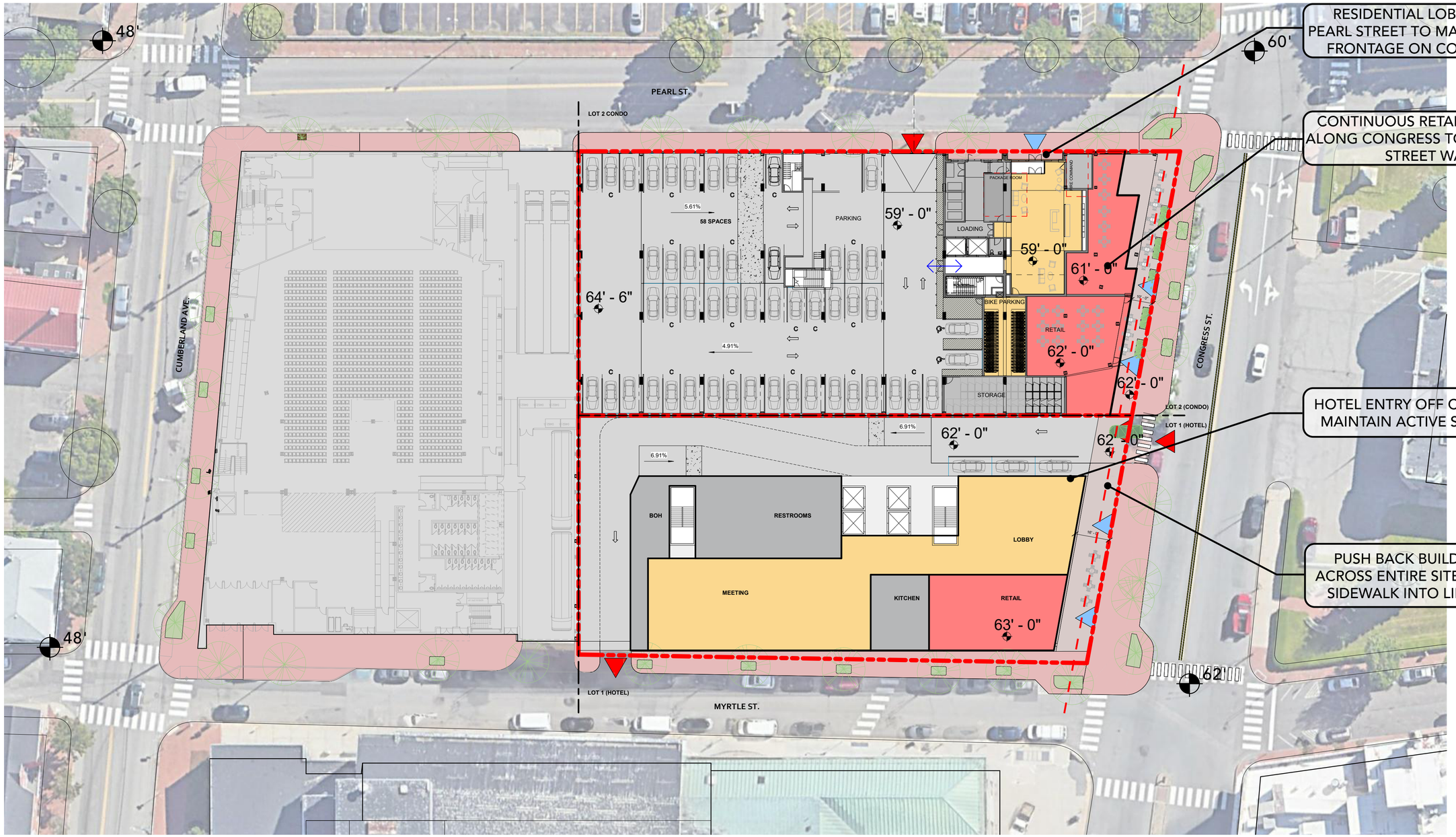
*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

SITE PLAN

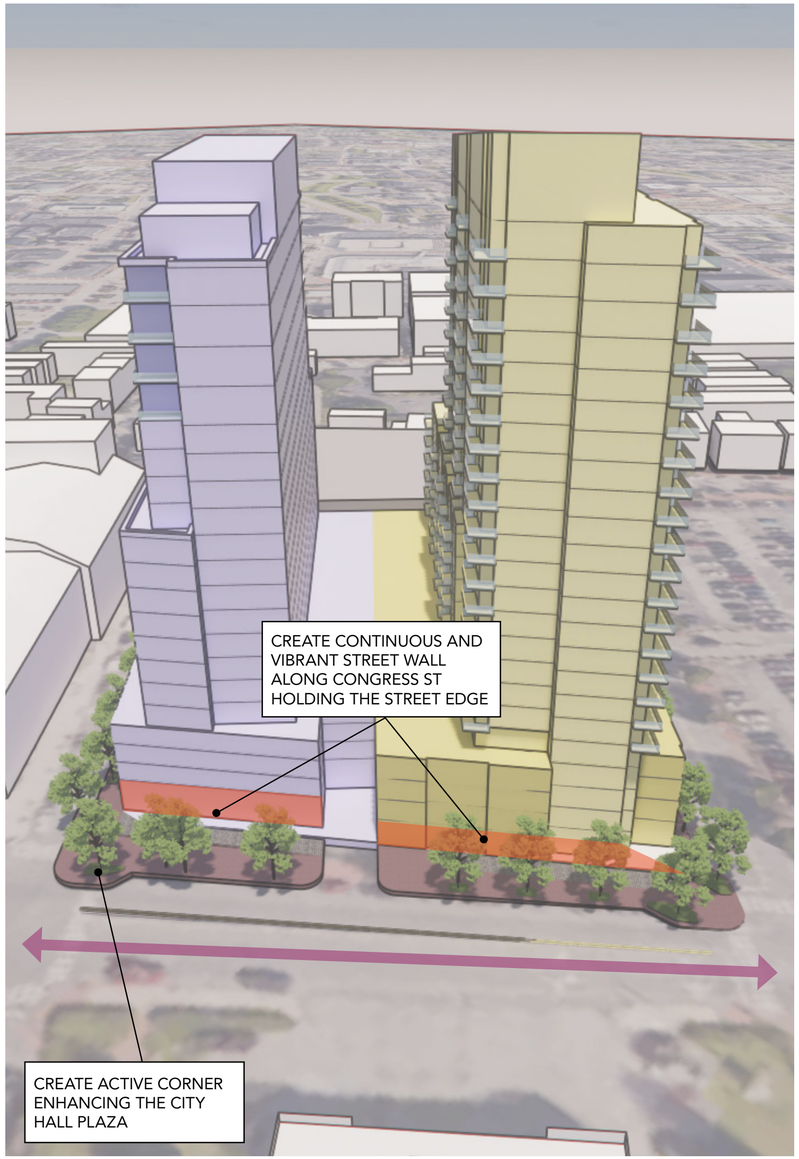

LINCOLN PARK
PEARL STREET
LOT 2: CONDO
CUMBERLAND AVENUE
CONGRESS STREET
FIRE STATION
LOT 1: HOTEL
VALET DROP OFF
MYRTLE STREET
CITY HALL
MERRILL
AUDITORIUM
PRESS
HOTEL

COMPOSITE GROUND FLOOR PLAN



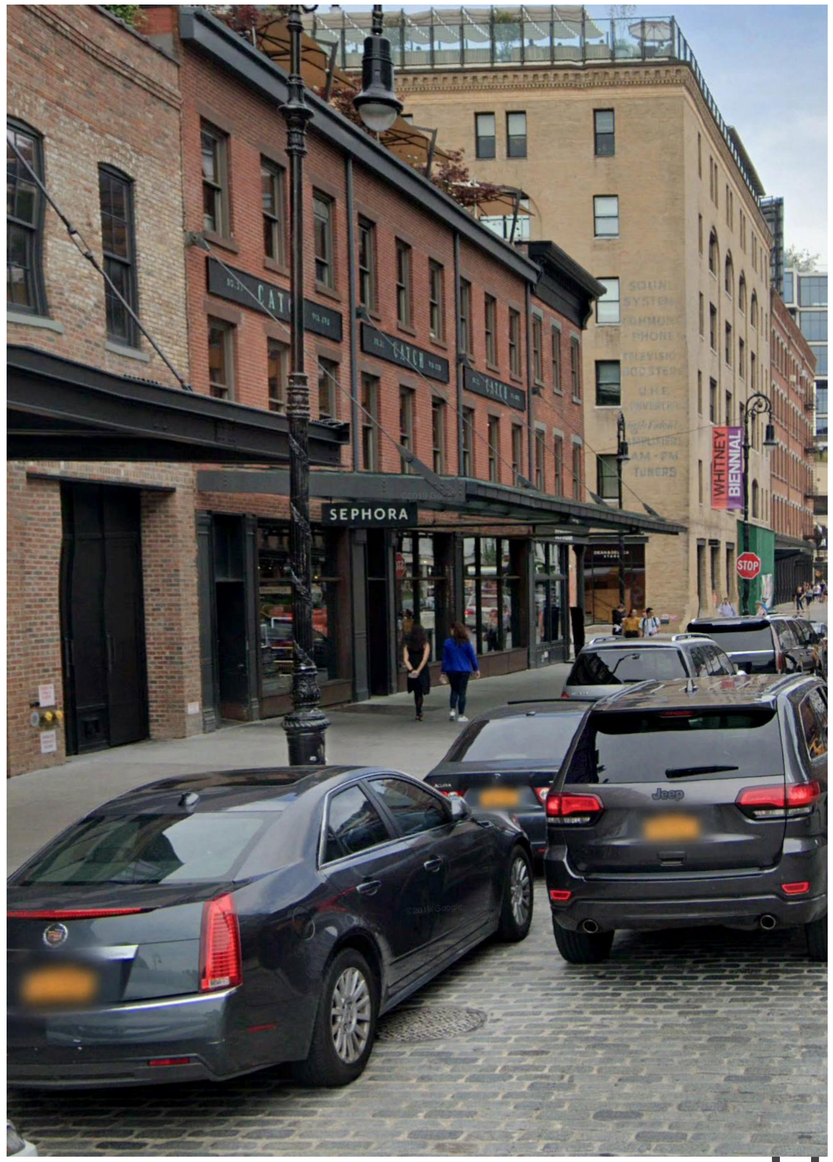
WELL SCALED ACTIVE STREET EDGE

THIS SITE MUST CONNECT INTO THE URBAN FABRIC OF DOWNTOWN PORTLAND AND EXTEND THE NATURE OF OF CONGRESS STREET TO THE EAST. IT WILL DO SO BY MAINTAINING AN ACTIVE AND WELL-SCALED STREET EDGE. THE MAJORITY OF THE SITE WILL HOLD A ONE OR TWO STORY STREET WALL BEFORE STEPPING BACK AT THE AMENITY TERRACE LEVEL. THE TOWER PORTION OF THE BUILDINGS WILL ADHERE TO THE REQUIRED ZONING SETBACKS WHICH HELP DEMINISH THEIR PERCEVED HEIGHT AND SCALE. MUCH OF THE GROUND FLOOR PROGRAM ALONG CONGRESS ST. AND CUMBERLAND AVE. WILL BE ACTIVE AND UTILIZED BY THE PUBLIC, WHILE THE GARAGE AND BOH SPACES WILL BE KEPT TO THE SECONDARY STREETS OF MYRTLE AND PEARL.



PRECEDENT



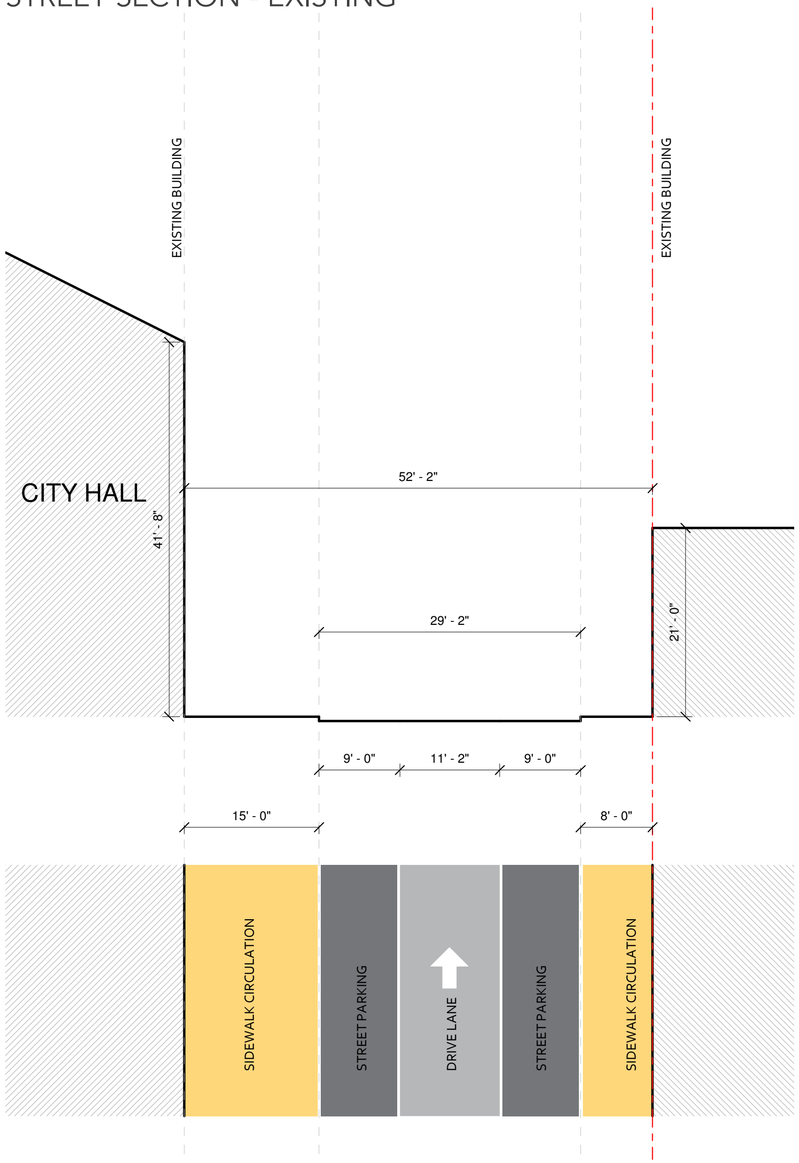


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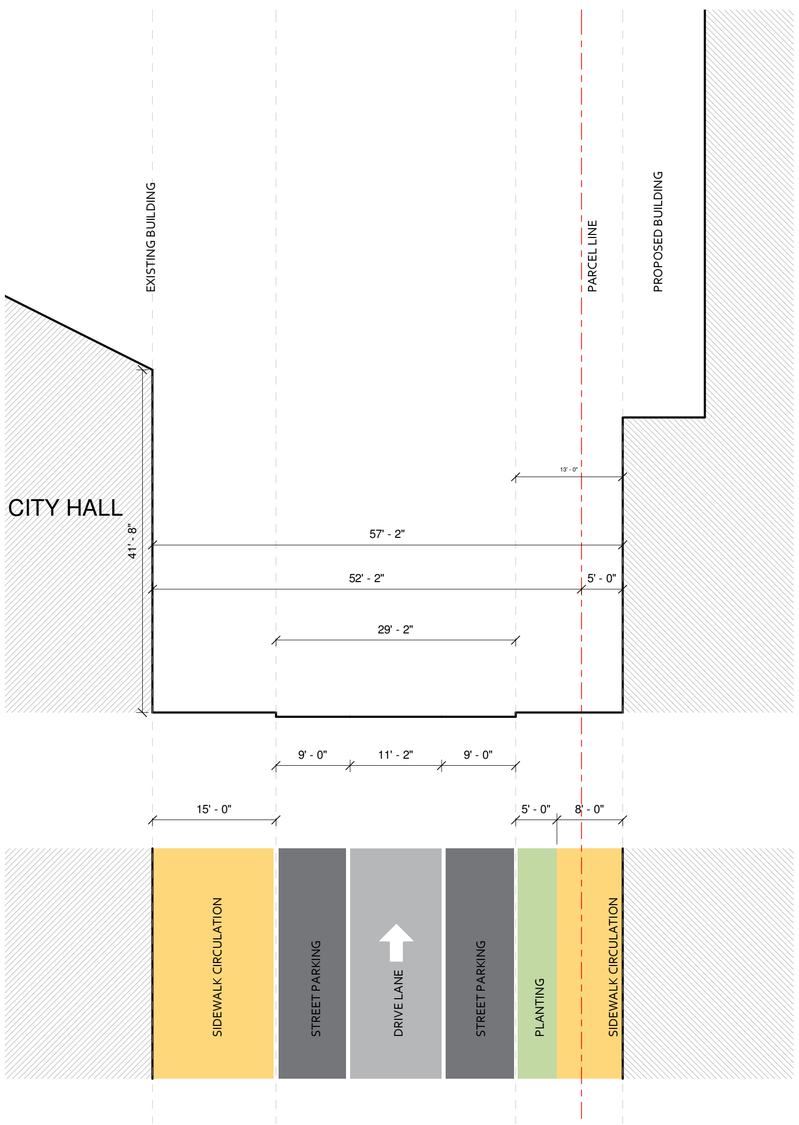
MYRTLE STREET

THE PROPOSED CONDITION OF MYRTLE STREET WILL ENHANCE THE PEDESTRIAN EXPERIENCE ALONG THE SIDEWALK. WE PROPOSE TO ALIGN THE BUILDING TO BE PARALLEL TO PEARL STREET, THUS CREATING A WIDER SIDEWALK ON MYRTLE. THIS ADDITIONAL SIDEWALK WIDTH ALLOWS ROOM FOR STREET TREES IN RAISED PLANTER BEDS AS WELL AS OTHER VEGETATION. THE GARAGE FACADE PROVIDES OPPORTUNITIES FOR MURALS, LIGHTING DESIGN, AND UNIQUE MATERIALS FOR SCREENING. ADDITIONALLY, THIS FACADE WILL BE ACTIVATED WITH THE PEDESTRIAN CONNECTION UP TO THE SHARED AMENITY TERRACE VIA A SET OF MONUMENTAL STAIRS THAT OPEN UP ACROSS FROM THE ENTRANCE TO THE MYRTLE AUDITORIUM. THE STAIRS WILL HAVE AREAS FOR PLANTING AND SEATING.

STREET SECTION - EXISTING



STREET SECTION - PROPOSED



EXISTING CONDITIONS PHOTO



cbt

VIEW FROM CONGRESS & MYRTLE - PREVIOUS



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW FROM CONGRESS & MYRTLE - PROPOSED

THE PROPOSED HOTEL AT THE CORNER OF CONGRESS AND MYRTLE STREETS IS A 22-STORY BUILDING. THE BUILDING MASSING COMMENCES AT GRADE WITH A 4-STORY PODIUM THAT HOLDS THE STREET EDGE ALONG MYRTLE AND CONGRESS, PROVIDING AN ARCHITECTURAL NOD TO IT'S CONTEXT OF THE ADJACENT CITY HALL, AND ANCHORING THE STRUCTURE WITH MORE TRADITIONAL MATERIALITY AND PROPORTIONS. THE GROUND LEVEL IS COMPRISED OF THE HOTEL LOBBY, MEETING SPACE, CORNER RETAIL AND THE VALET DROP-OFF LOOP. THE TRANSPARENT FAÇADE WILL PROVIDE EYES ON THE STREET AND PEDESTRIAN ACCESS POINTS INTO THE LOBBY. LTHE GARAGE. THE NEXT 7 LEVELS WILL COMPRISE THE HOTEL ROOMS. THE REST OF THE PODIUM FLOORS WILL HOST A GARAGE FOR HOTEL GUEST PARKING. ABOVE THE PODIUM, THE MASS STEPS BACK FROM THE STREET, PER THE SITE ZONING, WHICH ALLOWS GUEST ROOMS ACCESS TO PRIVATE TERRACES. THE UPPER FLOORS OF THE TOWER ARE OCCUPIED BY 9 LUXURY CONDO UNITS WITH PRIVATE BALCONIES.



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW FROM CONGRESS & PEARL - PREVIOUS



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW FROM CONGRESS & PEARL - PROPOSED

OUR GOAL FOR THE CONDO BUILDING ON THE CORNER OF PEARL AND CONGRESS IS TO CREATE A CONTEXTUAL, YET CONTEMPORARY EXTENSION OF THE CONGRESS STREET ARTERY. BY USING THE ZONING ENVELOPE TO DEFINE THE MAJOR MASSING MOVES, WE HOPE TO DRAW UPON THE EXISTING DATUM LINES ALONG THIS IMPORTANT STREET. THE GROUND FLOOR IS COMPRISED OF CONTINUOUS RETAIL SPACE ALONG CONGRESS STREET TO CREATE AN ACTIVE AND VIBRANT STREET FRONTAGE. THE LOBBY FOR THE RESIDENTS WILL BE POSITIONED OFF OF PEARL STREET IN ORDER TO PROVIDE A MORE RESIDENTIAL SCALE ENTRANCE AND KEEP LOADING / DROP-OFF ACTIVITIES AWAY FROM THE ACTIVITY ON CONGRESS. THE PODIUM LEVELS WILL HOST FOUR LEVELS OF PARKING FOR RESIDENT USE. ABOVE THE PODUIM, THE BUILDING STEPS BACK FROM THE STREET TO DISTINGUISH THE TOWER. THE REIDENTIAL UNITS WILL HAVE PRIVATE TERRACE SPACE AS WELL AS SHARED BUILDING AMENITY SPACE ON TOP OF THE PODIUM. ABOVE THE TERRACE LEVEL, EACH UNIT WILL BE HAVE A PRIVATE BALCONY. THESE BALCONIES PROVIDE THE RESIDENTS VALUABLE OUTDOOR SPACE. AT LEVEL 12, THE BUILDING FOOTPRINT IS REDUCED TO 10,000SF PER ZONING. THIS HELPS TO SCALE THE TOWER AS IT MEETS THE SKY AND ALLOW MORE LIGHT AND AIR INTO THE SITE. THE ROOFTOP WILL HOST A MECHANICAL PENTHOUSE AS WELL AS PRIVATE PATIOS FOR THE PENTHOUSE UNITS. THIS BUILDING WILL BE A HIGHLY VISIBLE ADDITION TO THE DIVERSE SKYLINE, SO IT IS IMPORTANT THAT IT SEAMLESSLY STITCHES INTO THE EXISTING, AND EVOLVING, FABRIC OF DOWNTOWN PORTLAND.



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW FROM CUMBERLAND AND PEARL - PREVIOUS



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW FROM CUMBERLAND AND PEARL - PROPOSED



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW FROM CUMBERLAND AND MYRTLE - PREVIOUS



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW FROM CUMBERLAND AND MYRTLE - PROPOSED



AERIAL VIEW



GROUND VIEW

*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

VIEW CORRIDOR - CONGRESS_EXISTING



cbt

VIEW CORRIDOR - CONGRESS_PROPOSED

THE PROPOSED DEVELOPEMENT ON 385 CONGRESS FITS INTO THE EXISTING SCALE OF CONGRESS STREET. BY PULLING BUILDING FACES BACK FROM THE PROPERTY LINE, WE CONTINUE THE WIDENED PUBLIC REALM EXPERIENCE ESTABLISHED BY CITY HALL PLAZA. THIS PROVIDES THE OPPORTUNITY TO PROVIDE RETAIL SPILL-OUT AND CONTINUOUS VEGITATION IN FRONT OF OUR BUILDINGS THAT WILL SERVE AS A LINEAR PARK. BY BREAKING DOWN THE BLOCK INTO TWO SEPARATE BUILDINGS THAT FRONT ONTO CONGRESS, WE MAINTAIN THE GRANULARITY OF THE SURROUNDING CONTEXT. THE MID-BLOCK POROSITY PROVIDED BY OUR SHARED AMENITY TERRACE HELPS TO BREAK DOWN THE BLOCK SCALE.



*SEE SUBSEQUENT INDIVIDUAL SITE PLAN APPLICATIONS FOR DETAILS ON FENESTRATION, MATERIALS, AND COLOR

cbt

PROPOSED SHADOWS

JUNE 21 EDT

10:00 AM



12:00 PM



2:00 PM



CONCLUSION:

THE PROPOSED DEVELOPMENT DOES NOT CAST ANY NEW SHADOWS ON CITY HALL PLAZA OR LINCOLN PARK DURING THE HOURS OF 10AM TO 2PM ON THE SUMMER SOLSTICE (JUNE 21ST)

N

cbt

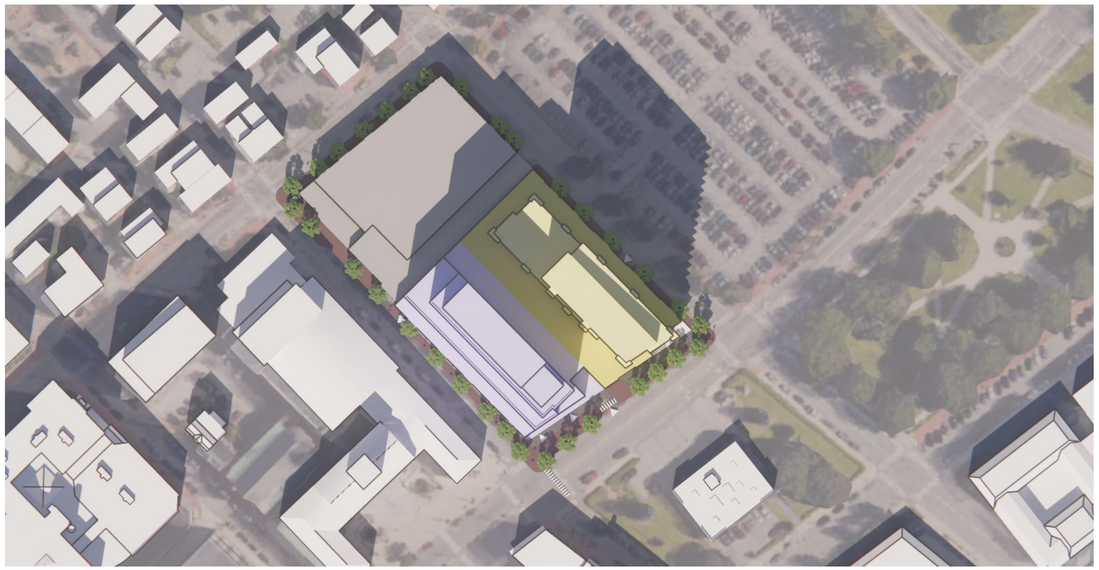
PROPOSED SHADOWS

MARCH / SEPTEMBER 21 EDT

10:00 AM



12:00 PM



2:00 PM



CONCLUSION:

THE PROPOSED DEVELOPMENT DOES NOT CAST ANY NEW SHADOWS ON CITY HALL PLAZA OR LINCOLN PARK DURING THE HOURS OF 10AM TO 2PM ON THE SPRING OR FALL EQUINOX (MARCH/SEPTEMBER 21ST)

N

cbt

Doc#: 53773 Bk:34401 Pg: 214

Att. C

QUITCLAIM DEED WITH COVENANT
(Maine Statutory Short Form)

METRO MEDIA PROPERTIES LLC, a Maine limited liability company with a mailing address of 201 Old Country Road, Suite 105, Melville, NY 11747 ("Grantor"), for consideration paid, grants to **385 CONGRESS LLC,** a Maine limited liability company with mailing address of 2730 Transit Road, West Seneca, NY 14224 ("Grantee"), with QUITCLAIM COVENANT, a certain lot or parcel of land with the buildings and improvements thereon located in the City of Portland, County of Cumberland and State of Maine, described as follows:

MAINE REAL ESTATE TAX PAID

A certain lot or parcel of land in Portland, County of Cumberland and State of Maine bounded and described generally as follows:

South: Congress Street;
East: Pearl Street;
North: Cumberland Avenue; and
West: Myrtle Street

This parcel of land is more particularly described as follows:

Beginning at the intersection of the Northerly sideline of Congress Street with the Easterly sideline of Myrtle Street;

Thence: N72° 54' E along the Northerly sideline of Congress Street approximately Two Hundred Forty Feet (240') to the intersection of the Northerly sideline of Congress Street with a Westerly sideline of Pearl Street;

Thence: N27° 21' W along the Westerly sideline of Pearl Street approximately Four Hundred Fifty Five Feet (455') to the intersection of the Westerly sideline of Pearl Street with a Southerly sideline of Cumberland Avenue;

Thence: Westerly along the Southerly sideline of Cumberland Avenue approximately One Hundred Seventy Feet (170') to a point;

Thence: Northerly to point A (point A being located at the intersection of the line of this call with the line of the next call extended N 67° 11' E);

Thence S67° 11' W approximately Sixty Feet (60') to the intersection of the Southerly sideline of Cumberland Avenue with the Easterly sideline of Myrtle Street;

Thence S26° 22' E along the Easterly sideline of Myrtle Street approximately Four Hundred Ten Feet (410') to the intersection of the Easterly sideline of Myrtle Street with the Northerly sideline of Congress Street and the point of beginning.

Also conveying the following parcel of land:

A certain lot or parcel of land with the buildings thereon situated in the City of Portland, County of Cumberland and State of Maine, bounded and described generally as follows:

Beginning at a drill hole reset marking the intersection of the northwesterly sideline of Congress Street and the northeasterly sideline of Myrtle Street;

Thence N 55°-45'-03" E, 240.31 feet by and along the northwesterly sideline of said Congress Street to a drill hole set marking the northwesterly sideline of said Congress Street and the southwesterly sideline of Pearl Street;

Thence N 44°-35'-56" W, 433.81 feet by and along the southwesterly sideline of said Pearl Street to a point at the intersection of the southwesterly sideline of Pearl Street with the southeasterly sideline of Cumberland Avenue. Said point being witnessed by a granite right-of-way monument.

Thence S 50°-25'-20" W, 230.34 feet by and along the southeasterly sideline of said Cumberland Avenue to a point at the intersection of said southeasterly sideline of Cumberland Avenue with said northwesterly sideline of Myrtle Street. Said point being witnessed by a granite right-of-way monument.

Thence S 43°-37'-52" E, 410.86 feet by and along the northeasterly sideline of said Myrtle Street to the Point of Beginning, containing 2.26 acres more or less.

Also releasing to Grantee, Grantor's right, title and interest in a certain underground tunnel that runs from the subject premises to 390 Congress Street, by virtue of a license granted pursuant to approval of the City of Portland Inspector of Buildings dated May 14, 1965.

Being the same premises described in a Quitclaim Deed with Covenant from MTM Portland Properties, LLC to Metro Media Properties, LLC dated July 10, 2009 and recorded in the Cumberland County Registry of Deeds at Book 27079, Page 160.

IN WITNESS WHEREOF, Metro Media Properties LLC has caused this instrument to be signed and sealed in its company name by George Cacoulidis, its CEO, thereunto duly authorized, this 20th day of October, 2017.

WITNESS:

Tom Hanson

METRO MEDIA PROPERTIES LLC,
a Maine limited liability company

By: _____
George Cacoulidis
Title: CEO

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. October 20, 2017

Then personally appeared the above named George Cacoulidis, CEO of Metro Media Properties LLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Metro Media Properties LLC.

Before me,

_____
Attorney at Law ~~Notary Public~~
Printed Name: Nicholas J. Morrill

Received
Recorded Register of Deeds
Oct 20,2017 12:19:14P
Cumberland County
Nancy A. Lane

PARID: 027 D001001 **385 CONGRESS ST**
385 CONGRESS LLC

Parcel

Parcel ID	027 D001001
Property Location	385 CONGRESS ST
Unit	
Living Unit	1
Land Use Code	32 - WAREHOUSE & STORAGE
	Verify legal use with Inspections Division
Zoning	B3
Land Area (acreage)	2.2606
Land Area (square footage)	98472
Notes	27-D-1 CONGRESS ST 371-387 CUMBERLAND AVE 240-254 MYRTLE ST 1-35 PEARL ST 98470 SF
Utilities	1 - ALL PUBLIC - -

Owners

Owner	385 CONGRESS LLC
Address	2730 TRANSIT RD
City, State, Zip	WEST SENECA NY 14224
Deed Date	10/20/2017
Book	34401
Page	214

AGREEMENT OF PURCHASE AND SALE

between

FATHOM DEVELOPMENT, LLC,

as Buyer,

and

385 CONGRESS LLC,

as Seller

December 1, 2021

385 Congress Street
Portland, Maine 04101

AGREEMENT OF PURCHASE AND SALE

BY THIS AGREEMENT OF PURCHASE AND SALE (the "Agreement") entered into this 1st day of December, 2021 ("Effective Date"), 385 CONGRESS LLC, a Maine limited liability company (hereinafter referred to as "Seller"), and FATHOM DEVELOPMENT, LLC a Maine limited liability company (hereinafter referred to as "Buyer"), hereby agree as follows:

ARTICLE I
Terms and Definitions

Section 1.1. In addition to the other terms herein defined, the following terms shall have the meanings set forth in this Article I, unless the context otherwise requires:

Additional Deposit. Defined in Section 3.1.

Approvals. Defined in Section 6.5.

Approvals Period. Defined in Section 6.4.

Buyer's Conditions Precedent. Defined in Section 6.1.

Buyer's Knowledge. Means the knowledge of James Brady based upon his historical knowledge of the Real Property and assuming a commercially reasonable level of inquiry.

Buyer Project Information. Defined in Section 6.5.4.

Buyer's Termination Notice. Defined in Section 6.2.2.

Cash Balance. Defined in Section 5.2.2.

Closing. The consummation of the purchase and sale of the Property pursuant to this Agreement.

Closing Date. Defined in Section 6.6.

Commitments. Defined in Section 14.3.

Condominium Project. Defined in Section 6.5.4.

Consideration. Defined in Section 5.1.

Construction License. Defined in Section 14.2.

Cross Easement Agreement. Defined in Section 14.3.

Deed. Defined in Section 6.1.1.

Deposit. Defined in Section 3.1.

Demolition is defined in Section 6.1.10.

Due Diligence Period. Defined in Section 6.4.12.

ESA. Defined in Section 6.4.4.

Escrow Agent. Defined in Section 3.1.

Execution Date. The date of this Agreement as hereinabove set forth.

Facilities Program. Means and refers to the facilities program set forth on Exhibit C.

Hazardous Materials. Mean any pollutants, contaminants or hazardous substances (as such terms are defined under CERCLA), pesticides (as such term is defined under the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. §§ 136 et seq.), solid wastes and hazardous wastes (as such terms are defined under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq.), chemicals, other hazardous, radioactive or toxic materials, oil, petroleum and petroleum products (and fractions thereof), asbestos and asbestos-containing materials, polychlorinated biphenels ("PCBs") or PCB-containing materials, or any other material (or article containing such material) listed or subject to regulation under any law, statute, rule, regulation, order, Permit, or directive due to its potential, directly or indirectly, to harm the environment or the health of humans or other living beings.

Improvements. All improvements constructed on the Real Property.

Initial Deposit. Defined in Section 3.1.

Mandatory Cure Items. Defined in Section 6.3.

Master Development. Means the Seller's development of the area shown in the Plan attached as Exhibit B as a residential condominium project.

Master Parcel. Defined in Section 6.5.6.

Monetary Liens. Defined in Section 6.3.

MP Application. Defined in Section 6.5.4.

MP Application Deadline. Defined in Section 6.5.4.

MP Application Period. Defined in Section 6.4.12.

MP Approval. Defined in Section 6.5.4 .

OFAC. Defined in Section 7.1.

Parking Agreement. Defined in Section 14.1.

Permitted Encumbrances. Defined in Section 6.3

Preliminary Title Report. The commitment for issuance of an owner's policy of title insurance issued by the Title Company.

Project. A full service hotel [redacted]

Property. The Real Property.

Purchase Price. Defined in Section 5.1.

Real Property. That portion of the real property located at 385 Congress Street, Portland, Maine, 04101, Tax Map 27, Block D, Lot 1, as more particularly depicted on Exhibit A attached hereto and by this reference made a part hereof, together with all rights in the streets lying adjacent to such land and owned by Seller, and all rights, privileges, easements and appurtenances thereto, [redacted], and including all additional rights and easements as necessary to service the Project pursuant to the Cross Easement Agreement. [redacted] The Real Property description shall be finally determined by an ALTA survey commissioned by Buyer and the Real Property shall be conveyed using that survey description, provided that the description is reasonably acceptable to Seller. The Real Property shall be configured as more particularly described herein. The illustration included in Exhibit A is for reference purposes only regarding the approximate boundaries and alleyway location, and the buildings are not necessarily indicative of the massing or design to be agreed upon by the parties as provided herein.

Seller's Conditions Precedent. Defined in Section 6.8.

Seller's Knowledge. Means the knowledge of Gordon Reger and Joseph Dasco based upon their historical knowledge of the Real Property and assuming a commercially reasonable level of inquiry.

Seller Project Information. Defined in Section 6.5.4.

Seller's Retained Land. Defined in Section 6.5.6.

Site Plan Application. Defined in Section 6.5.1

Site Plan Approval. Defined in Section 6.5.4.

Site Studies. Defined in Section 6.4.6.

SP Application Deadline. Defined in Section 6.5.4.

Subd Application. Defined in Section 6.5.4.

Subd Approval. Defined in Section 6.5.6.

Survey. Defined in Section 6.4.5.

Title Commitment. Defined in Section 6.3.

Title Company. A nationally recognized title insurance company to be selected by Buyer.

Title Inspection Period. Defined in Section 6.3.

Title Notice Deadline. Defined in Section 6.3.

[redacted]

Utilities. Defined in Section 6.4.7.

Zoning Confirmation. Defined in Section 6.4.3.

ARTICLE II
Purchase and Sale

Section 2.1. Purchase and Sale. Seller agrees to sell and convey to Buyer, and Buyer agrees to purchase from Seller, the Property, on all of the mutual terms, covenants and conditions hereinafter set forth. Buyer shall have the right to designate an entity organized and controlled by Buyer for purposes of taking title to the Property as provided in Section 15.3 hereof. Seller shall be permitted to reserve certain rights and easements over the Property in accordance with the terms and provisions of Section 14.3

ARTICLE III
Deposit

Section 3.1. Deposit. Upon execution hereof, Buyer shall deposit with Pierce Atwood LLP (the "Escrow Agent") the sum of [redacted] (the "Initial Deposit"). Upon completion of the Approvals Period if Buyer has not otherwise terminated this Agreement in accordance with its terms, Buyer shall deposit with the Escrow Agent the additional sum of [redacted] (the "Additional Deposit"). The Initial Deposit and the Additional Deposit are hereinafter collectively referred to as the "Deposit" and are to be held and applied as hereinafter set forth. The Deposit shall be held in a non-interest-bearing escrow account.

Section 3.2. Non-Refundable. Except as otherwise specifically set forth in this Agreement, the Initial Deposit shall be fully refundable until the completion of the Approvals Period, after which, assuming Buyer has not terminated this Agreement, it shall be non-refundable, except as otherwise specifically set forth in this Agreement. Except as otherwise specifically set forth in this Agreement, the Additional Deposit shall be non-refundable. Except as otherwise specifically set forth in this Agreement, the Deposit shall serve as Seller's liquidated damages (except for any Buyer indemnities) in the event of a breach of this Agreement by Buyer pursuant to Article IV, or shall be applied against the Purchase Price pursuant to Article V.

Section 3.3. Liability of Escrow Agent. In the event of any disagreement between the parties, Escrow Agent shall be entitled to refuse to comply with any claims or demands by either party as long as such disagreement may continue, and in so refusing, shall make no delivery or other disposition of the Deposit. Escrow Agent shall not become liable in any way for such refusal, and Escrow Agent shall be entitled to continue to refrain from acting until (a) the rights of the parties shall have been finally adjudicated in a court of competent jurisdiction, or (b) all differences shall have been settled by agreement and Escrow Agent shall have been notified in writing of such agreement signed by both parties.

ARTICLE IV
Damages

Section 4.1. Buyer's Default. In the event that this transaction does not close as a consequence of a default by Buyer, and Seller has performed or tendered performance of its obligations hereunder, Seller's sole remedy shall be to retain the Deposit as liquidated damages. The parties hereby agree that if Buyer defaults, Seller's actual damages would be difficult or impossible to determine, and thus the amount of the Deposit is the best estimate of the damage Seller would suffer. Accordingly, the Deposit shall be the total amount that Seller is entitled to receive as liquidated damages (except for any Buyer indemnities).

Section 4.2. Seller's Default. In the event Seller fails to perform any obligation of Seller under this Agreement, including without limitation the obligation to convey title to the Property to Buyer on the Closing Date, as hereinafter defined, in accordance with the provisions of this Agreement, and Buyer has performed or tendered performance of its obligations hereunder, and such failure shall remain uncured for a period of thirty (30) days following written notice thereof from Buyer to Seller, then Buyer may (a) terminate this Agreement, in which event the Deposit shall be returned to Buyer, or (b) Buyer shall be entitled to pursue specific performance of Seller's obligations hereunder.

ARTICLE V
Purchase Price

Section 5.1. Amount of Consideration. Buyer shall pay Seller consideration (the "Consideration") for the Property in the amount of [redacted] (the "Purchase Price"), subject to adjustment for credit, debits and other adjustments as expressly provided in this Agreement..

Section 5.2. Manner of Payment. Buyer shall pay and provide the Consideration to Seller at the Closing as follows:

5.2.1. Deposit. Applying the Deposit against the Consideration; and

5.2.2. Remaining Consideration. Paying the balance of the Consideration, by wire transfer to an account to be designated by Seller (the "Cash Balance").

ARTICLE VI
Conditions Precedent to Closing

Section 6.1. Buyer's Conditions Precedent. Buyer's obligation to purchase the Property from Seller is subject to the following conditions precedent (the "Buyer's Conditions Precedent"):

6.1.1. Title. At the Closing, Seller shall sell, convey, transfer and deliver the Property to the Buyer by statutory Quitclaim Deed with Covenant Buyer (the "Deed"), and the Deed shall convey to the Buyer fee title free of Monetary Liens and Mandatory Cure Items, but subject to Permitted Encumbrances.

6.1.2. Seller's Representations and Warranties. Seller's representations and warranties set forth herein shall be true and correct in all material respects at and as of the Closing as though such representations and warranties were made at and as of such date.

6.1.3. Seller's Compliance. The Seller shall have in all material respects performed and complied with all covenants, agreements and conditions required by this Agreement to be performed or complied with by it prior to or at the Closing.

6.1.4. Approvals. The Approvals shall continue in full force and effect without imposition of any amendments, alterations or conditions not requested or pursued by Buyer or its agents or contractors, since receipt of the same by Buyer.

6.1.5. Lease Termination. Delivery by Seller of evidence reasonably satisfactory to Buyer that all leases, licenses or other use agreements of all or any portion of the Property, [redacted] have been terminated at or prior to Closing, at Seller's expense, and tenants have no further right to occupancy or use of the Property thereunder.

6.1.6. Consents and Approvals. The Seller shall have obtained all consents, approvals, authorizations, exemptions and waivers from governmental authorities and third parties, if any, as shall be necessary to convey the Property to Buyer.

6.1.7. Commitments. Buyer and Seller shall have executed and delivered the Commitments, as such documents have been negotiated and agreed upon by the parties prior to expiration of the Due Diligence Period, with only such revisions to the agreed upon forms as may be required under Article XIV, as applicable.

6.1.8. No Material Adverse Changes. There shall have been no material adverse change since the date of this Agreement in the Property, except changes contemplated or required by this Agreement, including without limitation, any change in the title, physical condition (except

for the Demolition), legal status, use or possession of the Property [redacted] from the conclusion of the Approvals Period through the date of closing that would cause the Property to be unsuitable for development of the Project; the foregoing is not intended to include any changes in the national, state or local economy or capital markets or any similar change that does not involve the physical, legal or land-use status of the Property.

6.1.9. No Legal Restraints or Litigation. No statute, rule, regulation or order of any court or administrative agency shall be in effect which restrains or prohibits the Seller from consummating the transactions contemplated hereby. In addition, no action, suit, or proceeding shall be pending before any court or quasi-judicial or administrative agency of any federal, state, local, or foreign jurisdiction wherein an unfavorable injunction, judgment, order, decree, ruling, or charge would (a) prevent consummation of any of the transactions contemplated by this Agreement, or (b) result in a material adverse change in the Property or the ability to develop the Project at the Property, except for an appeal of the Approvals, which is addressed in Section 6.5.1 below.

6.1.10. Demolition. Seller shall have completed the demolition (as more particularly described in Section 14.4) prior to Closing ("Demolition").

Section 6.2. Failure of Buyer's Conditions Precedent. If, at the time of the Closing, any of the foregoing Buyer's Conditions Precedent have not been fulfilled, Buyer may, at its option, do the following:

6.2.1. Waive and Close. Waive such condition and close in accordance with this Agreement; or

6.2.2. Terminate. Terminate this Agreement by delivery of a written notice to Seller and to Escrow Agent ("Buyer's Termination Notice") and enforce any remedy afforded by Section 4.2 in the event Seller has defaulted under any of its obligations under this Agreement (provided that the mere failure of the following conditions to closing shall not constitute a Seller default: Sections 6.1.6, 6.1.8, or 6.1.9); provided, however, that, if Buyer fails to deliver Buyer's Termination Notice to Seller at or prior to the Closing, the applicable condition or conditions shall be deemed waived by Buyer.

Section 6.3. Title Examination. From the date hereof through the date of expiration of the Due Diligence Period, as hereinafter defined (the "Title Inspection Period"), Buyer shall have the opportunity to review the commitment to insure title (the "Title Commitment"), any amendments thereto issued during the Title Inspection Period, the exceptions to title disclosed in the Title Commitment, all Survey Matters and all other aspects of Seller's title to the Property. The Title Commitment shall be for the benefit of the Buyer, at customary rates, in the ALTA form currently in use, subject only to the Permitted Encumbrances (as defined below) and with such standard exceptions deleted and standard endorsements included as Buyer may, in its sole discretion, require. On or before the date of the expiration of the Title Inspection Period (the "Title Notice Deadline"), Buyer shall notify Seller in writing of any defect in title to the Property, or any other matter which is indicated on the Title Commitment or any Survey Matter to which Buyer objects except for the following: (a) liens for real estate taxes not yet due and payable or for

betterments assessed after the Effective Date, (b) other encumbrances which may be removed or satisfied by the payment of a liquidated sum of money which Seller agrees to discharge at Closing to Buyer's satisfaction and (c) such easements, restrictions and reservations of record as are acceptable to Buyer, in its discretion. If Buyer does so notify Seller of a defect in title or other matter objectionable to Buyer prior to the Title Notice Deadline, Seller shall have ten (10) business days in which to determine whether to cure the defect or other matter so objected to by Buyer and to notify Buyer of Seller's decision in this regard. If Seller does not respond within such time frame, Seller shall be deemed to have elected not to cure the defect or other matter. Seller, at its sole cost and expense, will have until the Closing to cure the title objections which Seller has elected to cure, other than the Monetary Liens (as herein defined), which (to the extent not previously removed) Seller shall remove or cure by payment of funds at Closing. Those defects that Seller gives notice will be cured on or before the Closing Date, along with discharge of Monetary Liens, are referred to herein as "Mandatory Cure Items." If Seller elects (or is deemed to elect) not to cure the defect or other matter so objected to by Buyer, Buyer shall have the right, by not later than the tenth (10th) day after the date of Seller's notice (or failure to provide notice) to either (a) waive such defect or other matter and take title to the Property without any adjustment in the Purchase Price, or (b) terminate this Agreement by giving written notice thereof to Seller. If Buyer timely gives such notice of termination, this Agreement shall terminate and the Deposit shall be returned to Buyer. If Buyer fails to give Seller a notice of termination, Buyer (a) shall no longer have an right to terminate this Agreement under this Section 6.1.1 and shall be bound to proceed to Closing and consummate the transaction contemplated hereby pursuant to the terms of this Agreement and (b) shall be deemed to have approved the state of title to the Property as it exists on the effective date of the Title Commitment, as last amended during the Title Inspection Period. Seller shall be responsible for discharging any mortgages, voluntary monetary liens or tax liens (other than municipal liens not yet due and payable), including mechanics' liens for unpaid work at the Property performed on behalf of Seller but not mechanics' lien arising from due diligence and permitting and approvals work performed for Buyer (collectively, "Monetary Liens") at or prior to Closing. "Permitted Encumbrances" shall mean all matters of record as of the Effective Date affecting the Property, including without limitation easements, covenants, restrictions and agreements, as of the Effective Date, except for (i) items to which Buyer has objected and which Seller has agreed to cure, all as provided above in this Section, and (ii) Monetary Liens. Permitted Encumbrances also shall include the Parking Agreement, the Construction License, the Cross Easement Agreement and all governmental approvals and the conditions thereof contemplated or required by this Agreement.

Section 6.4. Buyer's Due Diligence. Notwithstanding any other provision of this Agreement to the contrary, Buyer shall be entitled to undertake a thorough investigation of the Property, including without limitation such reviews, analyses and studies of the Property and the development of the Project at the Property, as Buyer may, in its sole discretion, determine to be necessary or appropriate, including without limiting the generality of the foregoing:

6.4.1. Inspection of physical condition, [redacted]

6.4.3. Evaluation by Buyer of all necessary zoning, including zoning board approvals of required variances and any other matters, required in order to develop the Project ("Zoning Confirmation").

6.4.4. A Phase I Environmental Site Assessment for the Property, together with (i) any Phase II Environmental Site Assessments or other studies or analyses as may be required based upon the Phase I Environmental Site Assessment, and (ii) a Hazardous Materials Inventory of the building on the Property (together referred to as "ESA"). Seller agrees to allow Buyer, as [redacted] to take and analyze soil borings and perform groundwater testing both from the Master Parcel at locations determined by Buyer's engineering advisors, and underneath the buildings and structures located on the Real Property, including drilling through the foundations of any buildings or structures for purposes of access for soil and groundwater testing; provided, that in the event tenant consent is needed for any of the work contemplated by this Section 6.4.4, Seller shall use commercially reasonable efforts to assist Buyer in obtaining such required consent. Any damage associated with the Buyer's testing shall be restored at Buyer's expense.

6.4.5. An ALTA/ACSM Land Title Survey of the Property certified satisfactory to Buyer, in its sole opinion, sufficient in all respects to delete the standard survey exception from Buyer's title policy, and bearing a legal description, made by a licensed surveyor, and showing, among other things, the area, dimensions and location of the Property to the nearest monuments, streets, alleys on all sides, the topography, the location of all available utilities in adjoining streets, alleys, or property, the location of all recorded and apparent easements against or appurtenant to the Property, the location of all active and abandoned sewer and storm water lines on an as built basis, certifying the applicable zoning and flood zone classifications and not disclosing any condition rendering the Property unusable, in Buyer's sole opinion, for the Project (the "Survey").

6.4.6. A geotechnical report in form satisfactory to Buyer, boring, percolation and other soil tests and feasibility, demographic, traffic pattern, and other site assessment studies ("Site Studies") as required by Buyer. In connection therewith, Buyer shall have access to the Property as required [redacted] and may conduct such tests, studies, surveys and inspections (expressly including boring, drilling and other subsurface exploration as Buyer may reasonably deem appropriate). Buyer promptly shall restore to its former condition any portion of the Property disturbed by any activity conducted under this Agreement, which shall include repaving or otherwise filling any bore holes, shall repair all damage to the Property caused thereby and shall indemnify and hold Seller harmless from and against any claims, losses, liabilities, costs, fines, penalties or expenses (including without limitation reasonable attorneys' and paralegals' fees) asserted against or incurred by Seller in connection with any such activity, it being expressly understood and agreed that the foregoing provisions shall survive the Closing or the termination of this Agreement prior thereto. Buyer agrees not to assert as a defense to the enforcement of the foregoing indemnity any workers' compensation immunity. Damages under the foregoing indemnity are not limited by any liquidated damages provision in this Agreement. In addition, Buyer shall be afforded full opportunity by Seller, without warranty or recourse, to examine the following, to the extent in the possession of Seller and/or Seller's agents or employees, including the reasonable right to make copies of such books and records: environmental and engineering reports, surveys, title reports and title insurance policies, soil studies, and any reports or analyses

regarding the Demolition and the condition of the Property following the Demolition, but excluding Seller's internal memoranda, financial projections, budgets, appraisals, accounting and tax records, attorney work product, work protected by attorney-client privilege and similar proprietary or confidential information. Buyer shall take commercially-reasonable precautions to ensure that such materials and any information contained therein are disclosed only to such of Buyer's employees, agents, consultants, attorneys, investors and lenders as have need therefor, under conditions which will prohibit any further dissemination thereof not authorized by Seller.

6.4.7. Confirmation that all utilities, including without limitation, water, gas, electric power, telephone, cable, storm water systems and sanitary sewer, necessary or appropriate for development of the Project ("Utilities"), as determined by Buyer in its sole discretion, shall be located in the public way or ways adjacent to the Property ("Utility Confirmation") which confirmation may be in such form as Buyer may require.

6.4.8. Confirmation that the Project can be integrated into the Seller's Master Development in a manner acceptable to Buyer, as determined by Buyer, in Buyer's sole discretion, including without limiting the generality of the foregoing all necessary service drives, commercial truck delivery facilities, parking improvements and valet program, footings and foundations, storm water management and Utilities. The foregoing confirmation shall include confirmation that the location of buildings and other structures on the Master Parcel satisfy the requirement that the clearance between the Project and adjacent building to be located at the corner of Pearl Street and Congress Street shall be no less than fifty-five (55) feet at hotel guest room and residence levels.

6.4.9. Such other traffic, lighting and other engineering or investigatory studies as may be necessary or appropriate, or required by planning authorities, for determining the adequacy of the Property for development of the Project.

6.4.10. Confirmation that the Property is sufficient in all respects to accommodate the full service hotel Facilities Program, including associated front of house, back of house, rooftop bar, underground garage, valet on Congress Street and residences and all associated improvements.

6.4.11. Confirmation of likely availability of all Approvals for the Project. Buyer shall have the right to contact and communicate with such governmental officials regarding the Property and the project as Buyer may deem appropriate, provided that, prior to Closing, Buyer shall make no application with the City of Portland for a permanent change in zoning or other permanent change to the land-use status of the Property.

6.4.12. Inspection by Buyer of the physical condition, title to, and other matters related to the tunnel under Congress Street.

[redacted]

[redacted]

Section 6.5. Approvals. Notwithstanding any other provisions of this Agreement to the contrary, Buyer shall be entitled to apply for and obtain all necessary federal, state and local governmental land-use permits, licenses and approvals of any type or nature required, including historic preservation review, as may be necessary for the development on the Property of the Project, including without limiting the generality of the foregoing, all necessary site plan, and other governmental land-use permits, licenses, and approvals, of any type and from any necessary public or governmental authority or other party, for Buyer's development of the Project at the Property (excluding building permits and other construction related permits and approvals and hotel and restaurant operating permits and licenses).

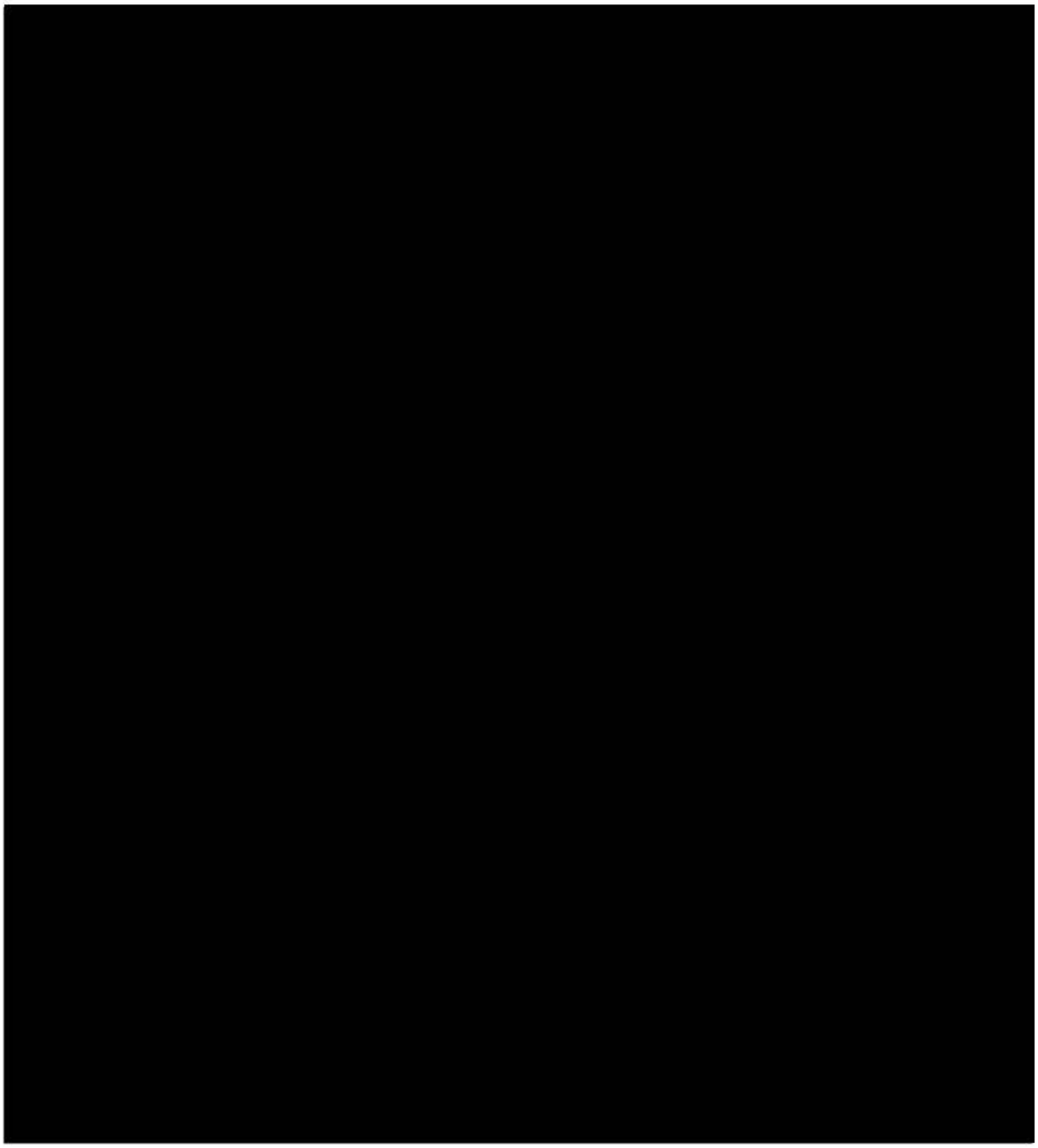
[redacted]

6.5.3. Buyer shall have the right to apply for and pursue the Site Plan Approval on a stand-alone basis, separate from the MP Application and MP Approval, so long as such Site Plan Application and Site Plan Approval do not interfere with Seller's Master Development and have been approved in writing in advance of submission to the City of Portland by Seller, as provided in Section 6.5.4 below.











[redacted]

6.5.5. Intentionally deleted.

[redacted]

[redacted]

[redacted]

Section 6.7. Effective Termination. If this Agreement is terminated pursuant to the provisions of this Article, all other obligations of the parties hereto shall cease and this Agreement shall be void and without recourse to the parties hereto, except as otherwise expressly set forth in Article IV and Section 6.2 hereof and except for obligations that expressly survive termination.

Section 6.8. Seller's Conditions Precedent. Seller's obligation to sell the Property to Buyer is subject to the following conditions precedent (the "Seller's Conditions Precedent"):

(a) Payment by Buyer of all sums due in accordance with this Agreement;

(b) As of the Closing Date, no statute, rule, regulation or order of any court or administrative agency shall be in effect which restrains or prohibits the Seller from consummating the transactions contemplated hereby, and to that end, Seller has obtained approval from the City of Portland to subdivide the Master Parcel. In addition, no action, suit, or proceeding shall be pending before any court or quasi-judicial or administrative agency of any federal, state, local, or foreign jurisdiction wherein an unfavorable injunction, judgment, order, decree, ruling, or charge would (a) prevent consummation of any of the transactions contemplated by this Agreement, or (b) result in a material adverse change in the Master Parcel or the ability to develop the Master Parcel;

(c) All of the representations and warranties of Buyer shall be true and correct in all material respects as of the Closing, and Buyer shall deliver a separate certificate certifying to that effect;

(d) Buyer shall have performed in all material respects each of its obligations under this Agreement to be performed at or prior to the Closing; and

(e) Seller shall have received Master Development plan and Subd Approval from the City of Portland.

ARTICLE VII
Representations and Warranties

Section 7.1. Buyer's Representations and Warranties. Buyer hereby represents, warrants and covenants to Seller the following as of the date hereof and as of the Closing. The representations and warranties shall survive Closing for a period of only one (1) year from the Closing:

(a) Buyer is duly organized, validly existing and in good standing under the laws of the State of Maine. Buyer has the requisite right, power and authority to buy the Property from Seller as provided herein, and has taken all action necessary to authorize the execution, delivery and performance of this Agreement. Buyer has obtained all consents and approvals necessary for Buyer's execution, delivery and performance of this Agreement, and the performance by Buyer of

Buyer's obligations hereunder will not constitute a default under the terms and provisions of any material agreement, document or instrument to which Buyer is a party or by which Buyer is bound.

(b) This Agreement constitutes the valid and binding obligation of Buyer, enforceable against Buyer in accordance with its respective terms, except to the extent that enforcement may be limited by applicable bankruptcy, insolvency, moratorium and other principles relating to or limiting the rights of contracting parties generally.

(c) There is no suit or proceeding pending or, to Buyer's knowledge, threatened against or affecting Buyer that might affect or relate to this Agreement or the transactions contemplated hereby, in any court or before or by any federal, state, county or municipal department, commission, board, bureau, or agency or other governmental instrumentality. No order, writ, injunction, subpoena or decree has been issued by or requested of any court or government agency which is reasonably likely to result in a material adverse change in the Property or the Buyer, or which could reasonably be expected to have a material adverse effect on the transactions contemplated by this Agreement.

(d) Buyer has engaged no broker or agent in connection with the sale. Buyer shall indemnify, defend and hold Seller harmless from and against any loss, damages, liabilities, costs or expenses, including without limitation attorneys' fees and court costs, resulting from any claim for a fee or commission by any broker or finder with whom Buyer has dealt, other than Malone Commercial.

(e) Neither Buyer nor any of its affiliates, nor any of their respective partners, members, shareholders or other equity owners, and none of their respective employees, officers, directors, representatives or agents is, nor will they become, a person or entity with whom United States persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated Nationals and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action and is not and will not engage in any dealings or transactions or be otherwise associated with such persons or entities.

Section 7.2. Authority. Each party warrants and represents that this Agreement and all other documents delivered prior to or at the Closing (a) have been or shall be duly authorized and executed and delivered by such party; (b) are legal, valid, and binding obligations of such party; and (c) neither violate any provision of any agreement to which such party is a party, nor violate any charters, bylaws, operating agreements or other organizational documents of such party.

Section 7.3. Seller's Representations and Warranties. Seller hereby represents, warrants and covenants to Buyer the following. The Seller's representations and warranties shall survive Closing for a period of only one (1) year from the Closing:

(a) Seller is duly organized, validly existing and in good standing under the laws of the State of Maine. Seller has the requisite right, power and authority to sell and convey the Property to Buyer as provided herein, and has taken all action necessary to authorize the execution,

delivery and performance of this Agreement. Seller has obtained all consents and approvals necessary for Seller's execution, delivery and performance of this Agreement, and the performance by Seller of Seller's obligations hereunder will not constitute a default under the terms and provisions of any material agreement, document or instrument to which Seller is a party or by which Seller is bound.

(b) This Agreement constitutes the valid and binding obligation of Seller, enforceable against Seller in accordance with its respective terms, except to the extent that enforcement may be limited by applicable bankruptcy, insolvency, moratorium and other principles relating to or limiting the rights of contracting parties generally.

(c) Seller has not received any written notice of any pending condemnation, expropriation, eminent domain or similar proceeding affecting all or any portion of the Property and to Seller's Knowledge, no such proceeding is contemplated.



(e) No written notice has been given to Seller by the holder of any mortgage on the Property, any insurance company that has issued a policy with respect to the Property, or by any board of fire underwriters (or other body exercising similar functions) claiming any material defect or deficiency or requesting the performance of any material repairs, alterations or other work to the Property.

(f) There are no management, service, equipment, supply, maintenance or concession agreements to which Seller is a party with respect to or affecting all or any portion of the Property that are not terminable by Seller by the Closing.

(g) Seller has paid or will pay in full prior to the Closing all outstanding bills and invoices for Utility charges, labor, goods, materials, and services of any kind relating to the Property incurred by or for the benefit of Seller.

(h) No work has been performed or is in progress at, and no materials have been furnished to, at the direction of or for the benefit of the Seller, the Property which, though not presently the subject of, might give rise to mechanic's, materialmen's or other liens against the Property or any portion thereof. If any lien for work performed or materials furnished prior to the Closing, in either case pursuant to a contract with Seller, is filed before or after the Closing, Seller shall promptly discharge such lien by filing the requisite bond or in any other manner allowed by applicable law.

(i) There is no suit or proceeding pending or to Seller's Knowledge, threatened against or affecting Seller or the Property that might affect or relate to this Agreement or the transactions contemplated hereby, in any court or before or by any federal, state, county or municipal department, commission, board, bureau, or agency or other governmental instrumentality. No order, writ, injunction, subpoena or decree has been issued by or requested of

any court or government agency which is reasonably likely to result in a material adverse change in the Property or the Seller, or which could reasonably be expected to have a material adverse effect on the transactions contemplated by this Agreement.

(j) Seller has received no written notice of any outstanding violation of any federal, state, county, or municipal laws, ordinances, orders, codes, rules, regulations, or requirements affecting all or any portion of the Property, including without limitation violations of the housing, building, safety, health, fire, or zoning ordinances, codes, and regulations of the municipality or county within which the Property is located, issued by any governmental or quasi-governmental authority.

(k) Seller is not in violation or default under any agreement with any third party, or under any judgment, order, decree, rule or regulation of any court, arbitrator, administrative agency or other governmental authority to which it may be subject, which violation or default will, in any one case or in the aggregate, materially and adversely affect the ownership or operation of the Property or Seller's ability to consummate the transactions contemplated hereby. To Seller's Knowledge, there are no material violations of laws, regulations, permits or approvals affecting or pertaining to the Property. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby will not (i) violate any law or any order of any court or governmental authority with proper jurisdiction and pertaining to Seller; (ii) result in a breach or default under any provision of the organizational documents of Seller; or (iii) require any consent, or approval or vote of any third person that, as of the Closing Date, has not been given or taken, and does not remain effective.

(l) There are no tax liens on any of the Property except for taxes not yet due and payable, and Seller has paid or will pay through the Closing all real estate taxes, withholdings and governmental charges due and payable with respect to the Personal Property under all applicable federal, state and local laws and regulations. To Seller's Knowledge, there are no legal, administrative or other tax proceedings currently in progress or threatened pursuant to which Seller is or could be made liable for any taxes.

[redacted]

(n) Seller is not a "foreign person" as defined in Section 1445(f)(3) of the Code.

(o) Neither Seller nor any of its affiliates, nor any of their respective partners, members, shareholders or other equity owners, and none of their respective employees, officers, directors, representatives or agents is, nor will they become, a person or entity with whom United States persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated Nationals and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting

Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action and is not and will not engage in any dealings or transactions or be otherwise associated with such persons or entities.

Section 7.4. Waiver of Disclosure. Buyer hereby agrees that, notwithstanding the provisions of 33 M.R.S. § 193, the investigation of any and all matters relating to (i) the identification of any abandoned or discontinued town ways, public easements, or private roads located on or abutting the Property and (ii) the identification of the party or parties responsible for the maintenance of any abandoned or discontinued town way, public easement, or private road located on or abutting the Property (including any responsible road association) shall be the sole responsibility of Buyer and has been performed as part of Buyer's examination of all other matters of title respecting the Property. Buyer hereby knowingly, unconditionally, and expressly waives their right to receive a property disclosure statement from Seller pursuant to 33 M.R.S. § 193. Buyer's waiver of their right to receive a property disclosure statement from Seller pursuant to 33 M.R.S. § 193 shall not constitute a waiver of any other rights to disclosure afforded to Buyer pursuant to this Agreement or by law unless otherwise expressly provided herein. By execution of this Agreement, Buyer hereby releases Seller from and against and all claims, losses, costs, liabilities, expenses, demands, or obligations whatsoever arising from or related to (i) the identification of any abandoned or discontinued town ways, public easements, or private roads located on or abutting the Property and (ii) the identification of the party of parties responsible for the maintenance of any abandoned or discontinued town way, public easement, or private road located on or abutting the Property (including any responsible road association).

ARTICLE VIII
Disclaimer of Warranties

EXCEPT AS EXPRESSLY SET FORTH IN SECTION 7.3 AND THE DEED, IT IS UNDERSTOOD AND AGREED THAT SELLER IS NOT MAKING AND HAS NOT AT ANY TIME MADE ANY WARRANTIES OR REPRESENTATIONS OF ANY KIND OR CHARACTER, EXPRESS OR IMPLIED, WITH RESPECT TO THE PROPERTY. BUYER AGREES, ACKNOWLEDGES AND REPRESENTS THAT EXCEPT AS SPECIFICALLY SET FORTH IN THIS AGREEMENT, BUYER IS ENTERING INTO THIS AGREEMENT AND SHALL PERFORM ALL OF ITS OBLIGATIONS HEREUNDER AND CONSUMMATE THE TRANSACTION CONTEMPLATED BY THIS AGREEMENT SOLELY IN RELIANCE ON AND AS A RESULT OF BUYER'S OWN INVESTIGATIONS AND EFFORTS (INCLUDING BUYER'S INSPECTION OF THE PROPERTY AND SUCH OTHER INVESTIGATIONS, EXAMINATIONS AND INSPECTIONS AS BUYER HAS CHOSEN TO MAKE OR HAS MADE) AND AT BUYER'S SOLE RISK, COST AND EXPENSE, INCLUDING, WITHOUT LIMITATION, THE RISK THAT BUYER'S INSPECTION OF THE PROPERTY AND SUCH OTHER INVESTIGATIONS, EXAMINATIONS AND INSPECTIONS MAY NOT REVEAL ANY OR ALL ADVERSE OR EXISTING CONDITIONS, ASPECTS OR ATTRIBUTES OF THE PROPERTY. BUYER ACKNOWLEDGES THAT SELLER HAS AFFORDED, AND, DURING THE DUE DILIGENCE PERIOD, SHALL AFFORD, BUYER THE OPPORTUNITY FOR FULL AND COMPLETE INVESTIGATION, EXAMINATION AND INSPECTION OF THE PROPERTY. BUYER ACKNOWLEDGES THAT THIS PARAGRAPH WAS A NEGOTIATED PART OF THIS AGREEMENT AND SERVES AS AN ESSENTIAL COMPONENT OF CONSIDERATION FOR THE SAME. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, THE PARTIES SPECIFICALLY ACKNOWLEDGE THAT BUYER HAS HAD, AND, DURING THE DUE DILIGENCE PERIOD SHALL HAVE, AN OPPORTUNITY TO FULLY INSPECT THE PROPERTY,

INCLUDING, BUT NOT LIMITED TO, THE PHYSICAL CONDITION OF THE PROPERTY (INCLUDING ALL ENVIRONMENTAL CONCERNS), AND THE PURCHASE PRICE HAS BEEN NEGOTIATED TO ELIMINATE ALL CLAIMS EXCEPT THOSE ARISING UNDER REPRESENTATIONS, WARRANTIES OR AGREEMENTS CONTAINED IN THIS AGREEMENT OR OTHER AGREEMENTS OR DOCUMENTS ENTERED INTO IN CONNECTION WITH THE TRANSACTIONS CONTEMPLATED HEREIN, WHETHER KNOWN OR UNKNOWN, RELATING TO THE CONDITION OF THE PROPERTY AS OF THE DATE OF THIS AGREEMENT AND ALL ASPECTS AND ATTRIBUTES THEREOF, INCLUDING, WITHOUT LIMITATION, ALL ENVIRONMENTAL MATTERS. BUYER ACKNOWLEDGES AND AGREES THAT SELLER HAS MADE NO REPRESENTATION OR WARRANTY WITH RESPECT TO THE PROPERTY EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT.

ARTICLE IX
Risk of Loss

Section 9.1. Risk of Loss. The risk of damage to the improvements on the Property or any portion thereof prior to Closing is Buyer's risk.

Section 9.2. Condemnation. Any taking or condemnation for any public or quasi-public purpose or use by any competent authority in appropriate proceedings or by any right of eminent domain of all or any material part of the Property between the Effective Date and the time of the Closing shall, at Buyer's option, cause a termination of this Agreement. The election to terminate provided for hereby must be exercised by Buyer by written notice to Seller to such effect, which notice shall be given by Buyer on or before the thirtieth (30th) day after Buyer's receipt of written notice of such condemnation (but in any event prior to the Closing; provided, however, that Buyer shall be entitled to extend the Closing Date to a date that is two business days beyond the date that would be the thirtieth (30th) day following such notice). If Buyer shall not elect so to terminate this Agreement, Seller shall be relieved of its duty to convey title to the portion of the Property so taken or condemned, but Buyer will be entitled to receive all proceeds of any such taking or condemnation with respect to the Property only provided Buyer takes title hereunder and Seller shall make no settlement or adjustment of such proceedings with respect to the Property only without Buyer's consent, and shall take at the Closing all action necessary to assign its entire interest in any such award with respect to the Property only to Buyer.

Section 9.3. Return of Deposit. The Deposit shall be returned to Buyer immediately following termination of this Agreement by Buyer under this Article and all other obligations of the parties hereto shall cease and this Agreement shall be void and without recourse to the parties hereto subject to the provisions of Section 6.3 and except for provisions that expressly survive termination.

ARTICLE X
Operation of Property

[redacted]

[redacted]

ARTICLE XI
Closing

Section 11.1. Closing Date. The Closing shall take place at the time and place specified in Section 6.6 hereof. The Cash Balance shall be held in escrow by the Buyer's attorney pursuant to customary conveyancing practice until the Deed is recorded; provided, however, that the Deed shall be recorded no later than 3:00 P.M. on the Closing Date unless Seller's attorney has been advised of any matter of record arising after a title update performed by Buyer's counsel the morning of the Closing and preventing Seller from conveying title to the Property in accordance with the applicable provisions of this Agreement.

Section 11.2. Closing Deposits. At the Closing, Seller and Buyer shall exchange the following documents and funds:

11.2.1. Seller's Deposits. Seller shall deliver to Buyer the following:

(a) Deed. The Deed conveying the Property to Buyer subject only to Permitted Encumbrances.

(b) Non-Foreign Affidavit. A duly executed original affidavit as to Seller's non-foreign status.

(c) Authority. Such evidence as may be reasonably required by the title insurance company as to the authority of the person or persons executing documents on behalf of Seller.

(d) Affidavits. Executed affidavits and indemnifications in form and substance reasonably satisfactory to the title insurance company regarding mechanics' and materialmen's liens and parties in possession sufficient to eliminate any title insurance exceptions for these matters with respect to the Property.

(e) Executed Commitments. Executed Commitments in the form agreed to on or before the expiration of the Due Diligence Period, with only such changes as the parties may mutually agree.

(f) Additional Documents. Such other documents, including without limitation settlement statements and escrow instructions, as are required of Seller to close in accordance with this Agreement and local conveyancing practice.

11.2.2. Buyer's Deposits. Buyer shall deliver to Seller the following:

(a) Cash Balance. The Cash Balance;

(b) Closing Costs. Additional cash in the amount necessary to pay Buyer's share of closing costs, as set forth in Section 12.2.;

(c) Executed Commitments (with execution of the Cross Easement Agreement required if necessary to bind Buyer and the Property to the Cross Easement Agreement); and

(d) Additional Documents. Such other documents, including without limitation authority documents, settlement statements and escrow instructions, as are required of Buyer to close in accordance with this Agreement and local conveyancing practice.

Section 11.3. Use of Purchase Price to Clear Title. To enable Seller to make conveyance as herein provided, Seller may, at the Closing, use the Purchase Price or any portion thereof to clear title of any or all encumbrances or interests so long as Seller has obtained and furnished to Buyer at or prior to the Closing a recordable release of each such encumbrance or interest or (in the case of an institutional mortgage or other security interest) written commitment from the holder thereof to provide such release upon receipt of a sum certain.

Section 11.4. Closing Statement. The parties shall execute and deliver a Closing and Proration Statement confirming the funds flow and prorations required under Article XII hereof.

ARTICLE XII
Closing Costs, Prorations

Section 12.1. Seller's Costs. Seller shall pay (a) one-half of the transfer taxes payable upon recordation of the Deed; and (b) the costs necessary to discharge Seller's obligations under this Agreement.

Section 12.2. Buyer's Costs. Buyer shall pay (a) one-half of the transfer taxes payable upon recordation of the Deed; (b) the cost of the Preliminary Title Report; (c) all title insurance premiums; (d) the cost of recording the Commitments; and (e) all other costs required in order to close in accordance with this Agreement (except as specified in Section 12.1).

Section 12.3. Prorations. Taxes and assessments (including any business and license taxes and any other state, county or municipal assessments), utility and fuel bills and other customarily-adjusted operating expenses shall be prorated as of the Closing Date and added to or subtracted from (as the case may be) the Cash Balance. All charges accruing prior to the Closing Date shall be prorated between the parties, and all charges accruing on or after the Closing Date shall be the obligation of Buyer. If the amount of such taxes is not known on the Closing Date, such taxes shall be prorated on the basis of taxes assessed for the preceding fiscal period, subject to reapportionment as soon as the new tax rate and valuation can be ascertained. In the event of any abatement of such taxes subsequent to the apportionment thereof, the amount of such abatement, less the reasonable cost of obtaining the same, shall be prorated as of the Closing Date.

ARTICLE XIII
Notices

Section 13.1. Notices. All notices required or permitted to be given hereunder shall be in writing and sent by electronic mail, with a confirmation copy sent by a recognized overnight courier

service offering confirmation of delivery to the appropriate address indicated below or at such other place or places as either Buyer or Seller may, from time to time, respectively, designate in a written notice given to the other:

To Buyer:	Fathom Development, LLC 80 Exchange Street, Suite 400 Portland, ME 04101 Attn: James H Brady, Manager jameshbrady@gmail.com
With a copy to:	Christopher E. Howard, Esq. Pierce Atwood LLP 254 Commercial Street Portland, Maine 04101 choward@pierceatwood.com
To Seller:	385 Congress LLC 2730 Transit Road West Seneca, NY 14224 Attn: Gordon Reger joedasco@comcast.net
With a copy to:	Tom Hanson Bernstein Shur 100 Middle Street Portland, ME 04101 thanson@bernsteinshur.com

ARTICLE XIV
Additional Conditions

[redacted]

Section 14.1. Construction License. Seller shall provide Buyer with access to and right to use lay-down space for Project construction, the location of such lay-down space to be negotiated by the parties during the Due Diligence Period as provided below, and the parties shall enter into an agreement with respect to reasonable cooperation and coordination of construction activities with respect to the common boundary between the Property and Seller's Retained Land. Subject to agreement of the parties as provided below in this Section, a conditional license to use the lay-down area and for coordination of construction activities on the common boundary will be executed and delivered at Closing ("Construction License"). If the Construction License, including the

location of the lay-down space, is not finalized in a form reasonably acceptable to Buyer and Seller on or before the expiration of the Due Diligence Period, then Buyer or Seller may terminate this Agreement by giving the other party written notice thereof on or before the expiration of the Due Diligence Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder except those that expressly survive termination. Buyer and Seller agree to exercise reasonable good faith efforts to agree on any adjustments required in the lay-down space to accommodate the needs of both parties in the development of the Project and the Master Development as finally approved in the Site Plan Approval and the MP Approval.









[redacted]

Section 14.5. [redacted]

Section 14.6. Intentionally deleted.

Section 14.7. Recordation. The form of Deed, the Cross Easement Agreement, the Parking Agreement, the Construction License, [redacted] will be memorialized in form and substance acceptable to both Seller and Buyer, to be executed and delivered by the parties at Closing ("Commitments"). If the Commitments are not finalized in a form reasonably acceptable to Buyer on or before the expiration of the Due Diligence Period, as provided in this Article XIV, then Buyer may terminate this Agreement by giving the other party written notice thereof on or before the expiration of the Due Diligence Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder, except those that expressly survive termination. The Commitments shall survive the Closing and shall be memorialized in a written agreement in recordable form that will be executed and delivered by Buyer and Seller at Closing. The order of recording the Commitments shall include recording the Cross Easement Agreement before the Deed unless those documents are combined into a single instrument.

ARTICLE XV
Miscellaneous Provisions

Section 15.1. Attorneys' Fees. If any suit or action be instituted to enforce the rights of either party under this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees and court costs.

Section 15.2. Further Assurances. Whenever reasonably requested to do so by the other party, Seller and Buyer shall execute, acknowledge, and deliver any and all such further reasonable conveyances, assignments, confirmations, satisfactions, releases, instruments of further assurance, approvals, consents and any and all such further instruments and documents as may be necessary in order to complete any and all conveyances, transfers, sales and assignments herein provided, and to do any and all other acts and to execute, acknowledge and deliver any and all documents as reasonably requested in order to carry out the intent and purpose of this Agreement.

Section 15.3. Buyer's Right to Assign. Buyer may, by written notice to Seller prior to the Closing Date, designate a nominee to take title to the Property and assign Buyer's interest in this Agreement in connection therewith to an entity in which the principals of Buyer own a membership or other equity interest. The named Buyer under this Agreement shall remain liable under this Agreement notwithstanding any such assignment.

Section 15.4. Successors and Assigns. Without waiver of the terms and conditions of Section 15.3, all of the rights, benefits, duties, liabilities, and obligations of the parties hereto shall inure to the benefit of, and be binding upon, their respective successors and assigns.

Section 15.5. Time. Time is of the essence of this Agreement and of every provision herein contained.

Section 15.6. Headings. The title and headings of the Sections hereof are intended solely for means of reference and are not intended to modify, explain or place any construction on any of the provisions of this Agreement.

Section 15.7. Modification. This Agreement may not be modified, amended or otherwise changed in any manner except by a writing mutually executed by both parties. To the extent there is any conflict between the terms and conditions of this Agreement and the terms and conditions of any other documents relating to the acquisition of the Property as they relate to rights and obligations between Buyer and Seller, the terms and conditions of this Agreement shall be deemed controlling.

Section 15.8. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Maine.

Section 15.9. Escrow Agent. Pierce Atwood, LLP agrees to serve as Escrow Agent as described herein pursuant to the Pierce Atwood LLP Standard Escrow Terms and conditions attached hereto as Exhibit D, which are incorporated herein by reference.

Section 15.10. Exclusivity. For so long as this Agreement remains in force, neither Seller nor any of its agents, affiliates, members, managers, subsidiaries, directors, officers or employees, will solicit, initiate, continue or participate in any discussions or negotiations with, or encourage or respond to any inquiries or proposals by, or provide any information to, or otherwise cooperate in any other way with, any corporation, company, partnership, person or other entity or group (other than Buyer and its affiliates, subsidiaries, partners, officers, directors, employees, consultants, agents, financing sources (and potential financing sources), accountants, and attorneys in connection with the development, sale, or acquisition of any interest in, the Property. Seller shall cause its agents, affiliates, members, managers, subsidiaries, directors, officers or employees, to comply with the provisions of this section.

Section 15.11. Counterparts. This Agreement may be executed in one or more counterparts, each of which when executed shall be deemed to be an original but all of which, when taken together shall constitute one and the same agreement. This Agreement may be executed by electronic or other facsimile signatures.

[*Remainder of Page Intentionally Blank – Signature Page Follows*]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FATHOM DEVELOPMENT, LLC

By: _____
Name: James Brady
Title: Manager

385 CONGRESS LLC

By: _____
Name: Joseph Dasco
Title: Authorized Agent

ESCROW AGENT: PIERCE ATWOOD LLP

By: _____
Name: Christopher E. Howard
Title: Partner

[Signature Page to 385 Congress Street Purchase and Sale Agreement]

EXHIBIT A

DESCRIPTION OF REAL PROPERTY

EXHIBIT

tabbies

A

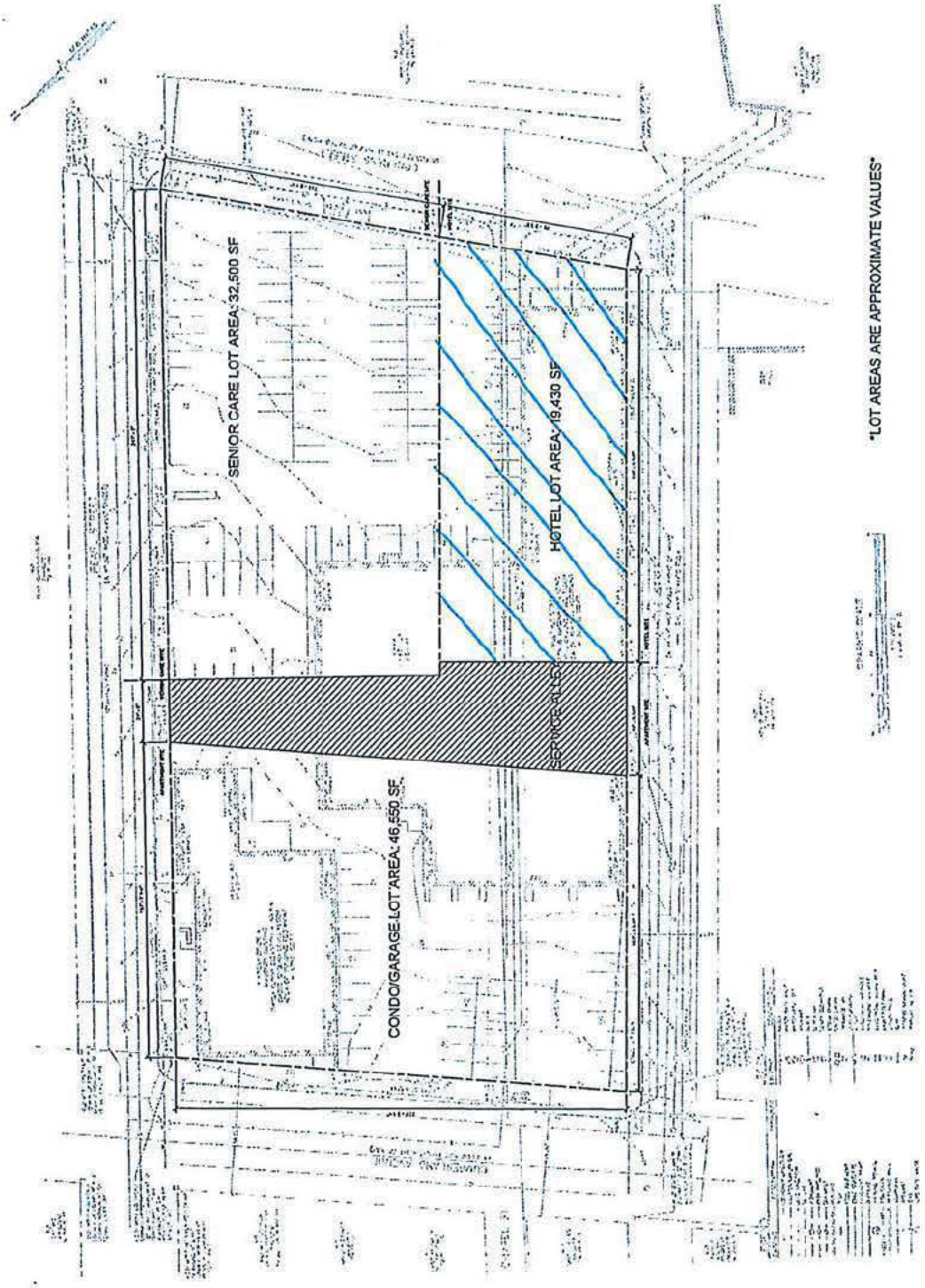


EXHIBIT B

DESCRIPTION OF MASTER DEVELOPMENT AREA

EXHIBIT

tabbies

B

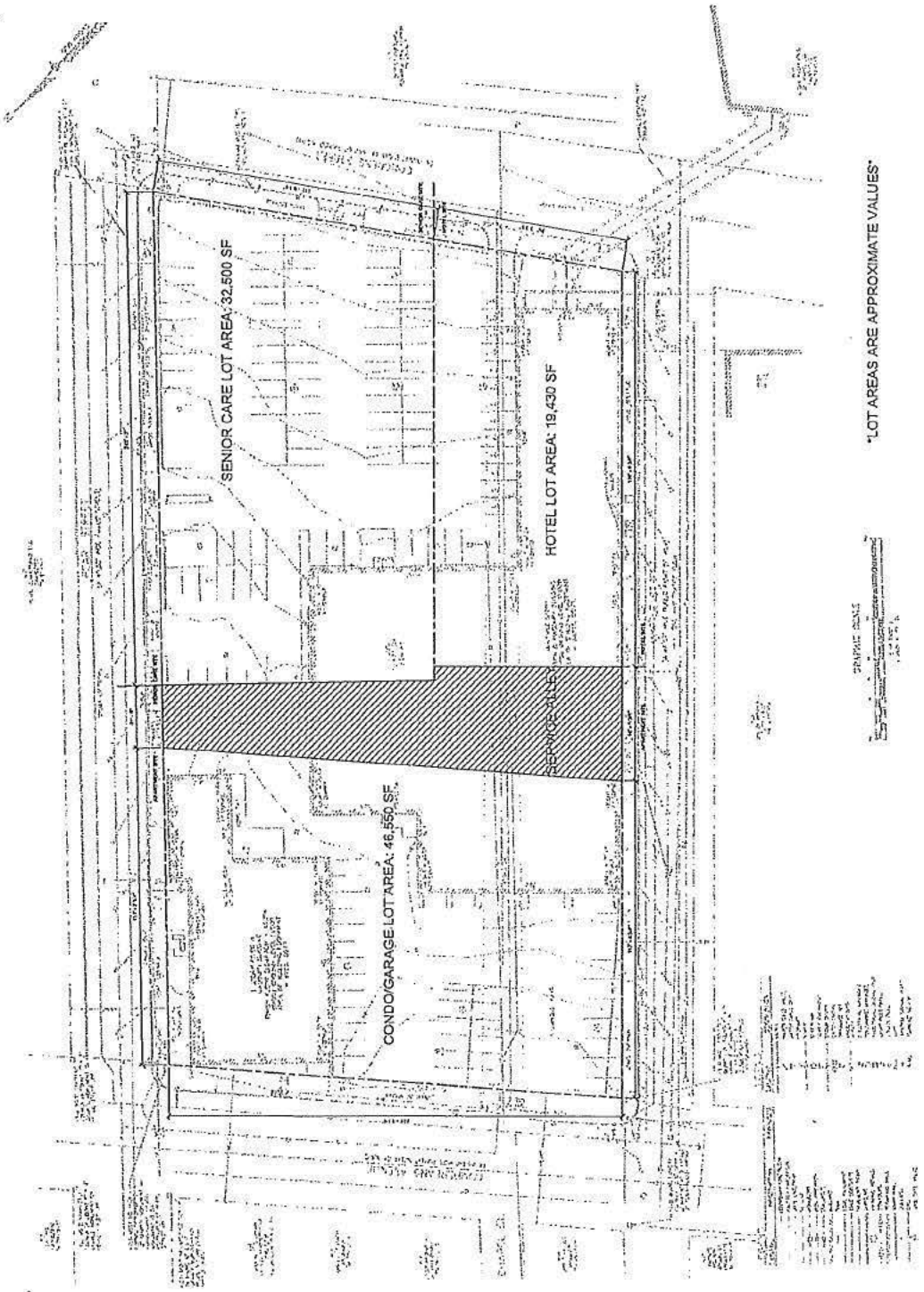


EXHIBIT C

FACILITIES PROGRAM

EXHIBIT D

PIERCE ATWOOD LLP

STANDARD ESCROW TERMS AND CONDITIONS

In consideration of Pierce Atwood LLP serving as the Escrow Agent ("Pierce Atwood" or "Escrow Agent") pursuant to that certain Purchase and Sale Agreement dated as of December 1, 2020 between 385 CONGRESS LLC, a Maine limited liability company (hereinafter referred to as "Seller"), and FATHOM DEVELOPMENT, LLC a Maine limited liability company (hereinafter referred to as "Buyer"), ("Purchase Agreement"), to which these Standard Escrow Terms and Conditions ("Escrow Terms") are attached as an Exhibit, the Seller and Buyer hereby acknowledge and agree as follows:

1. Acceptance by Pierce Atwood LLP of its duties as Escrow Agent under the Purchase Agreement to which this Exhibit is attached, is subject to the following Escrow Terms, which all parties to the Agreement hereby agree shall govern and control the rights, duties and privileges of the Escrow Agent and shall be deemed incorporated by reference into the Agreement as if set forth in full therein (the escrow provisions of the Purchase Agreement and the Escrow Terms shall together be referred to as the "Escrow Agreement").

2. The duties of the Escrow Agent are to be determined solely by the express provisions of the Escrow Agreement, and the Escrow Agent shall have no responsibilities except the performance of such duties as are specifically set forth in the Escrow Agreement. The Escrow Agent shall not be deemed to be the agent of any party hereto with respect to its duties hereunder. The Escrow Agent shall not be liable for any error of judgment, any act taken or omitted by it, or any mistake in fact or law, except for its own willful misconduct and breach of the Escrow Term. The parties acknowledge that the duties of the Escrow Agent hereunder are solely ministerial and contractual in nature and have been requested for their convenience. The Escrow Agent shall not be deemed to be the agent of any party hereto with respect to its duties hereunder. Without limiting the generality of the foregoing, the Escrow Agent shall not incur liability and shall be fully protected in respect of any action taken, omitted or suffered by it in good faith, except for a breach of the Escrow Terms.

3. The Escrow Agent shall be entitled to act on or rely upon any written notice, direction, request, waiver, consent, receipt or other document (including those transmitted by facsimile transmission, email, or other electronic transmission which is capable of producing a written record) which appears to the Escrow Agent to have been signed or presented by the party or parties entitled to execute or deliver such document, and the Escrow Agent shall have no duty to inquire of or investigate the authorization, signature or authenticity of such person or document.

4. The Funds are being deposited into a client trust account of the law firm of Pierce Atwood LLP for disbursement on behalf of the undersigned in accordance with the terms

of the Purchase Agreement of even date, to which these a copy of which is attached hereto and made a part hereof. The funds (the "Funds") shall be held in escrow by Pierce Atwood LLP in a non-interest-bearing account in accordance with the terms and conditions set forth herein. In the event of an inconsistency between the provisions of any other document and the provisions of these Escrow Terms, the provisions of these Escrow Terms shall govern. The Escrow Agent shall place any funds held in escrow in a non-interest-bearing account and shall have no duty to invest or earn interest on any such funds. The parties recognize that the amount of the funds deposited may exceed the amount of Federal Deposit Insurance Corporation or other insurance thereon and agree that the Escrow Agent shall have no responsibility for losses due to bank insolvency, whether or not the bank in which the funds are deposited was selected by it. Any payments by the Escrow Agent may be made, at the Escrow Agent's election, by check or by wire transfer.

5. The Escrow Agent may, but shall not be obligated to, in its sole and absolute discretion at any time and from time to time, for any reason or for no reason, commence an interpleader or other action, suit or proceeding for the resolution of any controversy regarding the Escrow Agreement or the subject matter of its escrow, and deposit the funds or other property held in escrow. Upon so depositing such property and filing its complaint in interpleader the Escrow Agent shall be relieved of all liability under the terms of the Escrow Agreement as to the property so deposited, and furthermore, the parties hereto for themselves, their heirs, legal representatives, successors and assigns do hereby submit themselves to the jurisdiction of said court and do hereby appoint the then Clerk or acting Clerk, of said Court as their agent for the service of all process in connection with such proceedings. The institution of any such interpleader action shall not impair the rights of the Escrow Agent hereunder.

6. The parties to the Escrow Agreement other than the Escrow Agent (collectively referred to as the "Indemnitors") jointly and severally agree to indemnify each of the Escrow Agent and its attorneys, employees and agents (collectively referred to as the "Indemnitees") against, and hold them harmless of and from, any and all loss, liability, cost, damage and expense, including reasonable counsel fees (including those of the Escrow Agent computed at its regular hourly rates), which the Indemnitees may suffer or incur by reason of any action, claim or proceeding brought or threatened to be brought, whether by any party to the Escrow Agreement or by any other person or entity, against any Indemnitee or in which any Indemnitee may become involved arising out of or relating directly or indirectly in any way to the Escrow Agreement or any transaction to which the Escrow Agreement directly or indirectly relates (including any action, claim or proceeding to enforce any indemnity obligation or any other obligation of any party to the Escrow Agreement) , excluding, however, any willful or intentional wrong doing on the part of the Escrow Agent or breach of the Escrow Terms as determined by final judgment. The provisions of this paragraph shall survive any termination of the Escrow Agreement, whether by disbursement of the property held in escrow, the resignation of the Escrow Agent or otherwise.

7. THE ESCROW AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF MAINE APPLICABLE TO

CONTRACTS MADE AND TO BE PERFORMED ENTIRELY WITHIN SUCH STATE, WITHOUT REFERENCE TO CONFLICT OF LAWS PRINCIPLES, AND THE ESCROW AGREEMENT CANNOT BE CHANGED OR TERMINATED EXCEPT BY A WRITING SIGNED BY ALL OF THE PARTIES TO THE ESCROW AGREEMENT. THE PARTIES TO THE ESCROW AGREEMENT HEREBY AGREE THAT NO ACTION, SUIT OR PROCEEDING SHALL BE COMMENCED AGAINST THE ESCROW AGENT UNLESS (A) THE ESCROW AGENT SHALL FIRST HAVE BEEN GIVEN 30 DAYS' WRITTEN NOTICE OF THE CLAIM AND (B) THE SAME IS BROUGHT IN A COURT OF COMPETENT JURISDICTION LOCATED IN THE STATE OF MAINE. THE PARTIES TO THE ESCROW AGREEMENT OTHER THAN THE ESCROW AGENT AGREE THAT IN ANY ACTION, SUIT OR OTHER PROCEEDING COMMENCED BY THE ESCROW AGENT, SERVICE BY MAIL AS PROVIDED HEREIN SHALL BE DEEMED GOOD, PROPER AND EFFECTIVE SERVICE UPON SAID PARTY, AND EACH CONSENTS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE STATE OF MAINE (OR ANY OTHER COURT SELECTED BY THE ESCROW AGENT) IN ANY ACTION, SUIT OR PROCEEDING UNDER OR IN CONNECTION WITH THE ESCROW AGREEMENT, HEREBY WAIVING ANY AND ALL RIGHT TO OBJECT TO THE JURISDICTION OR VENUE OF SAID COURT OR TO OBJECT THAT SUCH COURT IS AN INCONVENIENT FORUM.

8. If a controversy arises between one or more of the parties hereto, or between any of the parties hereto and any person not a party hereto, as to whether or not or to whom the Escrow Agent shall deliver the property held in escrow or any portion thereof, or as to any other matter arising out of or relating to the Escrow Agreement or the property held in escrow, the Escrow Agent shall not be required to make any inquiry or investigation, or make any determination as to such controversy, and need not make any delivery of such property but may retain it until the rights of the parties to the dispute shall have finally been determined by agreement in form, substance and formalities satisfactory to the Escrow Agent or by final order of a court of competent jurisdiction from which final order the time for appeal has expired without an appeal having been taken.

9. All notices, requests and other communications which may or must be given hereunder shall be in writing (including facsimile transmission, email, or other electronic transmission which is capable of producing a written record) and shall be deemed to have been duly given upon the earliest of receipt or attempted delivery or 3 days after deposit when mailed by registered or certified mail, return receipt requested, to each of the parties at their addresses set forth in the Escrow Agreement, or such other address of which notice may be given to all parties from time to time.

10. The Escrow Agreement shall be binding upon and inure to the benefit of Escrow Agent, Seller and Buyer, and their respective heirs, personal representatives, successors and permitted assigns, but not to the benefit of any third party other than the Indemnitees. The Escrow Agreement and any rights thereunder may not be assigned without the written consent of the Escrow Agent, and any

purported assignment without the Escrow Agent's written consent shall be null and void and of no effect whatsoever. The rights granted the Escrow Agent herein are cumulative and the exercise of any one or more rights hereunder shall not constitute a waiver of the Escrow Agent's right to assert all other legal and equitable remedies available to it under the circumstances. If one or more of the provisions or paragraphs of the Escrow Agreement shall be held to be illegal or otherwise void or invalid, the remainder of the Escrow Agreement shall not be affected and shall remain in full force and effect.

11. **Pierce Atwood LLP acting as Escrow Agent and is holding the Funds in its account at the request of the Seller and Buyer, and each of Seller and Buyer acknowledge that Pierce Atwood LLP represents Buyer and its Affiliates for this transaction and does not represent Seller. The Seller and Buyer both hereby confirm their consent to Pierce Atwood LLP's current and continued representation of Buyer in this transaction, any dispute, arbitration or litigation arising in connection herewith, including any dispute about the Funds, and any and all future representation of Buyer and its affiliates. In the event of a dispute between the parties, the commencement of an Interpleader action, or the resignation by Pierce Atwood LLP as Escrow Agent, Pierce Atwood LLP shall be free to continue to act as counsel for and represent Buyer, and each of Seller and Buyer hereby consent to such representation.**

12. That Pierce Atwood LLP is not liable for any portion of the Funds in excess of the limit of FDIC insurance on the account and is not liable for losses due to failure of the bank in which the account is held.

13. That Pierce Atwood LLP will not make any payment with respect to the Funds until it receives confirmation that the Funds are collected in its account.

Financial Capability

The proposed project is comprised of three separate developments and there are two different entities providing financing:

- Reger Dasco Properties (dba 385 Congress LLC) will develop the condominiums on Lots 2 and 3;
- The Fathom Companies (dba Fathom Congress, LLC) will develop the hotel and condominiums on Lot 1

Attached please find the following letters as proof of financial capability:

- Letter dated March 31, 2020 from Newmark Knight Frank for Reger Holdings (Reger Dasco Properties);
- Letter dated February 1, 2022 from Mascoma Bank for Fathom Congress LLC.

March 31, 2020

Portland Planning Staff
Portland City Hall
389 Congress Street
Portland, ME 04101

RE: Congress Street in Portland

To Whom it May Concern:

I'm writing regarding the future development of Congress Street in Portland being proposed by Reger Holdings. Our firm Newmark Knight Frank and my prior firm has acted as a financing intermediary for Reger Holdings for the past 15 years on numerous projects from condominiums to industrial. In the last 3 years alone, we arranged the financing for over $150 million of development in Maine, Massachusetts and South Carolina. Two local examples include: (i) the 383 Commercial Street condominium development; we arranged a $42 million loan from a Boston Bank; and (ii) the Bay House Condominiums in Downtown Portland; we arranged a $20 million dollar construction loan with a Boston Bank that had a very successful sellout.

NKF Debt Group in Boston has the capacity to finance large development projects thru our long term lending relationships. We also have access to financing sources through our ownership group BGC Partners (NYSE: BGCP) and our proprietary lending platform Cantor Commercial as well as our GSE lending arm.

Reger Holdings is a third generation well respected real estate company with numerous holdings and experience. The company is run and spearheaded by Mr. Gordon Reger. Our dealing with him and his firm have always been handled in a first class manner. As a result, we would highly recommend Reger Holdings for the development of Congress Street.

If I can be of any assistance in your decision, please do not hesitate to give me a call. Thank you.

Regards,

David Douvadjian

Head of Mortgage Banking
New England
(617) 863-8388
ddouvadjian@ngkf.com

SENT VIA EMAIL

February 1, 2022

City of Portland
Planning Board
385 Congress Street
4th Floor
Portland, Maine 04101

Re: Statement of Financial Capacity: Fathom Congress, LLC, as part of Fathom Development, LLC, and Mr. James Brady.

To Whom It May Concern,

We are pleased to confirm that Fathom Congress, LLC, as part of Fathom Development, LLC, and Mr. James Brady possess the full financial capacity and experience to successfully finance the proposed development to be located at 385 Congress Street, Portland, Maine 04101.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Tad Atwell
Tad.Atwell@MascomaBank.com
Senior Vice President
48 Free Street, Portland, Maine

Technical Capability

There is a highly qualified team of developer, architects, and engineers that have been compiled for the proposed project.

Residential Condominiums (Lots 2 and 3)
The proposed residential condominiums are to be developed by Reger Dasco Properties (dba 385 Congress Street LLC).

Reger Dasco Properties is a Portland-based partnership between Gordon Reger, Principal of Reger Holdings in West Seneca, NY, Demetri Dasco, Principal of Atlas Investment Group in Boston, MA and Joseph Dasco, Principal of Boulder Hill Development in western Massachusetts. Please see the attached writeup for more detailed information.

Hotel (Lot 1)
The proposed hotel is to be developed by Fathom Companies (dba Fathom Congress, LLC). The Fathom Companies is a fully integrated real estate development, management, and investment company based in Falmouth Maine. Fathom has developed and currently operates several hotel and commercial properties in Portland including the Press Hotel, 80 Exchange Street and Canopy by Hilton Waterfront Hotel

Architect

CBT is a Boston-based architectural firm with over 50 years of experience. They are a multi-disciplined firm that specializes in architecture, interior design, and urban design that has worked on projects both nationally and internationally. Please see the additional information included as part of this exhibit and the Neighborhood Context Statement exhibit for additional qualification information.

Civil/Survey/Permitting
Civil engineering, surveying, and permitting services are being provided by Sebago Technics.

Sebago Technics, Inc. (STI) is a multi-disciplined engineering firm with 40 years of experience, that offers a wide range of services specializing in land development, planning, permitting and engineering design services. We maintain a staff of multi-disciplinary professionals to provide services in the areas of general civil engineering, road and utility infrastructure design, construction management, permitting, landscape architecture, soil science, wetlands science, land surveying, and environmental engineering.

Please see the attached STI resumes for Steve Doe, RLA, Dan Riley, P.E., and Andrew Tufts, LA

Reger Dasco Properties

Reger Dasco Properties is a Portland-based partnership between Gordon Reger, Principal of Reger Holdings in West Seneca, NY, Demetri Dasco, Principal of Atlas Investment Group in Boston, MA and Joseph Dasco, Principal of Boulder Hill Development in western Massachusetts. Reger Dasco Properties has extensive experience with real estate investments**,** high-quality residentia**l** developments and mixed-use projects**.**

Gordon's career path began with Marc Equity Corporation, where he headed the company's new residential development division. His responsibilities included overseeing land development and new residential construction in western New York. Gordon also worked on numerous condominium conversions and new residential construction projects in Pennsylvania, Florida, South Carolina and Texas. Later in his career, as CEO of Reger Holdings, Gordon became involved in the redevelopment of historic buildings into luxury residences in Boston's Back Bay. One of his most notable projects was the Gateway Terraces, a premier, 230,000 sf, mixed-use development in the city's South End. Gordon led every aspect of the project, from concept to land acquisition, development, and retail sell-off.

Demetri established Atlas Investment Group in 2001 and currently oversees development acquisitions, construction management, and investment operations of the company's real estate portfolio. Under his leadership, Atlas has created transformational housing and retail opportunities, building strong, thriving, and diverse communities working in partnership with neighborhoods, residents, businesses and community groups. Demetri brings more than 25 years of experience to commercial real estate and development. Prior to founding Atlas Investment Group, Demetri was co-founder and president of his own specialty construction firm. Under his leadership, it grew into one of Boston's premier construction restoration companies

Joe started his career with Arthur Andersen and Company, a global accounting and consulting firm where he earned his CPA certification. Along with one of his Arthur Andersen associates, Joe later purchased AV Associates Inc., an Arthur Andersen client located in Storrs, CT. Together, they grew the multi-media/communications business from $2.5 million annual revenues to a $40 million business serving the large-scale needs of its Fortune 100 clients. Joe and his partner later sold the business to MCSI, a NASDAQ listed company. Joe then founded and continues to operate Boulder Hill Development, a boutique design-build real estate development and construction company located in western Massachusetts. Joe is also responsible for the day to day operations at Reger Dasco Properties.

Reger Dasco Properties has been working in Portland since 2006. The project resume in Portland includes, The Bay House, a mixed-use project which consists of 86 residential condominiums and over 6,000 square feet of commercial space, 113 Newbury Street, consisting of 35 residential condominiums, The Mason Block which consists of 27 condominiums and approximately 4,000 square feet of commercial space and Hobson's Landing which is currently under construction which is a multi-phase project consisting of a 150 room hotel (being developed by others), 85 condominiums, approximately 7,000 square feet of commercial space with an additional phase currently under design.

Fathom

COMPANIES

Completed Portfolio Fall 2021

info@fathomcompanies.com

www.fathomcompanies.com

207.808.8787

Fathom Companies is a fully integrated real estate development, management, and investment company focusing on exceptional properties in secondary and tertiary markets. We seek to add value to mixed-use, office, retail and hospitality facilities through thoughtful design and fastidious attention to detail. Our hospitality management branch brings decades of experience with some of the most successful brands in the industry. We aim to foster an environment of empowerment, creativity and teamwork.

The Press Hotel

Portland, Maine

- Historic Rehabilitation Adaptive Reuse

- Former Newspaper Headquarters of the Portland Press Herald

- 110 Guest Room Boutique Hotel with 100 Seat Restaurant

- Ranked #1 and RevPAR leader in the market

- Opened May 2015

The opening marked the City of Portland's first lifestyle boutique hotel, breathing new life into a cherished, historic city landmark.

Design & Construction Team:

- Architype Architect
- Wright Ryan Construction



The Press Hotel

80 Exchange Street

Portland, Maine

- Historic Rehabilitation
- 15,000 Square Feet
- 4 Story Retail and Class A Office Space
- Opened January 2019

The project set out to bring back the once glorious building and restore its place in the urban fabric as a good neighbor and leader in design, and community development.



4th Floor Fathom Office at 80 Exchange Street

Design & Construction Team:

- Briburn Architects
- Warren Construction

Canopy by Hilton Portland Waterfront Hotel

Portland, Maine

- Ground Up Construction
- Canopy Lifestyle Brand by Hilton
- 135 Guestroom Lifestyle Hotel with indoor/outdoor rooftop bar and restaurant overlooking Casco Bay.
- Opened June 2021

Design & Construction Team:

- HKS Architects
- Baskervill Architects
- Cianbro Construction



Luna Rooftop Bar at Canopy Portland Waterfront Hotel



FIRM OVERVIEW

WE ARE A TEAM OF OVER 220 ARCHITECTS, PLANNERS, INTERIOR AND GRAPHIC DESIGNERS. WE'RE CURIOUS. WE'RE CREATIVE.
WE CHANNEL OUR COLLECTIVE DRIVE AND EXPERTISE TO CREATE RESOURCEFUL, IMAGINATIVE, **TRANSFORMATIVE** SPACES.

ABOUT CBT

CBT is an award-winning design firm providing services in interior design, architecture, and urban design for a diverse range of clients in a variety of building types. Founded in Boston in 1967, CBT is proud of our 220 designers, architects, planners, and support personnel dedicated to innovative and responsive design across eight project sectors. Our interiors group is among the most robust in the region.

Our firm works nationally and internationally on projects that range from multi-family developments, urban mixed-use master plans, civic and cultural buildings, corporate interior design, and academic projects. Clients come to us for our real estate savvy, ability to provide strategic design services in a broad number of project types and styles, and our skill in blending high quality planning and design with practical goals of budget and schedule.

Our work benefits from a holistic approach that considers the scope of a project in its broadest definition from issues of long-range planning to ergonomic detail. In 50 years of practice, CBT has played an important role in a broad range of projects in diverse settings. It is our belief that for each of our projects to come to life and continue to thrive, it must support the business goals and culture of each client.

INTEGRATED PRACTICE

CBT's principals practice broadly in the fields of architecture, interior design and urban design with specialties in residential and commercial developments, workplace interiors, academic, large-scale site development and mixed-use design. We freely share our talents and our specialized staff so that each project gets the unique mix of creativity that it deserves. But, we manage projects independently so that each client relationship is personal, direct and professional.

CBT's recent award-winning residential projects in and around Boston include the Mandarin Boston Hotel and Residences; Avalon North Station; Twenty | 20 at Cambridge Crossing; AVA Theater District; and Watermark East. Projects currently in construction include the monumental new residential tower to replace the Government Center Garage, The Echelon Seaport and Parcel I at Cambridge Crossing.

For these, we have planned and programmed hundreds of residential units, common spaces, amenities, and ancillary living environments.

CROSS-DISCIPLINARY ADVANTAGE

cbt



ARCHITECTURE

Architectural design plays a critical role at the street level as within a skyline. CBT holds dear every design commission that allows for a unique vision, creative design expression, and meaningful contribution to the surrounding neighborhood.



URBAN DESIGN

At the core of responsible urban design is an understanding of context: successful placemaking results from thoughtful exploration of the built and natural environment. Within the urban fabric, each project must be a complement to the surrounding parcels, while always appealing to the human experience.



INTERIOR DESIGN

We understand how the interior design and the base building inform one another, so that space is conceived in a responsive way. When the interiors are designed in conjunction with the architecture very early in the project, a much more appropriate and efficient result emerges.

INNOVATIVE DESIGNS

INTEGRATED IDEAS

EFFECTIVE RESULTS

AUTHENTIC DESIGN

cbt

CBT'S RECENT CLIENTS (THE THREE-YEAR LIST)

ABRY Partners

Abu Dhabi Future Energy Company

Abu Dhabi Urban Planning Council

Ajax Consulting Services

Alexandra Partners

Analysis Group

Andover School of Montessori

AvalonBay Communities

Babson College

Berkeley Investments

BioMed Realty Trust

Blue Cross Blue Shield of Massachusetts

BNY Mellon

Boston College

Boston Global Investors

Boston Properties, Inc.

Boston University

Bryant University

Cottonwood Management

Cabot, Cabot & Forbes of New England

CIM Group

Crane & Co.

Curry College

Cushman & Wakefield

Deka Immobilien Investment

DivcoWest

Dynatrace

Eaton Vance Management

Equinox Luxury Fitness

Flatley Management Company, LLC

FoxRock Properties

Gables Residential

Grantham, Mayo, Van Otterloo & Co.

HarbourVest Partners, LLC

Harvard Business School

Jefferson Apartment Group LLC

HUBweek

Jefferson Apartment Group LLC

Jones Day

Jones Lang LaSalle — JLL

Leggat McCall Properties

Massachusetts State Senate

MIT Media Lab

National Development

Natixis Investment Managers

New England Aquarium

Norton Museum of Art

Oxford Properties Group

Pembroke Real Estate

Redgate Real Estate Advisors

Reading Public Library

Related Beal

Samuels & Associates

Sea-Dar Development

Shawmut Design and Construction

Skanska USA Commercial Development Inc.

Sterling Bay

Synergy Investments

The Brattle Group, Inc.

The Druker Company, Ltd.

The Fessenden School

The General Investment and Development Companies

The HYM Investment Group, LLC

Tishman Speyer

Trammell Crow Company

Tufts University

Twining Properties LLC

UDR Apartments

University of Massachusetts Building Authority

WeWork



Education
Bachelor of Architecture, Syracuse University

Professional Affiliations
American Institute of Architects

Boston Society of Architects

National Council of Architectural Registration Boards

Urban Land Institute

US Green Building Council

PRINCIPAL

PHILIP CASEY AIA, LEED AP

PROFESSIONAL EXPERIENCE

Phil Casey is a Principal at CBT and has over 20 years of professional experience in architectural design and project management with specialization in highly complex mixed-use and multi-family residential developments. He has far-reaching experience working with the Greater Boston area and its agencies. He is a skilled and facile senior project manager serving as executive liaison to many of CBT's clients. Phil's wide-ranging and adaptable leadership style has contributed to many award-winning projects within Boston and beyond.

Motor Mart Garage Redevelopment | Boston, MA
Reimagining an Art Deco parking structure as a 19-story tower is an exercise in design agility and artistry. The tower, when complete, will breathe new life into the surrounding urban neighborhood while maintaining the integrity and beauty of the original building.

60 Kilmarnock | Boston, MA
Design for a new mixed-use residential building in Boston's Fenway neighborhood. The project includes 250 – 300 multi-family rental units and 50 – 100 condominium units, along with retail, parking, and public and private amenity spaces.

121 Seaport Boulevard | Boston, MA
Design for a dramatic new elliptical office tower in Boston's Seaport District. The 17-story building offers two floors of retail space and below-grade parking. The innovative building design has resulted in new strategies for environmental sustainability and the project is LEED-Platinum certified.

Cambridge Crossing, Parcel I | Cambridge, MA
This newest residential building in CBT's master-planned Cambridge Crossing neighborhood is a signature design to enrich the character and fabric of the development. At 21 stories, the residences at Parcel I will offer retail options along the street level and nearly 500 new market-rate rental units.

Echelon Seaport | Boston, MA
Site planning and design for a new mixed-use residential project covering a full city block in the heart of Boston's Seaport. Echelon is a three-building, 1.2-million-square-footdevelopment with world-class amenities, ground-level retail, and more than 700 units of housing. In collaboration with KPF of New York.

380 Stuart Street Tower | Boston, MA
Executive Architect with SOM for the design of a new 26-story, 625,000-square-foot office tower in the heart of Boston's Midtown Cultural District.

Confidential Office Master Plan | MA
Design and master plan of a 1 million-square-foot multi-use campus comprised of 5 new, 6-story, lab-ready office buildings, 3-5 single story retail / commercial buildings, and parking for approximately 3,300 cars.

Confidential Residential Tower | Baltimore, MD
Full architectural design for a 44-story residential tower in Baltimore's Inner Harbor, contributing to the development and growth of this neighborhood. When complete, the new building will deliver nearly 400 new units of luxury apartments.

Avalon North Station | Boston, MA
Design for a new, 38-story luxury residential tower adjacent to Boston's famed TD Garden. The 635,000-square-foot project includes 503 residential units, a sky terrace on the 35th floor, 219 above-grade parking spaces, and a two-story retail arcade that connects the new tower to Causeway Street and North Station.

Commonwealth Pier | Boston, MA
Design in collaboration with SHL to revitalize the Seaport World Trade Center on Boston's Commonwealth Pier. The multi-year project will transform and rejuvenate the 705,000-square-foot building and pier with new amenities for greater public access to the waterfront, vibrant retail offerings, first-class event spaces, and a unique and flexible workplace for Fidelity Investments, who will occupy more than 600,000 square feet of new office space.

Gables Seaport | Boston, MA
Design for a 20-story, 300,000-square-foot mixed-use residential development including approximately 250 rental units, amenity spaces and common areas, ground floor retail space, and one level of paking.

AVA Theater District | Boston, MA
Design of a 30-story, 460,000-square-foot glass residential tower in the heart of Boston's cultural district. The building includes 400 modern rental units, 90,000 square feet of below-grade parking, fitness space, shared social spaces, and sky lounge with terrace.

Atlantic Wharf | Boston, MA
Design of Boston's first LEED Platinum high-rise. This 1.2-million-square-foot waterfront development includes a 31-story office tower, the restoration of historic buildings, new retail and residential space, and a dramatic reclaimed public space.

Lofts at Atlantic Wharf | Boston, MA
Adaptive reuse of an 1890 Peabody and Stearns building into 86 contemporary, luxury loft-style apartments, including seven two-story duplex units with club room, fitness room, and a new lobby. This project is a major component in CBT's 1.2-million-square-foot Atlantic Wharf development.

The Beverly | Boston, MA
Design for a 14-story, 496,000-square-foot mixed-use complex above the underground Central Artery. The program includes a 250-key hotel, 230 residential units, 180 elevated parking spaces, and ground-floor retail.

Tango Residences at Cambridge Crossing | Cambridge, MA
Design and construction of a new 236,000-square-foot, 230-unit residential tower with a variety of unit types; in collaboration with architectsAlliance of Toronto.

Clippership Wharf | Boston, MA
Master planning and preliminary design for a five-building, 400-unit residential development on the East Boston waterfront overlooking downtown Boston and the Boston Harbor.



Education
Bachelor of Architecture, Advanced Studies in Studio Art and Art History, University of Minnesota

Professional Affiliations
American Institute of Architects

Association of College and University Housing Officers – International

Boston Society of Architects

Boston Architectural College Thesis Critic

Society of College and University Planning

PRINCIPAL

CHRISTOPHER A. HILL AIA

PROFESSIONAL EXPERIENCE

Christopher has 31 years of experience in the design of a variety of projects ranging from academic and institutional facilities to mixed-use office and residential complexes. He is a sought expert on the design of campus residential environments often based around live/learn principles. He has served as a guest lecturer on residential hall design at both the Harvard Graduate School of Design summer program and the ERAPPA, SCUP, AIA, and ACUHO-i national conferences. He has published articles in SCUP's quarterly Planning magazine, ACUHO-i's Talking Stick publication and contributed research in Campus Architecture, a book by Richard P. Dober.

345 Harrison Avenue | Boston, MA
Design for a new 14-story, 714,600-square-foot residential building. The program include 585 one-, two-, and three-bedroom apartments, amenity space, street-level retail, and a 267-car structured parking garage.

J. Malden Center | Malden, MA
Design of a dynamic new building complex for downtown Malden including two new residential buildings with 320 units of rental housing, a new 44,000 square foot office building, 22,000 square feet of retail, a sky bridge spanning Pleasant Street, and a new above-ground parking garage.

The Harvey | Boston, MA
Planning and design of a new six-story, 177-unit residential building in the famed Hood Park in Charlestown, Massachusetts. The building is designed to complement the existing neighborhood buildings and to give life to the emerging Rutherford Avenue Corridor with 10,500 square feet of new retail space.

Charlesview Development | Boston, MA
Master plan and design for 708,000 square feet of residential, community, commercial and open space including 240 rental units, 100 new homeownership units, 26,533 square feet of commercial/community space and four acres of new open space.

Rollins Square | Boston, MA
Design of a new 184-unit condominium complex for the Archdiocese of Boston, comprised of four buildings surrounding a central park, retail space on the ground floor, and a below-grade parking garage.

Clippership Wharf | Boston, MA
Master planning and preliminary design for a five-building, 400-unit residential development on the East Boston waterfront overlooking downtown Boston and the Boston Harbor.

The Marlborough, 416 Marlborough Street | Boston, MA
Conversion of a ten-story apartment building to luxury condominiums including a one-story addition to the top of the building with common and private roof-deck patios.

101 Huntington Lobby, Prudential Center | Boston, MA
Interior rehabilitation of the 101 Huntington Avenue office tower as part of the Prudential Center redevelopment project.

111 Huntington at the Prudential Center | Boston, MA
Planning and design for an 850,000-square-foot landmark project within Boston's Commercial District. This iconic 30-story glass office tower includes a 400-foot-long winter garden overlooking a new park and a five-story precast base containing office, retail, and transit links.

The Belvedere at Prudential Center | Boston, MA
Design of a new 11-story residential tower providing 60 units of luxury one-, two-, and three-bedroom condominiums, and two stories of retail shops.

Sargent's Wharf | Boston, MA
Design of mixed-use complex that includes 265 housing units, office and retail space, underground parking, marina, and public open space, and an addition to the existing pilot house.

Waterfront at Pitts Bay | Hamilton, Bermuda
Competition-winning design of a new 250,000 square foot mixed-use development for a prominent waterfront site located in Bermuda.

Watermill Place | Arlington, MA
Planning and design for 130 market-rate condominiums in a six-story building on a historic site.

927 Boylston Street | Boston, MA
Design for a 54,000-square-foot, 11-story mixed-use building. The program includes 11 high-end residential units, ground-floor office space, 24 parking spaces, and common roof deck.

Charles River Park Amenity Center | Boston, MA
Design of a new plaza level structure connecting Longfellow Place towers and including a leasing and business center, fitness club, pool, Wi-Fi café, activity room, sundeck, and site design.

Introduction to Sebago Technics, Inc.



Year Established: 1981 (38 years in business)

About Us: Sebago Technics, Inc. (STI) is a consulting firm of more than 70 design professionals and technical staff providing services throughout New England. From the start, our business plan was simple: "to provide quality, cost-effective civil engineering services that are responsive to a customer's goals, schedule and budget." Our One Company capabilities and resources provide clients with experience and solutions to respond to their planning, permitting and design needs.



Structure: Employee-owned since 1998

Services: Civil, environmental, transportation & traffic engineering; municipal engineering; local/state/federal permitting and planning; land surveying & laser scanning; GIS; landscape architecture; environmental services; and natural resources.

Employee Disciplines:
Professional Engineers, Civil Engineers, Transportation Engineers, Landscape Architects, Professional Land Surveyors, Survey Technicians, CADD Designers, Wetland Scientist, Soil Scientist, Construction Inspectors, Community Planner, Environmental Scientists, GIS Professionals, Marketing, Administrative & Financial



Professional Focus: Sebago Technics provides engineering and planning services to both public and private sector clients. In the municipal and government sectors we have provided multiple discipline services through General Services Contracts (GSC) and project specific contracts. A few examples include the Portland Jetport, City of Portland Public Services, City of South Portland, City of Lewiston, City of Westbrook and several smaller communities. Our municipal sector work includes street and utility infrastructure design, municipal facility planning and specialty work such as Island marine and solid waste planning & engineering.

Location: South Portland, ME



Primary Geographic Service Area: Maine, New Hampshire, Vermont, Massachusetts

Web Site: www.sebagotechnics.com

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STEPHEN G. DOE, RLA, LEED-AP

Senior Landscape Architect



When Mr. Doe joined Sebago Technics, Inc. in 1988, he brought with him a versatile and highly proficient background in land planning, site development, landscape architecture and graphic presentation, and construction. With a fine understanding for detail and construction practices, he has continually proven his ability to prepare functional, yet aesthetically pleasing land development programs and Site Plans for both public and private sector clients. He is proficient in combining his technical knowledge with highly skilled graphic communications to prepare all levels of plan documents from Conceptual Site Plans to complete construction documents and specifications. His strong public presentation skills and attention to detail in preparing and administering Site Plan Applications with state and local regulators has proven beneficial to clients in receiving timely approvals and respect within their communities.

EXPERIENCE

Boothbay Harbor Country Club, Boothbay, Maine – Steve was Sebago's Project Manager and Lead Site Designer for this complete renovation of the Boothbay Harbor Country Club. Working in collaboration with Knickerbocker Group, Steve prepared the master plan, detailed site plan, landscaping and grading plan for this new world class country club and was fully involved in the construction administration of the entire project. This $21M rebuild broke ground in 2013 and opened in 2016. The landscape planting budget alone exceeded $1.2M and included the installation of 8 inch caliper trees along a boulevard entry drive. The golf course itself underwent a $14M renovation during the same time frame as the clubhouse.

Boothbay Harbor Country Club Fitness Pavilion, Boothbay, Maine – Continuing with the BHCC and the Knickerbocker Group, Sebago completed the site design, engineering and permitting for an expansion to the campus by designing a fitness pavilion with an outdoor pool and spa. This development included a separate entry drive to the campus from the Boothbay Village Common. This design process started in 2014 and opened in Spring 2018.

Route 27 Street Improvement Project, Boothbay, Maine – Steve was the Project Landscape Architect for this upgrade and street improvement project in the heart of Boothbay Village. The design included landscaped median islands, central round-about, new street lights, signage and redevelopment of several properties, including the Town hall and Village Market that conflicted with street re-alignments. Steve also worked with the Town's Landscape Committee to collaborate with them on the landscape design and plant selection. Steve performed construction administration and inspections of the landscape installation. Project was completed in July 2018.

Kennebunkport Resort Collection- Various Properties, Kennebunk and Kennebunkport, Maine - Steve is the Lead Site Planner and Permitting Specialist for the entire holdings of the Kennebunkport Resort Collection. This group owns and operates numerus high-end hotels throughout the Kennebunk's. Sebago has been involved with KRC since its inception in 2015. These properties include: Hidden Pond and Earth Restaurant, The Tides Beach Club, Cabot Cove Cottages, The Grand, The Yachtsman, The Boathouse, The Lodge on the Cove, The Arundel Inn and The Old Fort Inn.

Residential Properties, Kennebunk, Kennebunkport, Maine- As a resident of Kennebunkport, Steve has developed a solid reputation with the Town Planning and Code Enforcement offices in these communities and consequently has received numerous referrals from the officials to assist homeowners, developers and architects with design, engineering and permitting for their projects. He is familiar with the regulations and permitting process in these Towns and has developed a respect with the Planning Boards in providing quality engineering and land planning work that complies with local codes.

EDUCATION

Ohio State University - Columbus, OH
Bachelor of Science, Landscape Architecture, 1986

Architectural Technical Institute, Ohio State University - Wooster, OH
Associated Degree in Applied Science, 1980

MEMBERSHIPS

Sigma Lambda Alpha Honor Society for Landscape Architects

National Landscape Architecture Honor Society

Town of Kennebunkport Shade Tree Committee Member

REGISTRATIONS

Registered Landscape Architect: Maine #131

LEED Accredited Professional
CLARB Certified

SEBAGO TECHNICS

DANIEL L. RILEY, PE, CFM

Vice President, Engineering



Mr. Riley is a Senior Project Manager and Vice President of Engineering with over 25 years of experience in the civil engineering field on projects for the private sector, as well as federal and municipal clients. He has a diverse background in civil engineering, site design, residential and commercial development and permitting.

He is experienced and well versed in presenting complex, controversial and publicly sensitive issues to a variety of audiences. Since 2008, Mr. Riley has been the Contract Manager and lead engineer for Sebago Technics' General Engineering Services Contract with the City of South Portland. In that role, he is responsible for coordinating the firm's services and providing engineering support for City Departments including Planning and Development, Bus/Transportation and Waterfront, Public Works, and Parks and Recreation.

Prior to joining Sebago Technics, Mr. Riley worked as a professional engineer in Colorado specializing in water resources engineering. In that role, he managed projects for federal and municipal clients, including stormwater master planning and floodplain studies and assisted communities with the implementation of Stormwater Management Utilities. He maintains status as an ASFPM Certified Floodplain Manager.

EXPERIENCE

City of South Portland Maine Engineering Services
Mr. Riley has been the Contract Manager and lead engineer for Sebago Technics' General Engineering Services Contract with the City of South Portland since 2009. In that role, he is responsible for coordinating the firm's services and providing engineering support for City Departments including Planning and Development, Bus/Transportation and Waterfront, Public Works, and Parks and Recreation. Since 2012 his focus for South Portland has been combined sewer separation projects. Notable projects include:

- Knightville Sewer Separation and Street Improvements Phases 1 and 2
- Thornton Heights Improvements Project Phases 1-3
- Pleasantdale Sewer Separation Project
- SWMM Model updates, Greenbelt Trunkline, West High Pump Station and Pearl street Pumps Station Service areas.
- Greenbelt Sewer Replacement Project

City of Portland Combined Sewer Separation Projects
Mr. Riley has been the Project Manager for several of Sebago Technics' Sewer Separation contracts with the City of Portland since 2010. Notable Relevant Projects include:

- Fall Brook Watershed Study- City of Portland Public Services Department
- Woodford Street and Melrose Street: Design and Inspection Services 2016-2017
- Forest Avenue, Deering Street and Ocean Avenue: Design and Inspection Services 2017-2018
- Mackworth-Ocean and Walnut Street: Design Services 2018-2019 for construction in 2020-2021

EDUCATION

Villanova University, Villanova, PA
Bachelor of Science, Civil Engineering
1991

REGISTRATIONS

Professional Engineer:
Maine #9967
Colorado: #32176

Certified Floodplain Manager
#32249

MEMBERSHIPS

Chi Epsilon, National Civil Engineering Honor Society

Association of State Floodplain Managers (ASFPM)

SEBAGO TECHNICS

Amended Master Development Plan Summary

The Master Plan amendment application makes the following programmatic revision to the Master Plan Approved in August 2022 as amended by deminimus review in October 2024.

Site

The revised site now occupies 1.4 acres, comprised of Lot 1 and Lot 2 of the 385 Congress Street Subdivision. The applicant removed Lot 3 under a separate action approved by Staff in May 2025. The revised limits of the MDP are identified in Red on the attached master plan drawings.

The revised site frontages are:

Lot 1: 233.80 feet on Myrtle Street; 116.25 feet on Congress Street

Lot 2: 278.02 feet Pearl Street; 124.06 feet on Congress

Lot frontages on all streets, including the combined Lot 1/Lot 2 frontage on Congress Street, are less than 300, and pedestrian passage is no longer required under ReCode §7.5.2 A.

Uses

The retail space, parking, and residential units previously proposed for Lot 3 have been removed along with the land area. The proposed uses on Lot 1 and Lot 2 are unchanged. Approximate square footages for these uses are summarized in Table 1 below. Note: Lot 1 total reflects the approved Lot 1 Hotel site plan totals based on Lot 1's February 2023 Site Plan Approval

Podium Level Open Space

The elimination of Lot 3 from the MDP reduces the lot frontages on any street; publicly accessible permeability is no longer required or proposed under the ReCode §7.5.2.A. Uses on the podium level rooftop are private spaces.

Lot 1 (Hotel) will utilize portions of the roof area as an outdoor deck associated with the Hotel fitness facility and as outdoor patio spaces immediately adjacent to hotel rooms at the podium level. There are no meeting rooms or restaurant space currently planned for the podium level that requires outdoor space. Finishes for the podium rooftop level will be determined during future site plan/amendment review.

Lot 2 (Residential) will utilize the podium level for common outdoor amenity space for residents and private outdoor patio space for individual units at the podium level, similar to the approved MDP.

Building floors/Height

Lot 1 the building has been revised to include 21 floors with a maximum height of 250 feet

Lot 2 the building has been revised to include a maximum of 23 floors with a maximum height of 250 feet

Please refer to Table 1 below for square footages and the attached schematic diagram for massing dimensions and heights

On Site Parking

The revised program increases proposed parking on each lot as indicated in Table 1. The applicant will address any waivers related to parking supply as part of future site plan review(s). Minor discrepancies in parking counts presented in the table vs documented on the plans are due to spaces obscured by ramping on the floor plans and the preliminary nature of the plans at the MDP level of development.

Streetscape Design Lot 1

The Lot 1 Streetscape design presented in the amended MDP plans generally reflects the streetscape plan approved as part of the Hotel's Level 3 Site plan approval. Revisions to the Congress Streetscape design are expected to be minor to reflect the future building design and will be addressed as part of a site plan amendment if necessary. Minor dimensional and detailing of the Congress Driveway may be required based on the proposed building design and will be addressed, if needed in a Site Plan Amendment.

The approved driveway on Myrtle Street is to be shifted approximately 100 feet to the west, to a location near the westerly property line of Lot 1, adjacent to Lot 3 .

No changes are proposed for the curb extension and crosswalks at Congress/Myrtle compared to the approved Hotels Site Plan design

Streetscape Design Lot 2

The streetscape in the public right of way along Congress Street across the front of Lot 2 is consistent with the streetscape design approved as part of the Lot 1 Hotel site plan. This includes the curbline on Congress Street, the curb extensions, crosswalk, and traffic signal locations at the corner of Pearl Street and Congress. No revisions to the approved plans are proposed for these locations.

The streetscape for the public sidewalk and driveway serving Lot 2 on Pearl Street is unchanged from the approved master plan.

The outdoor space on Lot 2, between the building and the right-of-way on Congress Street, will be comprised of private outdoor plaza space with seating, landscaping and sidewalk amenities supporting the proposed retail/restaurant space anticipated as ground-floor use at this corner. This is intended to create an enhanced pedestrian space, delineated with materials, landscaping, and amenities. The space is intended to be consistent with the linear park design and setbacks presented in the approved MDP in this area.

Table 1 Summary		
Item	**Approved Master Development Plan (Lot 1 Site Plan)1**	**Proposed Amended Master Development Plan**
MDP Project Area	2.26 Acre	1.4 Acre
Lots	3	2
Condominium Units Lot 1	9	9
Hotel Keys Lot 1	179	179
Restaurant Lot 1	4,630	2,000 SF
Retail Lot 1	755	
Parking Count Lot 1	75	135
Gross SF Total Lot 1	118,083	288,200 SF
Building Height Lot 1	149’	250’
Condominium Units Lot 2	110	140
Retail/Restaurant Lot 2	4,000	4,000
Parking Count Lot 2	148	322
Gross SF Total Lot 2	239,450	350,060 SF
Building Height Lot 2	149’-10”	250’
Condominium Units Lot 3	178	-
Retail/Restaurant Lot 3	6,900	-
Parking Count Lot 3	119	-
Gross SF Total Lot 3	269,450	-
Building Height Lot 3	150’	
Total Gross SF	626,983	638,800
Total Condominium Units	297	149
Total Hotel Keys	179	179
Total Parking Spaces	342	457
Maximum Building Height		250 feet

Note: [1] Lot 1 totals are based on the approved site plan, February 2023

Utilities

Enclosed is an updated utility Plan outlining the conceptual design for the amended MDP. Lot 3 has been removed from the MDP, and with it all utility improvements related to Lot 3 or utilities designed to cross Lot 3 have been removed.

The utility plans for Lot 1 and Lot 2 have been revised to be independent of each other. Each property will make utility service connections from its own site frontage

Lot 1:

- Utility connections for Lot 1, including water, sewer, electricity, natural gas, and telecommunications, will be consistent with the Lot 1 Site Plan approval, adjusted through site plan amendment if necessary to locate service connections with revised internal program space.
    - All of Lot 1's utility connections will be made from Lot 1's frontage on Congress Street and Myrtle Street. No easements on Lot 2 or Lot 3 are required.
- Lot 1's stormwater treatment will be provided with an underground chamber storage system.
    - This system will be installed on site, outside of the building footprint. The drain outfall will no longer pass across Lot 2.
    - A new storm drain will be installed in Congress Street and Pearl Street for this system, and to facilitate the City's future separation of the Pearl Street combined sewers.
    - The revised design is coordinated with the plans for the Lot 3 site plan, currently being reviewed by the Planning Board for a separate applicant.

Lot 2:

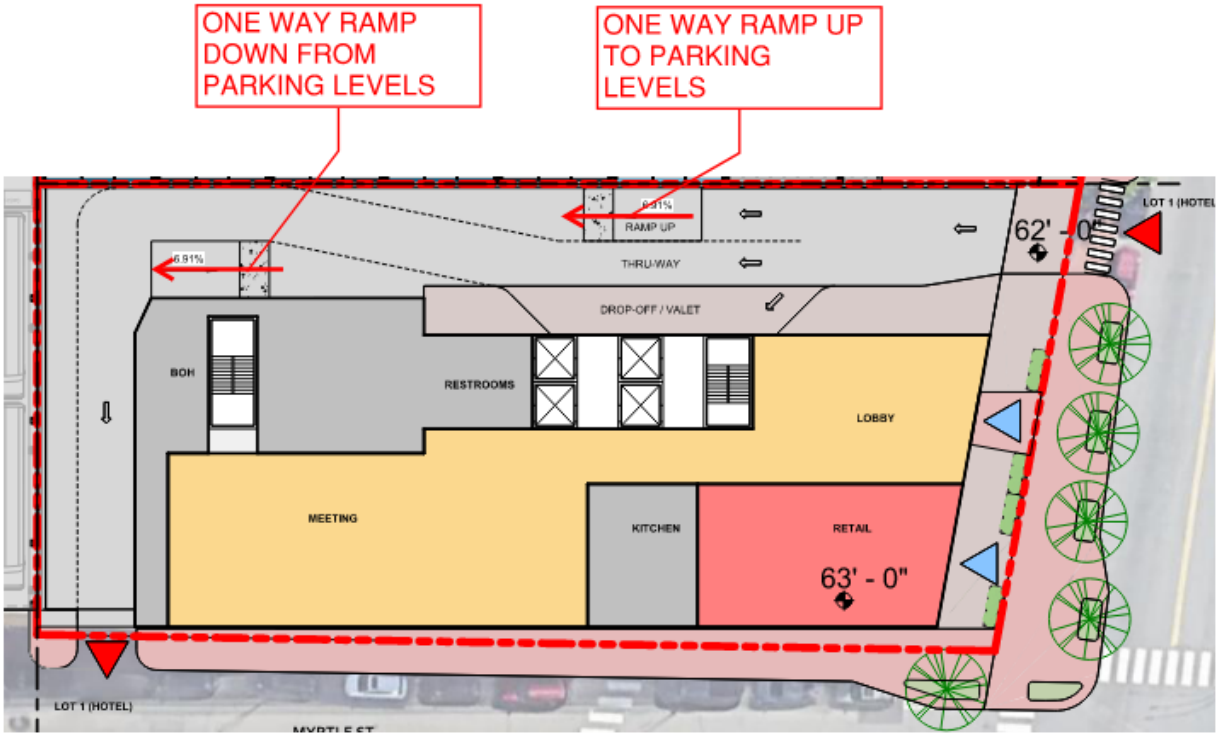
- Utility Connections for Lot 2's Stormwater, Water, electricity, natural gas, and telecommunications are consistent with the approved Master Plan (and Lot 1's approved Site Plan) design.
- Lot 2's Stormwater system remains below grade, the building footprint, and below ground level parking.
    - The shared outfall with Lot 1 will be eliminated. Lot 1' stormwater system will be independent of Lot 2's with a new connection to Pearl Street and extending to Cumberland Avenue.
- Lot 2's sewer outfall will be located on Lot 2's frontage on Pearl Street and will no longer cross the Lot 3 site to Cumberland Avenue.

Att. F

Valet Operations Narrative

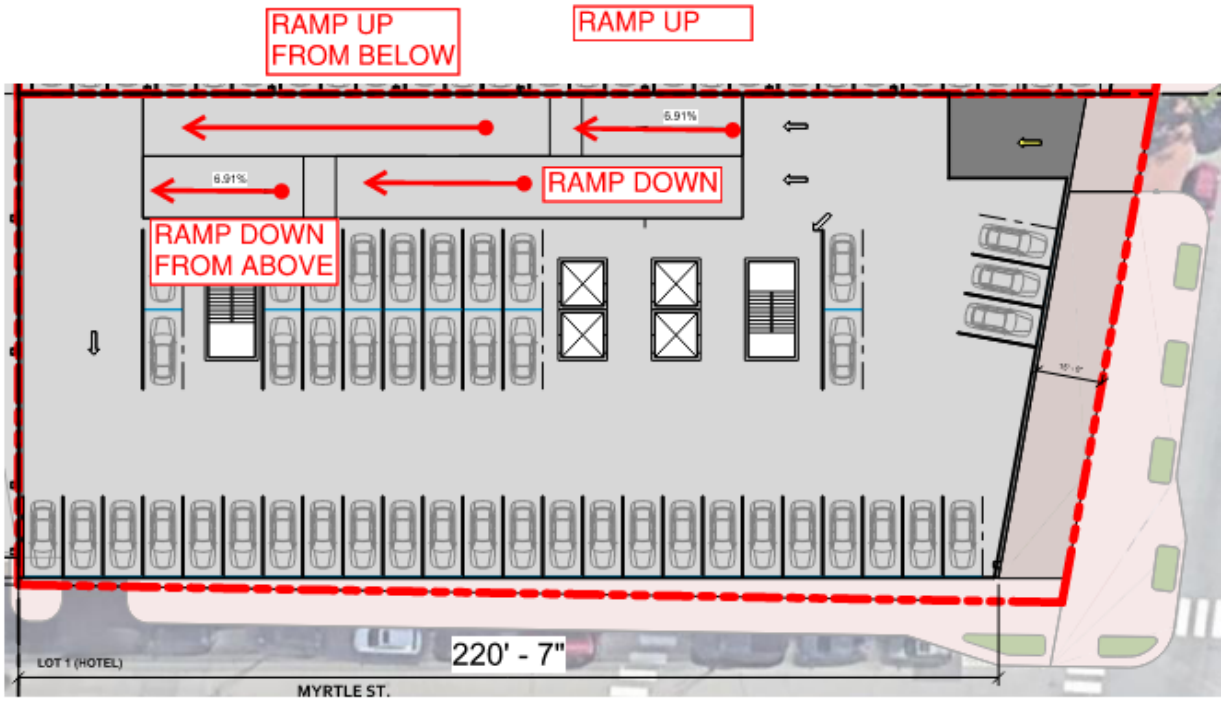
The project proposes a two- lane, one-way (entering) driveway on Congress Street for vehicles entering the hotel site and a one-way exit only entrance on Myrtle Street.

Figure 1 presents a schematic floor plan of the Hotel ground level entrance . The ground level includes a 2-lane wide, one way enter only driveway from Congress Street, a valet dropoff area adjacent to the hotel building and an exit lane circulating counterclockwise through the ground level to the exit on Myrtle Street. The plan identifies a one way ramp up to the parking levels accessed from the Congress Street entranace and a one way ramp down from the upper level parking to the exit lane out to Myrtle Street.



Ground Level Space and Circulation

The proposed curb cut on Congress is set at 22’ wide to allow for an 11’ through lane entering for valets entering from Congress Street, and accessing the ramp up to parking levels above and an 11’ through lane, entering from Congress and circulating through the ground level to the exit on Myrtle Street. Adjacent to the enter lanes is a valet loading area adjacent to the hotel entrances.

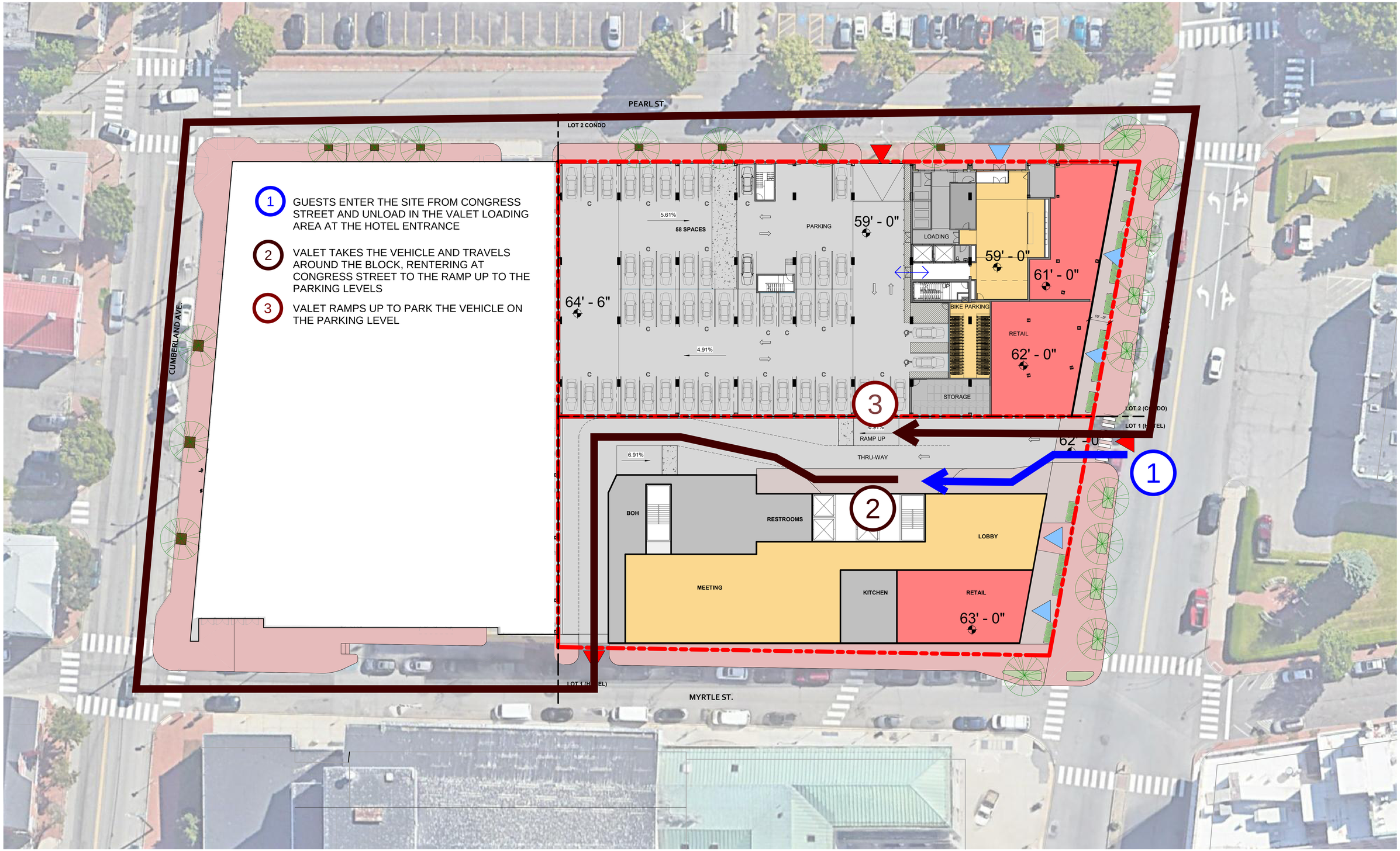


Parking Level Circulation

Figure 2 presents the ramp and circulation arrangement on the parking levels. The plans provide for counterclockwise one-way circulation, with ramps up to the level above on the exterior lane and ramps down to the level below on the interior. The wide, one-way lanes allow for the management of vehicles for peak arrival/departures where valets can direct traffic to the second level for loading and unloading when necessary.

Arrival Operations:

Hotel guests enter from Congress Street and are unloaded in the valet drop area. The valet takes the vehicle through the building to the west, exits onto Myrtle Street, turns right and circles the block clockwise with a series of right turns at Cumberland Avenue, Pearl Street, and Congress Street, reentering the site in the northerly entrance lane, accends the ramp and parks the vehicles on the levels above.



GUEST ARRIVAL OPERATION

Departure Operations:

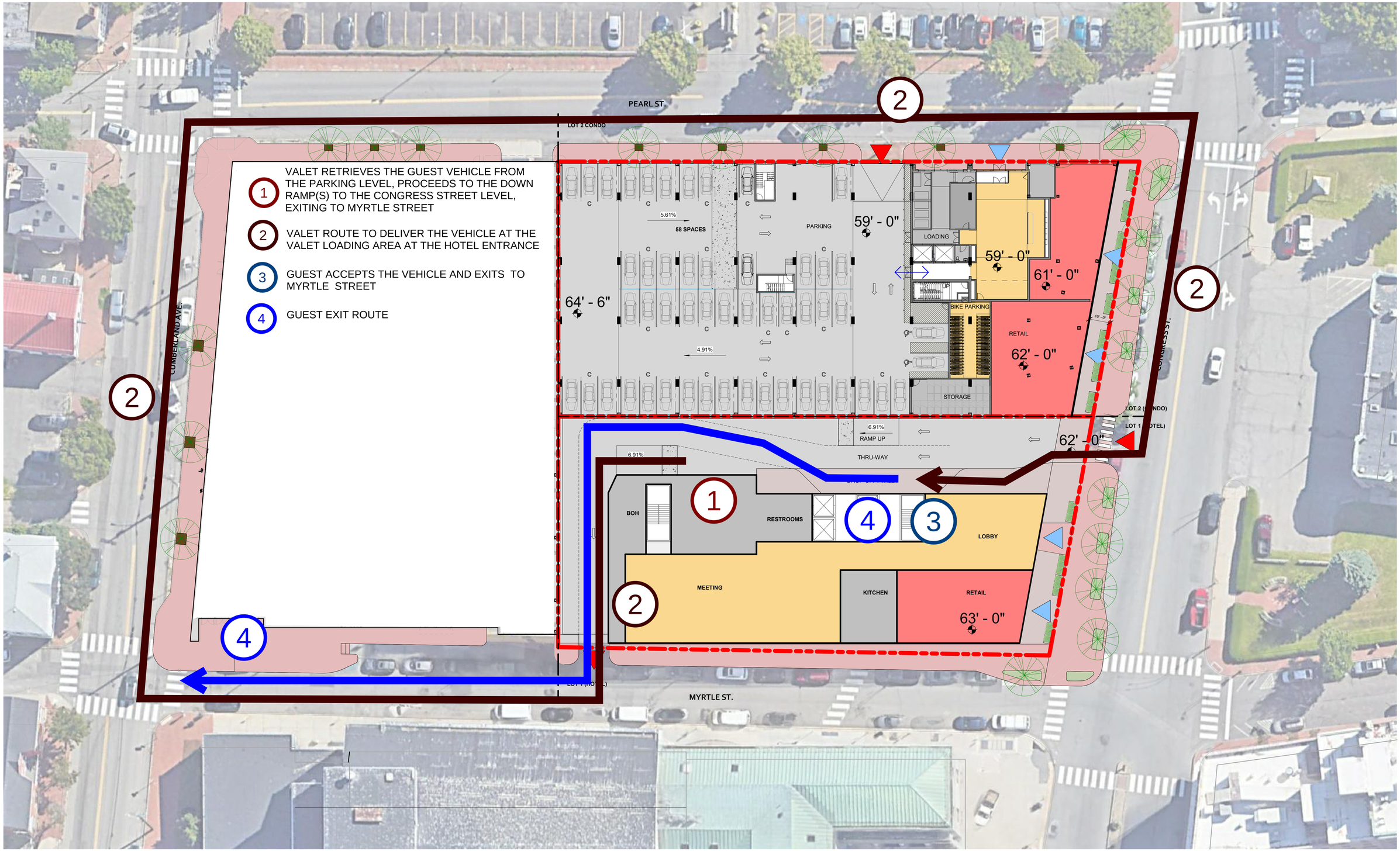
The valet retrieves the vehicle from the upper parking level, decends the ramp down at the west end of the parking levels, turns left off the ramp and exits the building onto Myrtle Street. The valet turns right onto Myrtle Street and circles the block clockwise with a series of right turns at Cumberland Avenue, Pearl Street, and Congress Street. The valet enters the building, pulls into the loading area, delivers the vehicle to the guest, and directs the guest to exit through the one way exit lane to Myrtle Street.

The valet parking may include moveable/temporary sidewalk kiosks or signs, placed by the valet operators, to indicate valet parking locations, but no permanent valet signage is proposed. This approach is similar to other valet parking operations in the City of Portland.

There will be no self-parking in the hotel's garage by hotel guests, all guest parking will be valet parked. During peak arrival/departure times the valet operators can direct vehicles up the entrance ramp at the site entrance and use the level 2 parking area with full width drive aisle as a secondary loading area.

The hotel's valet operation, similar to most valet operations at hotels in Portland, is a contracted service by a parking facility operator that has access to the both the on-site parking and other nearby offsite parking facilities. During peak periods, if the on-site garage is approaching capacity, the valets will park vehicles offsite in contracted facilities managed by the valet/parking vendor to ensure that arriving and departing vehicles are not queuing on the sidewalk or in the streets adjacent to the site. Peak periods of hotel valet operations are generally predicable at typical weekend check-in and check-out times and are staffed accordingly.

The valet service will be staffed 24 hours a day whenever the hotel is operating. The operation will be managed in the same manner as the applicant's other existing hotels in Portland.

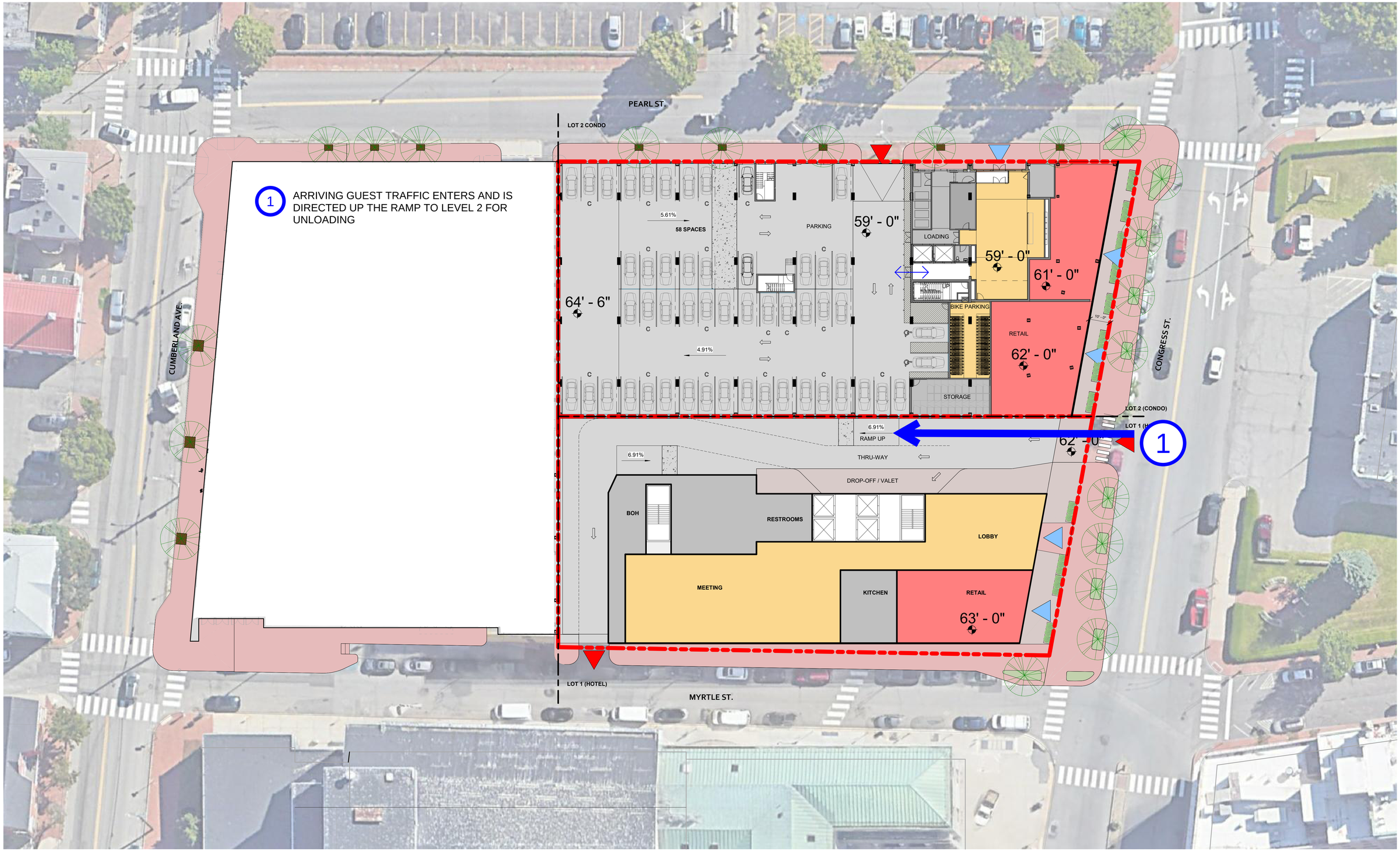


GUEST DEPARTURE OPERATION

Myrtle Closures

During times when Myrtle Street is closed for exiting traffic, the Congress Street entrance will be managed by the valets as a two-way entrance.

- The northerly entrance lane including the ramp up from the Congress Level to the parking levels will be used for all entering traffic, the southerly lane and Valet loading area will be used for all exiting traffic.
    - Entering guests will be directed by valets up the ramp to the second level where they will be directed to unload at the elevators on Level 2
    - Departing guests will load and depart from the Congress Level loading areas at the hotel entrance.
    - Valets will retrieve vehicles from the parking levels, descend the ramp down to the Congress Street level, and deliver the vehicle to the loading area. Guests will take their vehicle and depart onto Congress Street via the southerly driveway lane



MYRTLE STREET CLOSURE OPERATIONS - ENTERING TRAFFIC LOWER LEVEL

1 ARRIVING GUEST ARIVES ON THE RAMP UP FROM BELOW AND IS DIRECTED TO THE UNLOADING AREA AT THE ELEVATORS

2 GUEST UNLOADS AT THE ELEVATORS AND VALET ACCEPTS THE VEHICLE

3 VALET PARKS THE VEHICLE FOLLOWING THE RAMPS UP TO UPPER LEVELS AS NEEDED

PEARL ST.

LOT 2 CONDO

CUMBERLAND AVE.

CONGRESS ST.

LOT 2 (CONDO)

LOT 1 (HOTEL)

UP

5.61%

6.91%

6.91%

15' - 0"

15' - 0"

1

2

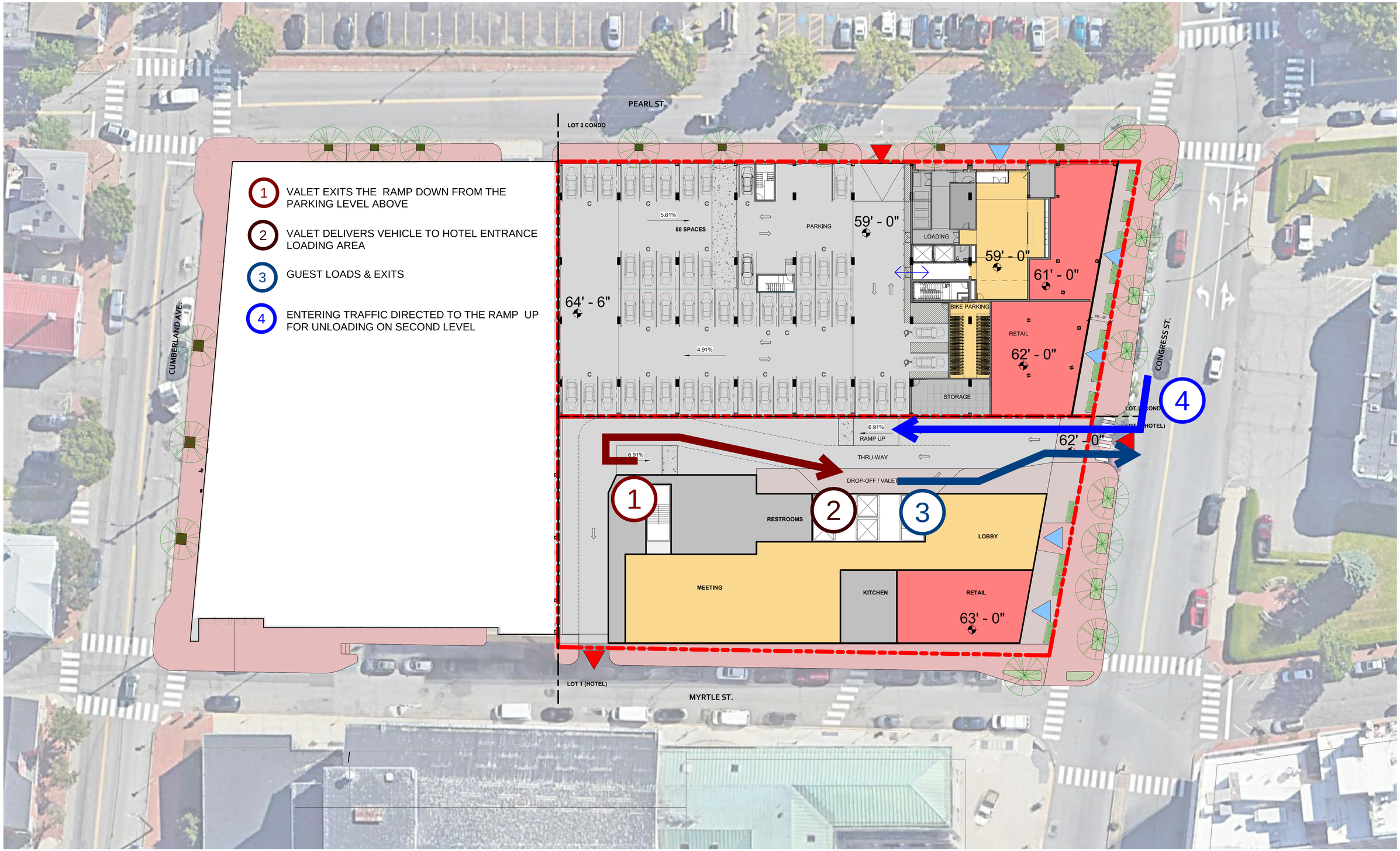
3

LOT 1 (HOTEL)

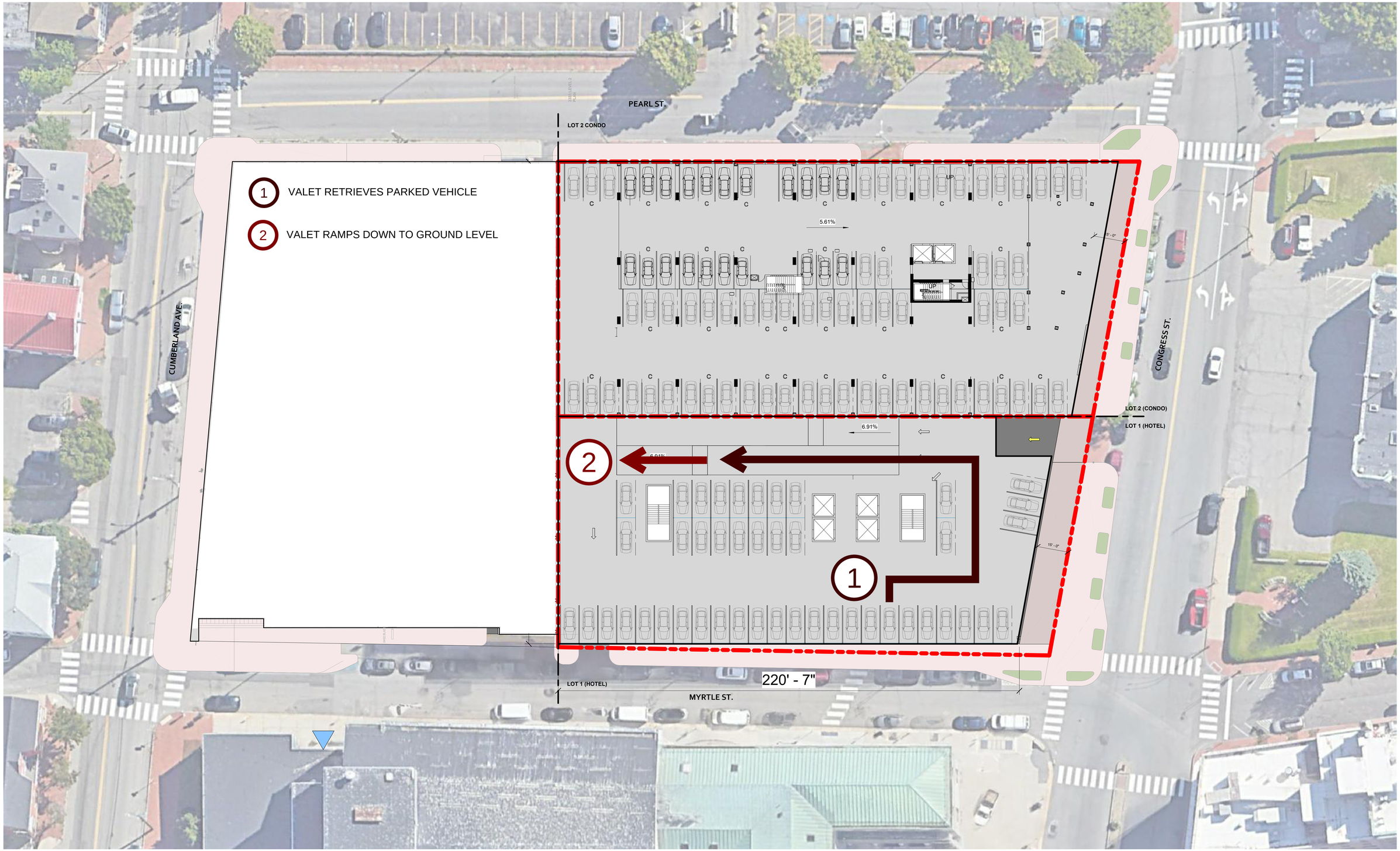
220' - 7"

MYRTLE ST.

MYRTLE STREET CLOSURE OPERATIONS - ENTERING TRAFFIC UPPER LEVEL



MYRTLE STREET CLOSURE OPERATIONS - EXITING TRAFFIC LOWER LEVEL



MYRTLE STREET CLOSURE OPERATIONS - EXITING TRAFFIC UPPER LEVEL

Att. G

June 26, 2025
19371

Zachary Powell
City of Portland Office of Planning and Urban Development
Congress Street
Portland, ME 04101

Comment Response – Staff Comments PL-003359-2025 - 385 Congress Street – Submission #1 May 22, 2025

Dear Zach:

On behalf of the 385 Congress Street, LLC, we are pleased to submit the enclosed response to comments for the Amendment to the Master Development Plan for 385 Congress Street.

The following items address those comments received from the City, dated May 22, 2025, which require a response or additional information. Items in the staff comments noted as complete or referencing other comments are omitted for clarity. The City's comments are presented in italics for reference followed by our response.

General

- *City Staff are requesting simplified MDP application materials that show the proposed building footprints (not including floor plans), areas proposed for open space (i.e. expanded sidewalks on Congress Street & podium area), and a building envelope to approve, similar to Image 4 on the Massing Evolution Page in the MDP Amendment package. Simplified materials can show the envelope that would be approved, as well as the anticipated envelope based on the current building designs.*

Response: Revised master plan schematics will be uploaded via the project portal.

- *Submit a narrative summary identifying all proposed changes from the approved MDP, including changes to the boundary, program of uses (including, but not limited to, the number of residential units and parking spaces), and building heights.*

Response: The programmatic changes are reflected in the document titled Amended Master Development Plan Summary.

- *The listed number of parking spaces (457) does not match what is shown in the proposed plans (449)*

Response: Due to the schematic nature of the MDP plans, some parking spaces are obscured by ramps and are not shown graphically. The currently proposed parking total is 457 spaces.

- *Updated plan sheets to reflect updates to the MDP boundary and landscaping reviewed under the hotel site plan application (PL-0021560-2022)*

Response: The MDP plans have been revised to clarify that the red outline around Lot 1 and Lot 2 represent the MDP boundary. Lot 3 has been removed from the MDP by separate action by the applicant. The Lot 3 area reflects the currently proposed Portland Music Hall site design currently being reviewed by the Planning Board for reference only.

14.7.1 – In General
Integration with surrounding context

- *Formal Narrative request to modify the MDP TMP*

Response: An MDP Amendment request will be submitted separately addressing the revisions to trip generation reflecting the removal of Lot 3 and the revisions to the proposed development program.

- *Narrative discussing the operations of the structured parking for the hotel*

Response: A narrative describing the valet entrance operation and structured parking will be submitted separately. The Congress Street entrance will operate similar to the approved Hotel design as a one way enter only. The relocated driveway on Myrtle Street will be an exit only, with valets circling the block with a series of right turns to bring vehicles to the Congress Street entrance, consistent with the approved MDP and approved hotel site plan operations. Exiting traffic will similarly exit on Myrtle Street, consistent with approved MDP and Approved Hotel site plan.

The MDP amendment relocates the Myrtle Driveway west. All parking in the garage will be by valets using dedicated ramps to reach the parking on the levels above the ground floor.

14.7.2 – Natural features and open space
Provisions for open space

- *Update plans showing the location of the open space on top of the podium level, as well as supporting information on the management of the open space.*

Response: The conceptual design for the podium level roof has been added to the plans.

Lot 1 (Hotel) will utilize portions of the roof area as an outdoor deck associated with the Hotel fitness facility and as outdoor patio spaces immediately adjacent to hotel rooms at the podium level. There are no meeting rooms or restaurant space currently planned for the podium level that requires outdoor space. Finishes for the podium rooftop level will be determined during future site plan/amendment review.

Lot 2 (Residential) will utilize the podium level for common outdoor amenity space for residents and private outdoor patio space for individual units at the podium level, similar to the approved MDP.

Each lot owner will be responsible for management and maintenance of their rooftop. Interconnection of these private spaces is not proposed.

14.7.4 – Infrastructure
Adequacy of infrastructure capacity

- *Additional information on the proposed stormwater & sewer management for the MDP given the change in the proposed MDP boundary*

Response: Please refer to the Amended Master Development Plan Summary document and the revised MDP utility plans submitted under separate cover.

14.7.5 – Design
Creation of a cohesive identity

- *Resubmit plans and documents that indicate the streetscape and pedestrian amenities along the property frontages to clarify furnishings within the public realm*

Response: Revised MDP plans are attached identifying the streetscape. Please refer to the Amended Master Development Plan Summary for additional details.

In general, the streetscape on the frontage along Congress Street will be as approved in the Lot 1 Hotel Site Plan approval. No significant modifications are proposed.

The outdoor space on Lot 2, between the building and the right-of-way on Congress Street, will be comprised of private outdoor plaza space with seating and sidewalk amenities supporting the proposed retail/restaurant space anticipated as ground-floor use at this corner. This is intended to create an enhanced pedestrian space, delineated with materials, landscaping, and amenities. The space is intended to be consistent with the linear park design and setbacks presented in the approved MDP in this area.

Revised MDP plans have revised the façade to present a consistent street wall on Lot 2's frontages.

- *Resubmit plans and documents that include the Congress Street linear park with publicly accessible street-level amenities in Lot 1 and Lot 2 to justify the expanded front setback along the property frontage*

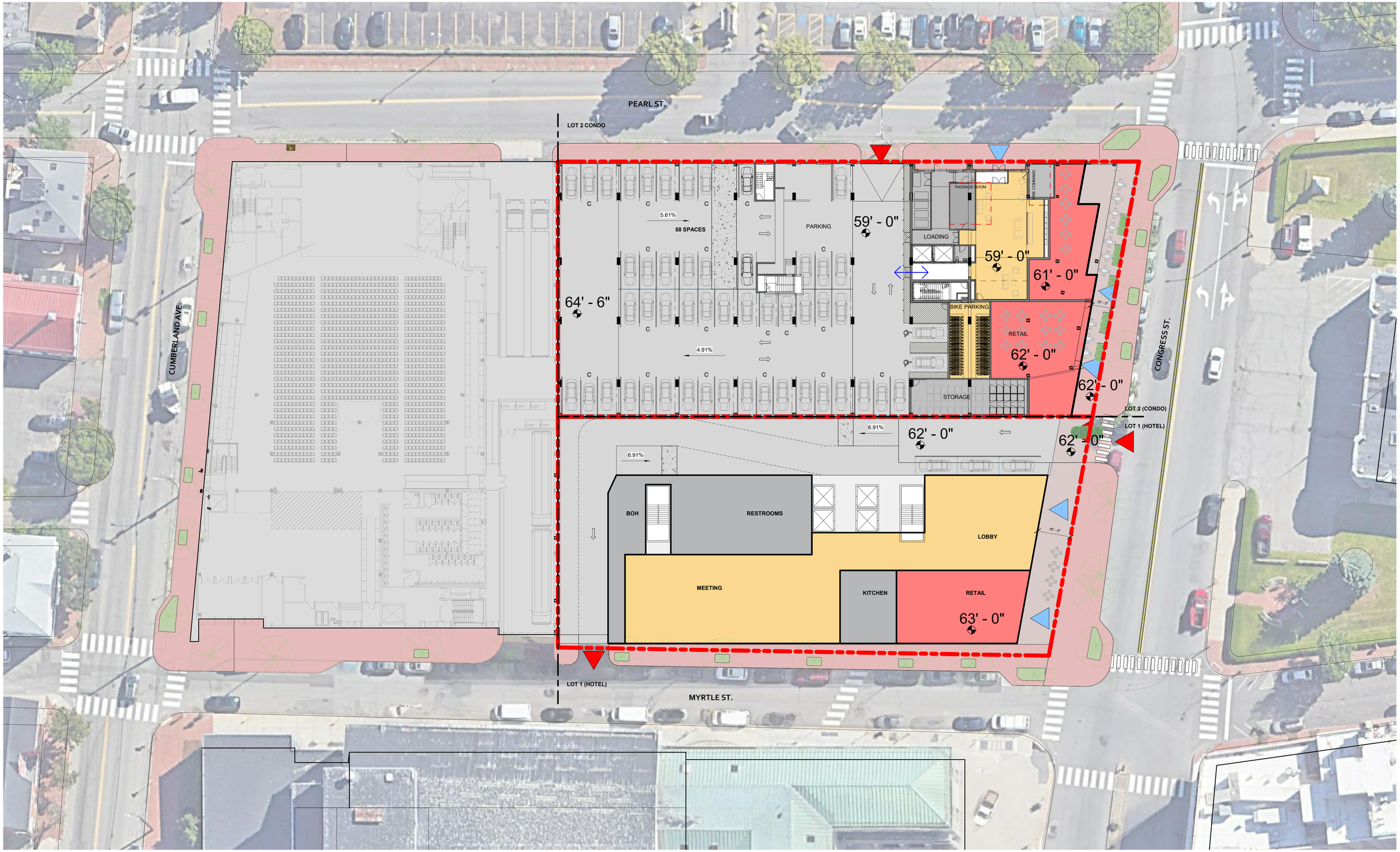
Response: The MDP plans have been revised to identify the streetscape. This is intended to create an enhanced pedestrian space, delineated with materials, landscaping, and amenities to support the retail/restaurant/commercial space at this corner. The space is intended to be consistent with the linear park design and setbacks presented in the approved MDP in this area, which included a 10-ft setback along the street line for this purpose. This design is maintained in the amendment.

- *Staff requests that the MDP amendment expand the ground-floor building massing along Congress Street (particularly at the corner of Pearl Street) to create a continuous street wall*

Response: The building plan has been expanded at the corner of Pearl Street to create a continuous street wall.

- *Resubmit plans and documents that incorporate tower stepback dimensional standards under the current Land Use Codes 7.5.3 into the proposed building massing diagrams*

Response: The requested plan will be uploaded via the project portal.



4/23/2025 3:18:20 PM

cbt |

GROUND LEVEL PLAN

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

04/23/2025 1" = 20'-0"

0' 10' 20' 40'

N

PEARL ST.

LOT 2 CONDO

252' - 5"

122' - 0"

108' - 9"

219' - 7"

LOT 1 (HOTEL)

MYRTLE ST.

CUMBERLAND AVE.

CONGRESS ST.

LOT 2 (CONDO)

LOT 1 (HOTEL)

UP

5.61%

6.91%

6.91%

15'-0"

16'-0"

PODIUM LEVEL PLANS

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

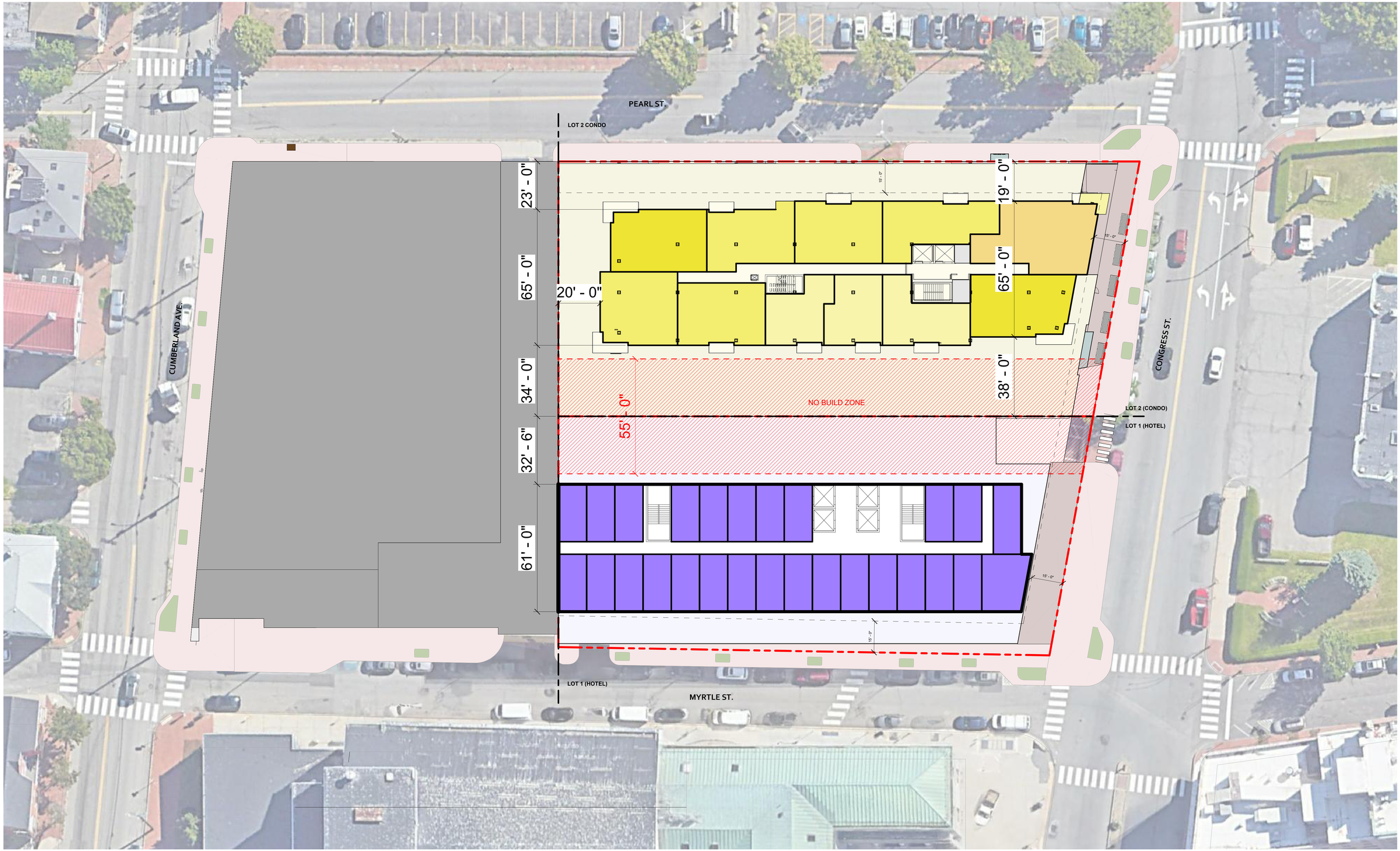
04/23/2025 1" = 20'-0"

cbt

0' 10' 20' 40'

N

4/23/2025 3:18:21 PM



4/23/2025 3:18:23 PM

cbt |

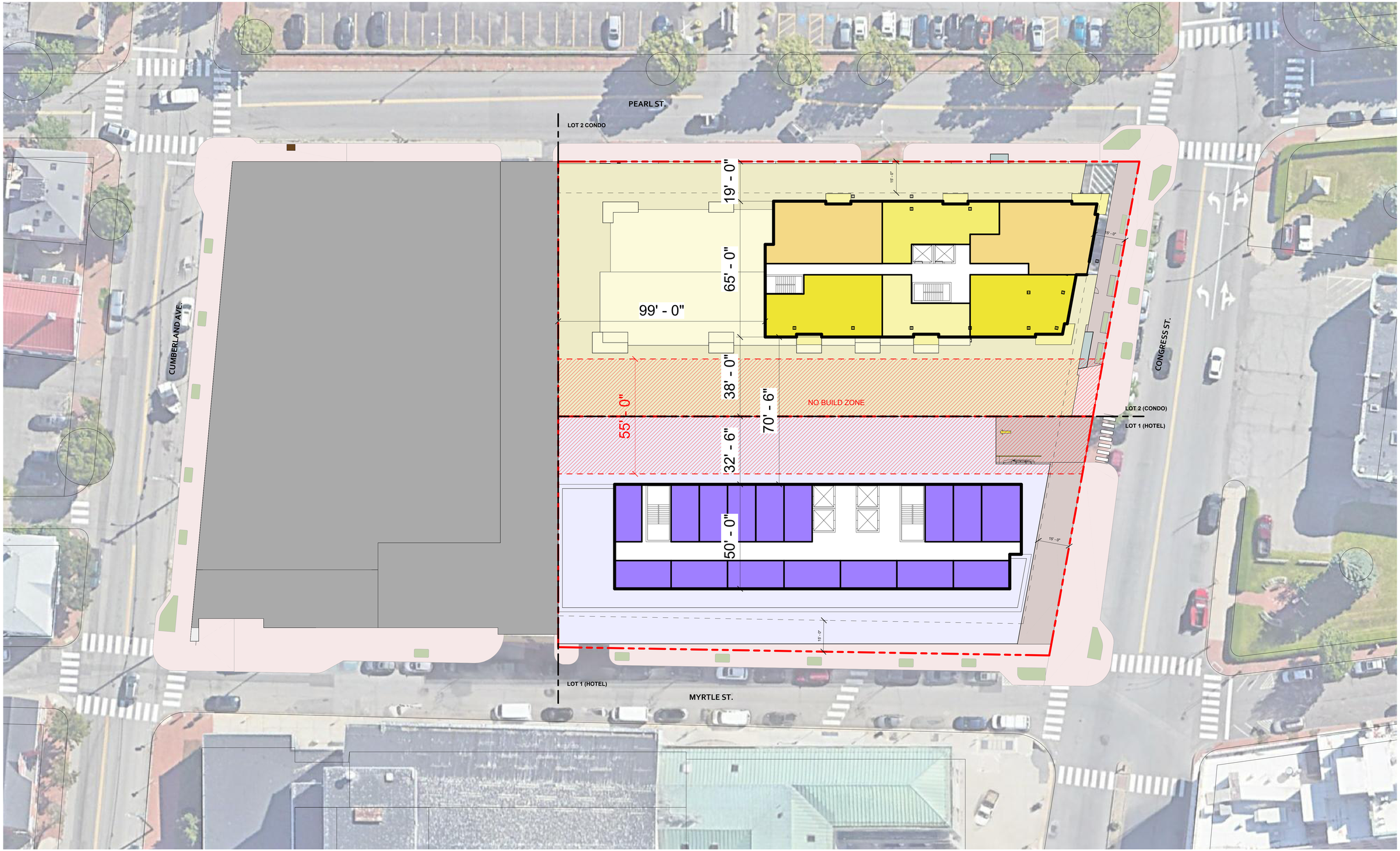
LOWER TOWER PLANS (BELOW 125')

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

04/23/2025 1" = 20'-0"

0' 10' 20' 40'

N



4/23/2025 3:18:23 PM

cbt

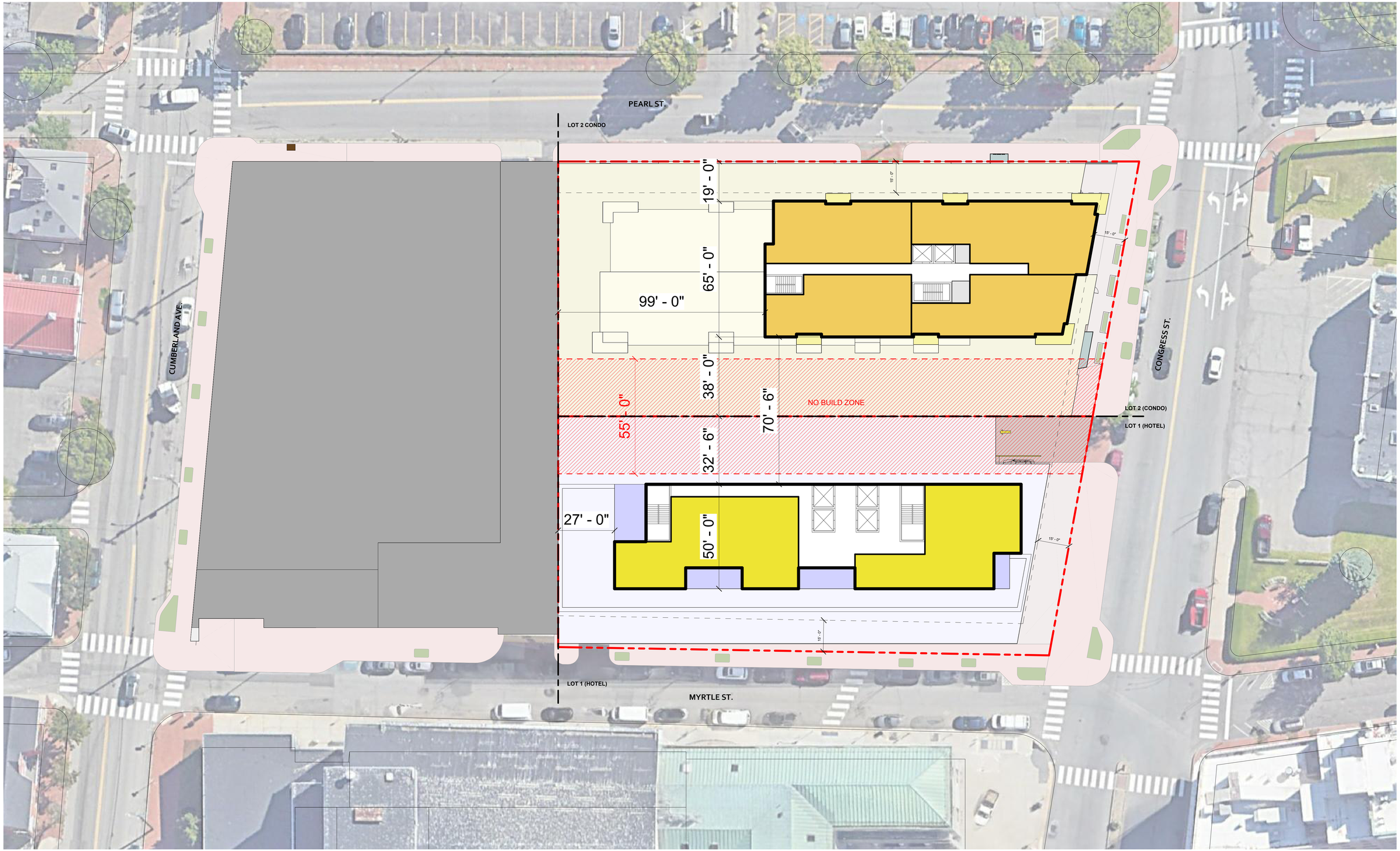
UPPER TOWER PLANS (ABOVE 125')

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

04/23/2025 1" = 20'-0"

0' 10' 20' 40'

N



cbt |

PENTHOUSE LEVEL - PLAN

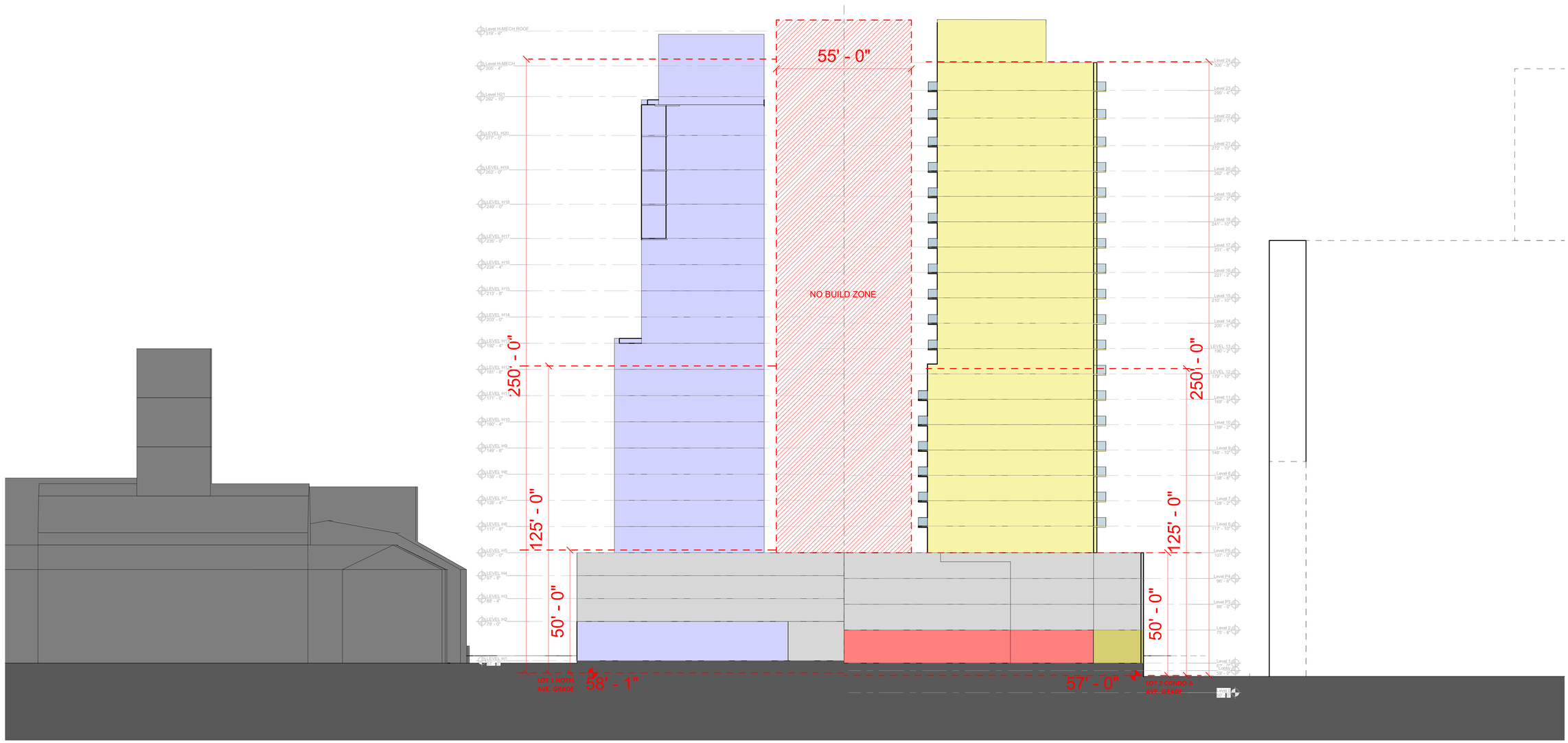
HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

04/23/2025 1" = 20'-0"

0' 10' 20' 40'

N

4/23/2025 3:18:24 PM



4/23/2025 3:18:25 PM

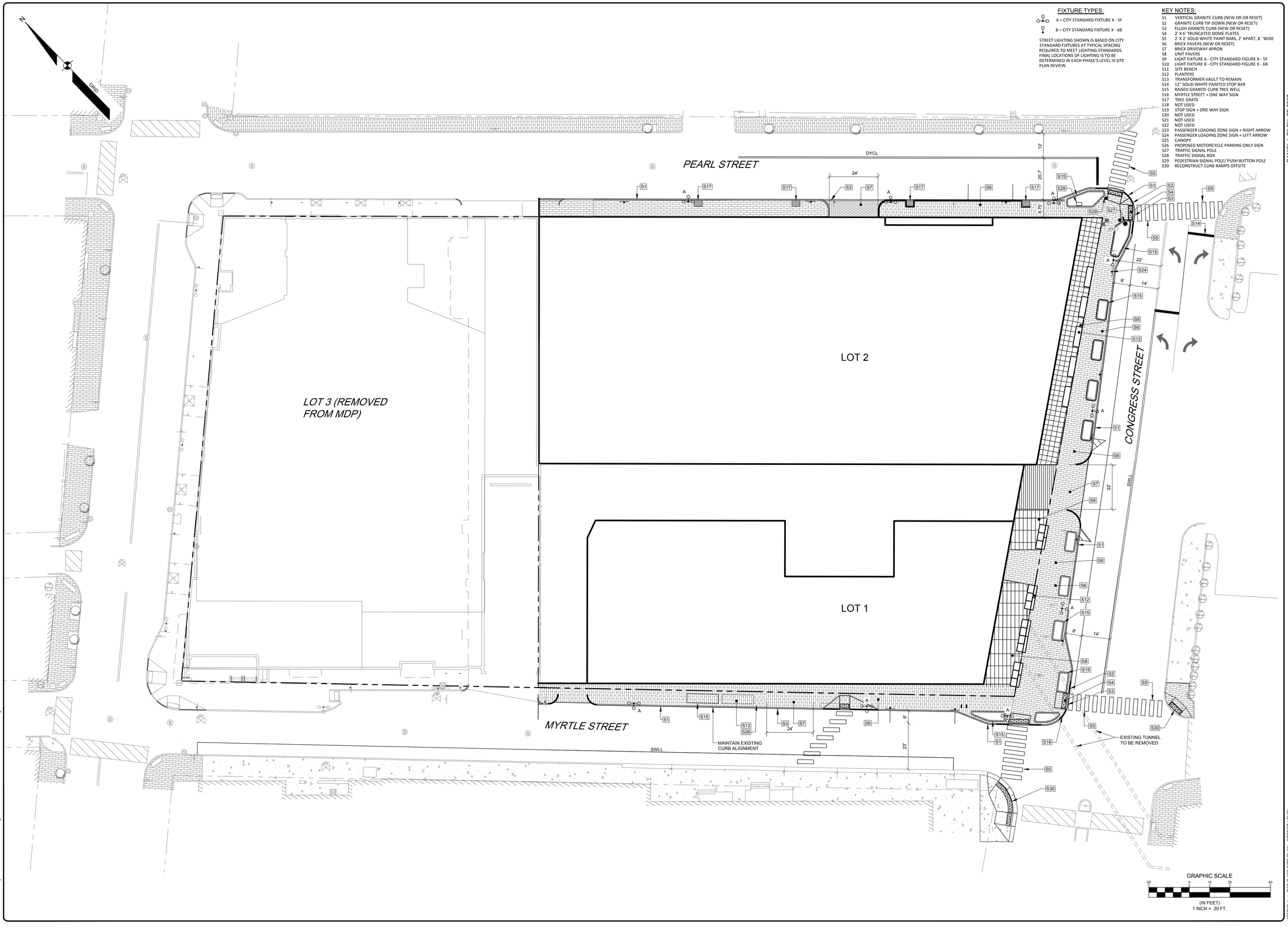
cbt |

BUILDING SECTIONS

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

04/23/2025 1" = 20'-0"

0' 10' 20' 40'



FIXTURE TYPES:

A = CITY STANDARD FIXTURE X - 5F

B = CITY STANDARD FIXTURE X - 6B

STREET LIGHTING SHOWN IS BASED ON CITY STANDARD FIXTURES AT TYPICAL SPACING REQUIRED TO MEET LIGHTING STANDARDS. FINAL LOCATIONS OF LIGHTING IS TO BE DETERMINED IN EACH PHASE'S LEVEL III SITE PLAN REVIEW.

KEY NOTES:

S1 VERTICAL GRANITE CURB (NEW OR RESET)
S2 GRANITE CURB TIP DOWN (NEW OR RESET)
S3 FLUSH GRANITE CURB (NEW OR RESET)
S4 2' X 6' TRUNCATED DOME PLATES
S5 2' X 2' SOLID WHITE PAINT BARS, 2' APART, 8 ' WIDE
S6 BRICK PAVERS (NEW OR RESET)
S7 BRICK DRIVEWAY APRON
S8 UNIT PAVERS
S9 LIGHT FIXTURE A - CITY STANDARD FIGURE X - 5F
S10 LIGHT FIXTURE B - CITY STANDARD FIGURE X - 6B
S11 SITE BENCH
S12 PLANTERS
S13 TRANSFORMER VAULT TO REMAIN
S14 12" SOLID WHITE PAINTED STOP BAR
S15 RAISED GRANITE CURB TREE WELL
S16 MYRTLE STREET + ONE WAY SIGN
S17 TREE GRATE
S18 NOT USED
S19 STOP SIGN + ONE WAY SIGN
S20 NOT USED
S21 NOT USED
S22 NOT USED
S23 PASSENGER LOADING ZONE SIGN + RIGHT ARROW
S24 PASSENGER LOADING ZONE SIGN + LEFT ARROW
S25 CANOPY
S26 PROPOSED MOTORCYCLE PARKING ONLY SIGN
S27 TRAFFIC SIGNAL POLE
S28 TRAFFIC SIGNAL BOX
S29 PEDESTRIAN SIGNAL POLE/ PUSH BUTTON POLE
S30 RECONSTRUCT CURB RAMPS OFFSITE

DANIELL RILEY PE 9967

STATE OF MAINE
DANIEL L RILEY
No. 9967
REGISTERED PROFESSIONAL ENGINEER
07/02/2025

REV.	BY	DATE	STATUS
A	DLR	06/26/2025	AMENDED MASTER PLAN OF DEVELOPMENT

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AS PROVED BY OTHERS, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

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SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 4A
South Portland, ME 04106
207-200-2100
South Portland, Bridgton, Sanford and Bath

SITE PLAN - STREET LEVEL
OF:
AMENDMENT 2025 SET
CONGRESS STREET AND PEARL STREET
PORTLAND, MAINE
FOR:
385 CONGRESS STREET, LLC.
2720 TRANSIT ROAD
WEST SENECA, NY 14224

DESIGNED	DJS
DRAWN	RGL
CHECKED	DLR
DATE	6/26/2025
SCALE	1" = 20'
PROJECT	19371

SHEET C-100

\\ST-FS01\data\Projects\19000\19371\DWG\Design\19371 AMENDMENT 2025 PLAN SET\19371S.dwg - 7/2/2025 11:34 AM - RICHARD G. LEWIS

19371S.dwg - TAB:C-100 SITE PLAN - STREET LEVEL

PEARL ST.

LOT 2 CONDO

CUMBERLAND AVE.

5.61%

58 SPACES

PARKING

59' - 0"

LOADING

59' - 0"

61' - 0"

64' - 6"

UP

BIKE PARKING

RETAIL

62' - 0"

4.91%

STORAGE

CONGRESS ST.

LOT 2 (CONDO)

LOT 1 (HOTEL)

6.91%

RAMP UP

62' - 0"

6.91%

THRU-WAY

DROP-OFF / VALET

BOH

RESTROOMS

LOBBY

MEETING

KITCHEN

RETAIL

63' - 0"

LOT 1 (HOTEL)

MYRTLE ST.

6/26/2025 3:57:08 PM

cbt

GROUND LEVEL PLAN

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

06/26/2025 1" = 20'-0"

0' 10' 20' 40'

N

PEARL ST.

LOT 2 CONDO

CUMBERLAND AVE.

122' - 0"

108' - 9"

UP

5.61%

6.91%

6.91%

UP

9'-0"

15'-0"

CONGRESS ST.

LOT 2 (CONDO)

LOT 1 (HOTEL)

LOT 1 (HOTEL)

220' - 7"

MYRTLE ST.

6/26/2025 3:37:10 PM

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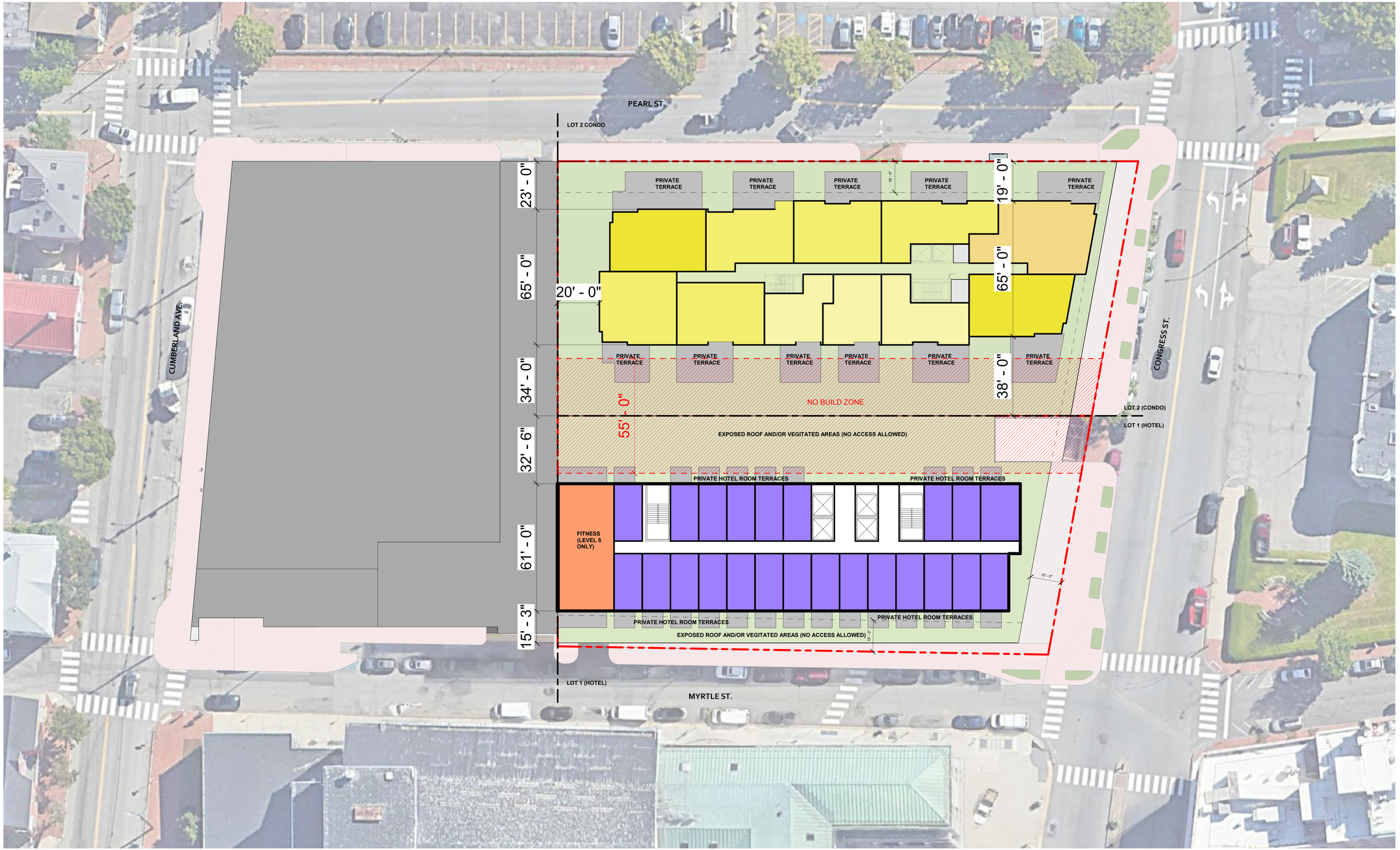
PODIUM LEVEL PLANS

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

06/26/2025 1" = 20'-0"

0' 10' 20' 40'

N



cbt

LOWER TOWER PLANS (BELOW 125')

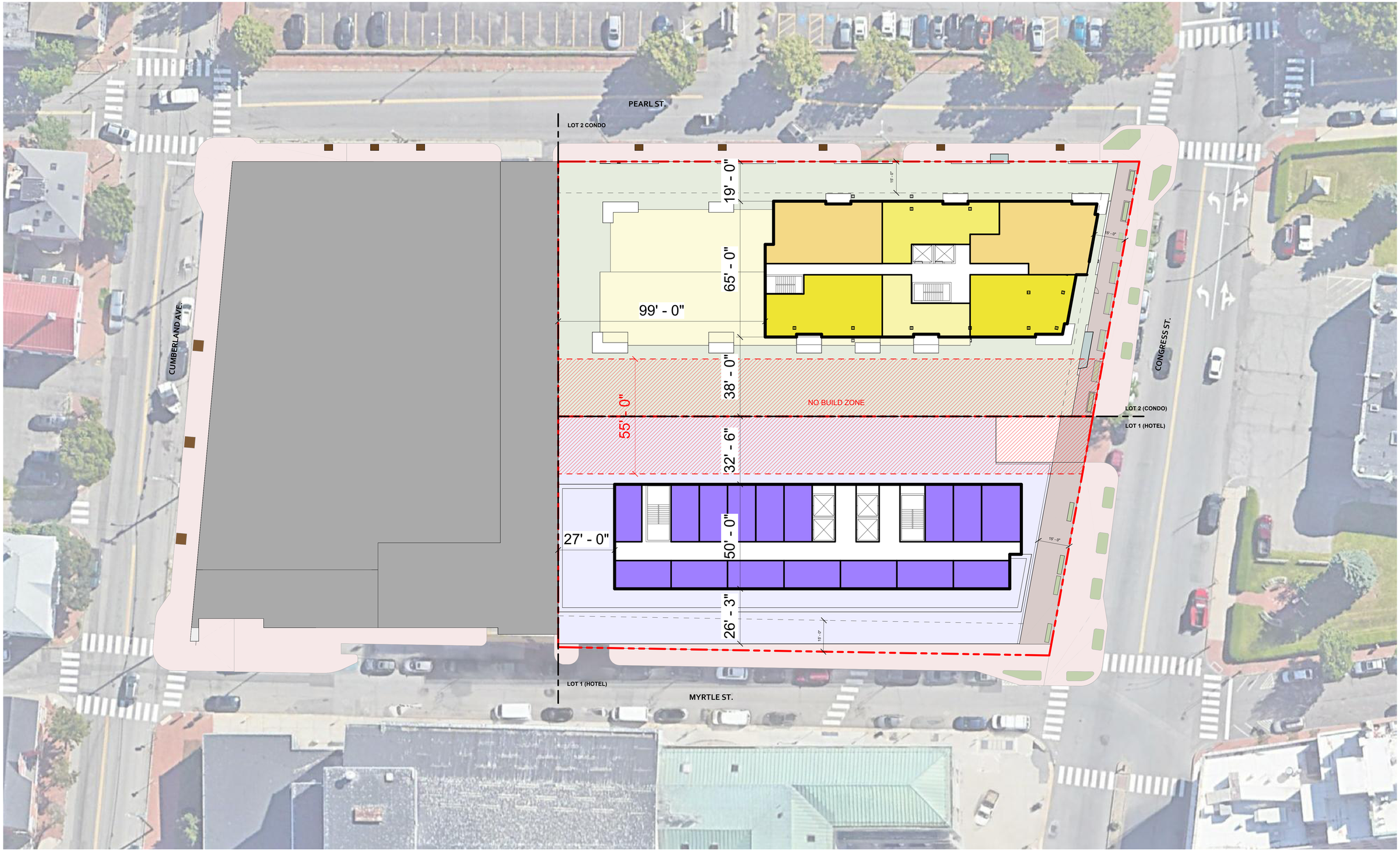
HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

06/26/2025 1" = 20'-0"

0' 10' 20' 40'

N

6/26/2025 3:57:11 PM



cbt

UPPER TOWER PLANS (ABOVE 125')

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

06/26/2025 1" = 20'-0"

0' 10' 20' 40'

N

6/26/2025 3:57:12 PM



cbt

PENTHOUSE LEVEL - PLAN

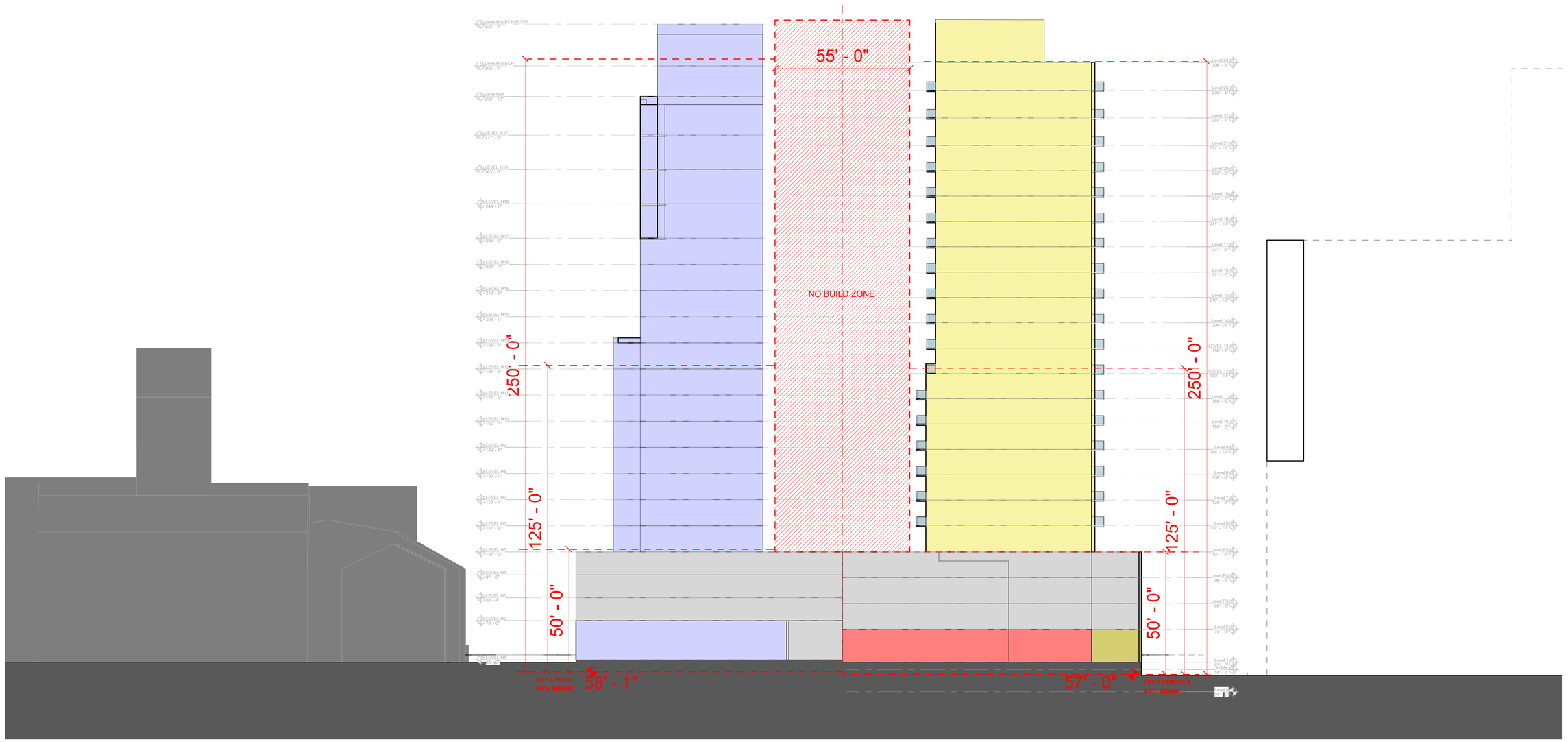
HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

06/26/2025 1" = 20'-0"

0' 10' 20' 40'

N

6/26/2025 3:57:13 PM



cbt

BUILDING SECTIONS

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101

06/26/2025 1" = 20'-0"

0' 10' 20' 40'

6/26/2025 3:57:14 PM

MAX HEIGHT OF CAP
ABOVE 250' = 40'

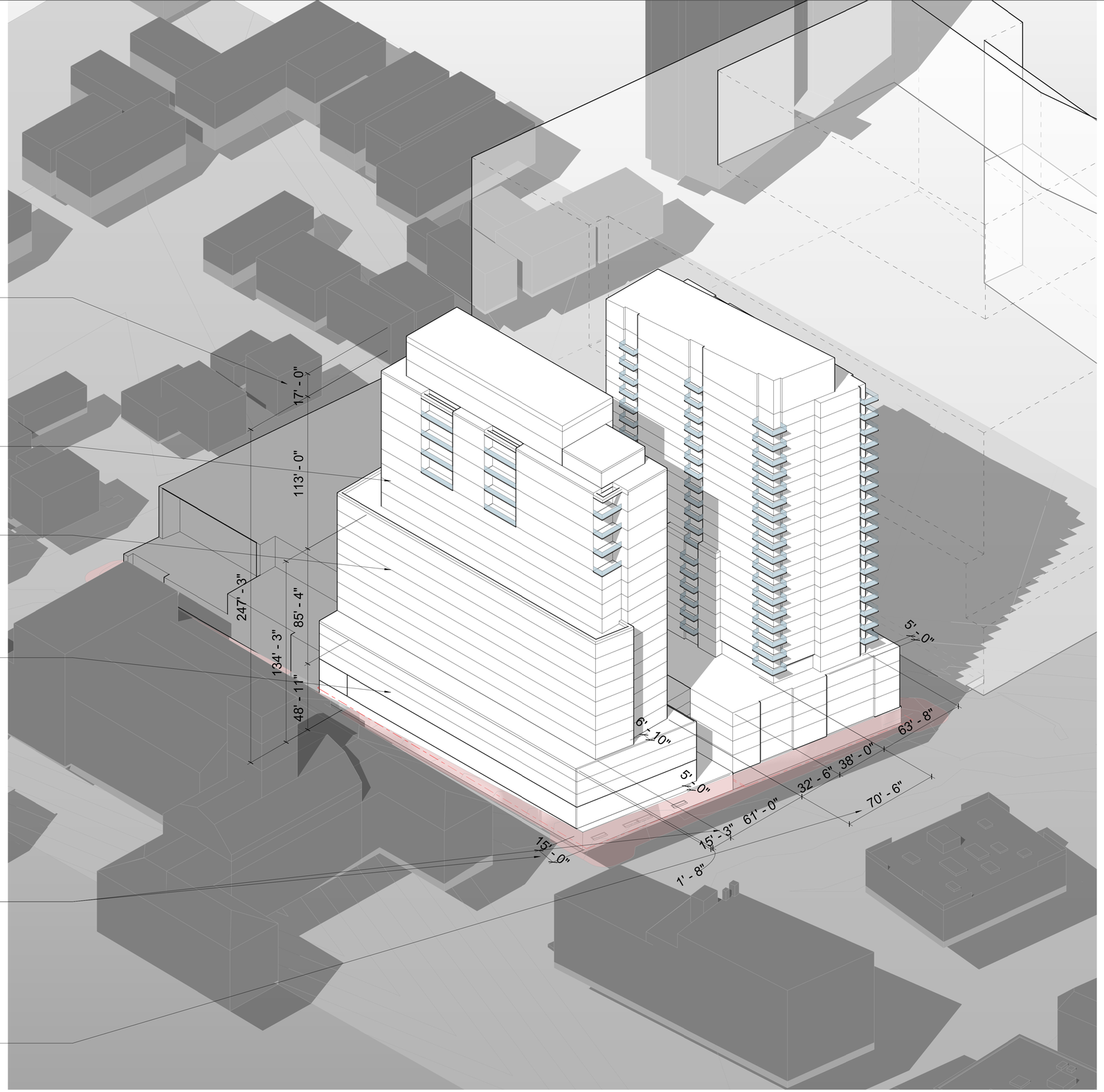
TYPICAL TOWER FLOORPLATE
(ABOVE 125') = ~9,990 GSF

TYPICAL TOWER FLOORPLATE
(BELOW 125') = ~13,600 GSF

TYPICAL PODIUM FLOORPLATE
= ~24,500 GSF

MIN STEPBACK FROM STREET
ABOVE 50' = 15' ALONG
CONGRESS AND MYRTLE

MIN SEPERATION OF TOWERS
ABOVE 125' = 70'



6/26/2025 3:37:16 PM

cbt

ZONING COMPLIANCE (NORTH VIEW)

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101
06/26/2025

MAX HEIGHT OF CAP
ABOVE 250' = 40'

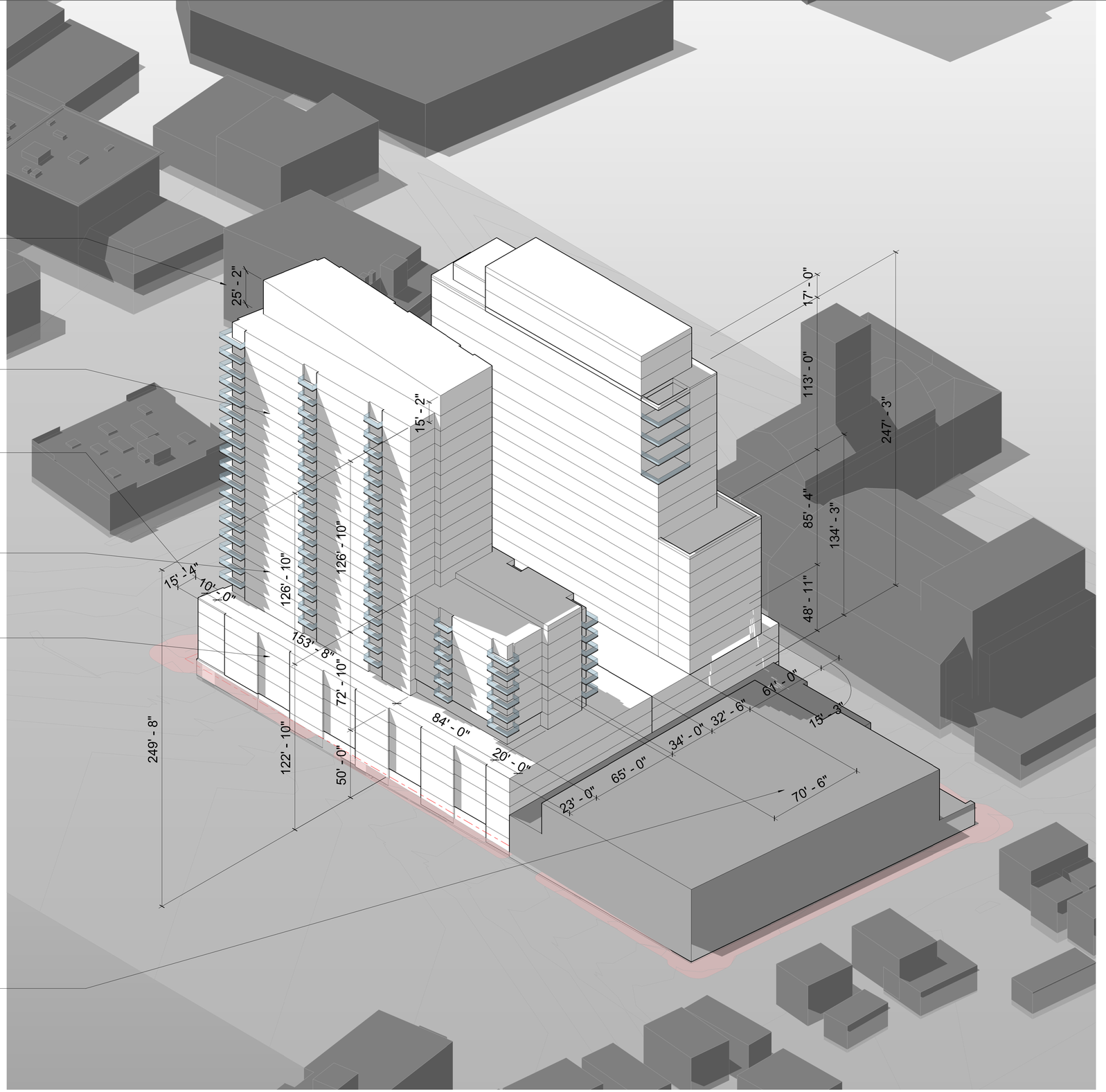
TYPICAL TOWER FLOORPLATE
(ABOVE 125') = ~9,990 GSF

MIN STEPBACK FROM STREET
ABOVE 90' = 15' ALONG PEARL

TYPICAL TOWER FLOORPLATE
(BELOW 125') = ~15,000 GSF

TYPICAL PODIUM FLOORPLATE
= ~31,000 GSF

MIN SEPERATION OF TOWERS
ABOVE 125' = 70'



ZONING COMPLIANCE (SOUTH VIEW)

HERALD SQUARE - 385 CONGRESS STREET PORTLAND, ME 04101
06/26/2025

cbt

6/26/2025 5:57:17 PM

UTILITY PLAN KEY NOTES

DRAINAGE:
- D1 CATCH BASIN (CB)
- D2 DRAIN MANHOLE (DMH)
- D3 STORM DRAIN MAIN (SD)
- D4 STORMWATER TREATMENT SYSTEM

ELECTRICAL:
- E1 6' X 12' SUBMERSIBLE TRANSFORMER
- E2 (3) 5" PVC AND (2) 4" PVC CONDUITS
- E3 REMOVE EXISTING UTILITY POLE
- E4 EXISTING OVERHEAD ELECTRIC LINE TO BE SWAPPED TO UNDERGROUND ELECTRIC
- E5 6' X 12' ELECTRICAL MANHOLE
- E6 INSTALL NEW RISER POLE

GAS:
- G1 TAP EXISTING NATURAL GAS MAIN
- G2 NEW NATURAL GAS SERVICE
- G3 NATURAL GAS METER

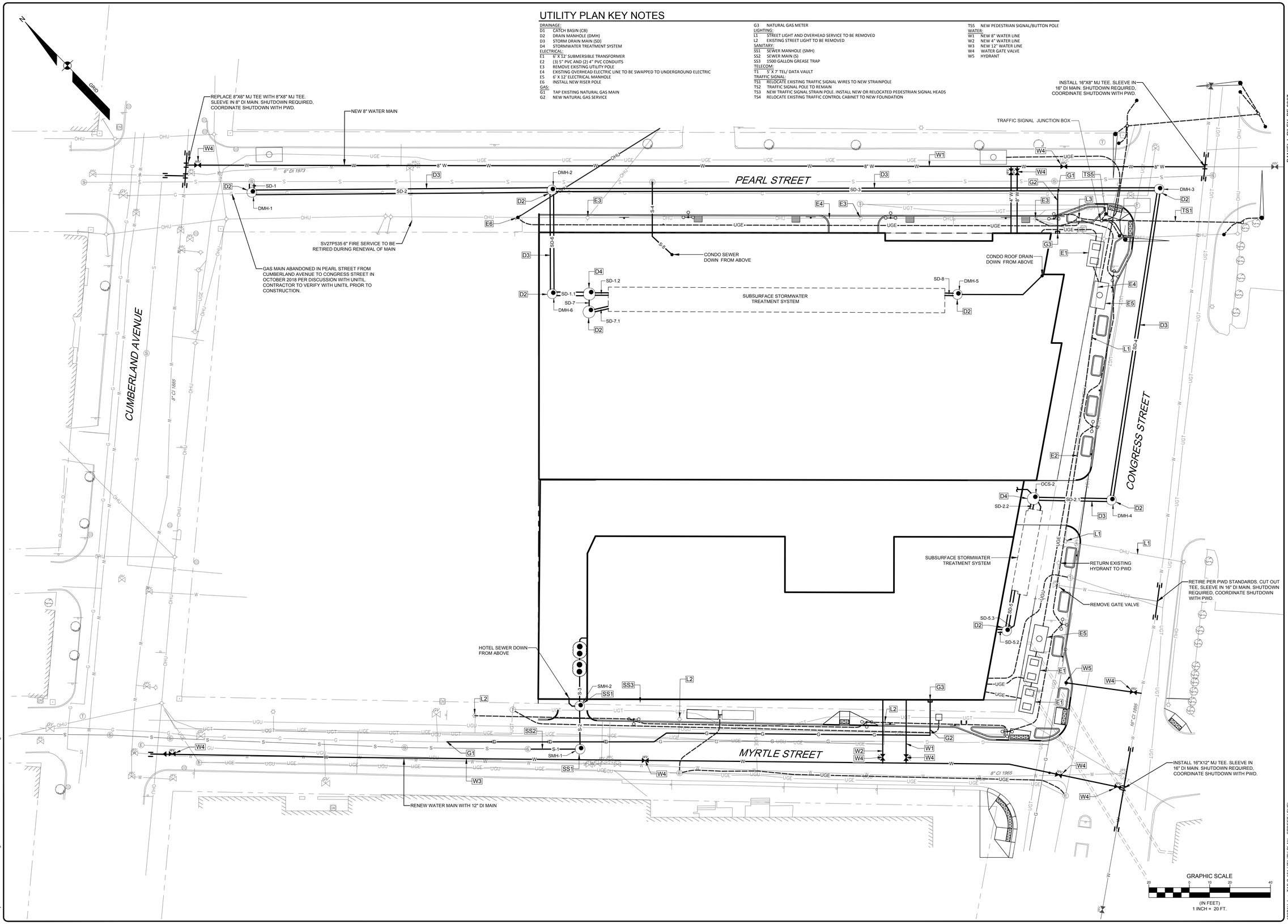
LIGHTING:
- L1 STREET LIGHT AND OVERHEAD SERVICE TO BE REMOVED
- L2 EXISTING STREET LIGHT TO BE REMOVED

SANITARY:
- SS1 SEWER MANHOLE (SMH)
- SS2 SEWER MAIN (S)
- SS3 1500 GALLON GREASE TRAP

TELECOM:
- T1 5' X 7' TEL/ DATA VAULT

TRAFFIC SIGNAL:
- TS1 RELOCATE EXISTING TRAFFIC SIGNAL WIRES TO NEW STRAINPOLE
- TS2 TRAFFIC SIGNAL POLE TO REMAIN
- TS3 NEW TRAFFIC SIGNAL STRAIN POLE. INSTALL NEW OR RELOCATED PEDESTRIAN SIGNAL HEADS
- TS4 RELOCATE EXISTING TRAFFIC CONTROL CABINET TO NEW FOUNDATION
- TS5 NEW PEDESTRIAN SIGNAL/BUTTON POLE

WATER:
- W1 NEW 8" WATER LINE
- W2 NEW 4" WATER LINE
- W3 NEW 12" WATER LINE
- W4 WATER GATE VALVE
- W5 HYDRANT



NOT FOR CONSTRUCTION

DANIEL L RILEY PE 9967

STATE OF MAINE — DANIEL L RILEY No. 9967 — PROFESSIONAL ENGINEER

06/26/2025

REV	BY	DATE	STATUS
A	DLR	6/XX/2025	MASTER PLAN

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SEBAGOTECHNICS.COM
75 John Roberts Road, Suite A
South Portland, ME 04106
207-200-2100

South Portland, Bridgton, Sanford and Bath

UTILITY PLAN - STREET LEVEL

OF:

AMENDMENT 2025 SET

CONGRESS STREET AND PEARL STREET
PORTLAND, MAINE

FOR:

385 CONGRESS STREET, LLC.
2750 TRANSIT ROAD
WEST SENECA, NY 14224

DESIGNED	DJS
DRAWN	RGL
CHECKED	DLR
DATE	6/28/2025
SCALE	1" = 20'
PROJECT	19371

SHEET C-101

F:\Projects\19000\19371\DWG\Design\19371 AMENDMENT 2025 PLAN SET\19371U.dwg - 6/28/2025 6:42 PM - DAN RILEY

19371U.dwg, TAB:C-101 UTILITY PLAN - STREET LEVEL

GENERAL NOTES:

1. THE RECORD OWNER OF THE PARCEL IS 385 CONGRESS LLC BY DEED DATED OCTOBER 20, 2017 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS (CCRD) IN BOOK 34401, PAGE 214.
2. THE PROPERTY IS SHOWN AS LOT 1 ON THE CITY OF PORTLAND TAX MAP 27 AND IS LOCATED IN THE B3 DOWNTOWN BUSINESS DISTRICT.
3. SPACE AND BULK CRITERIA FOR THE B3 DISTRICT ARE AS FOLLOWS:

MINIMUM LOT SIZE:	N/A
MINIMUM STREET FRONTAGE:	15 FEET
MINIMUM FRONT YARD:	N/A
MINIMUM SIDE YARD:	N/A
MINIMUM REAR YARD:	N/A
MAXIMUM BUILDING HEIGHT:	150 FEET
MAXIMUM LOT COVERAGE:	100%

* SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.

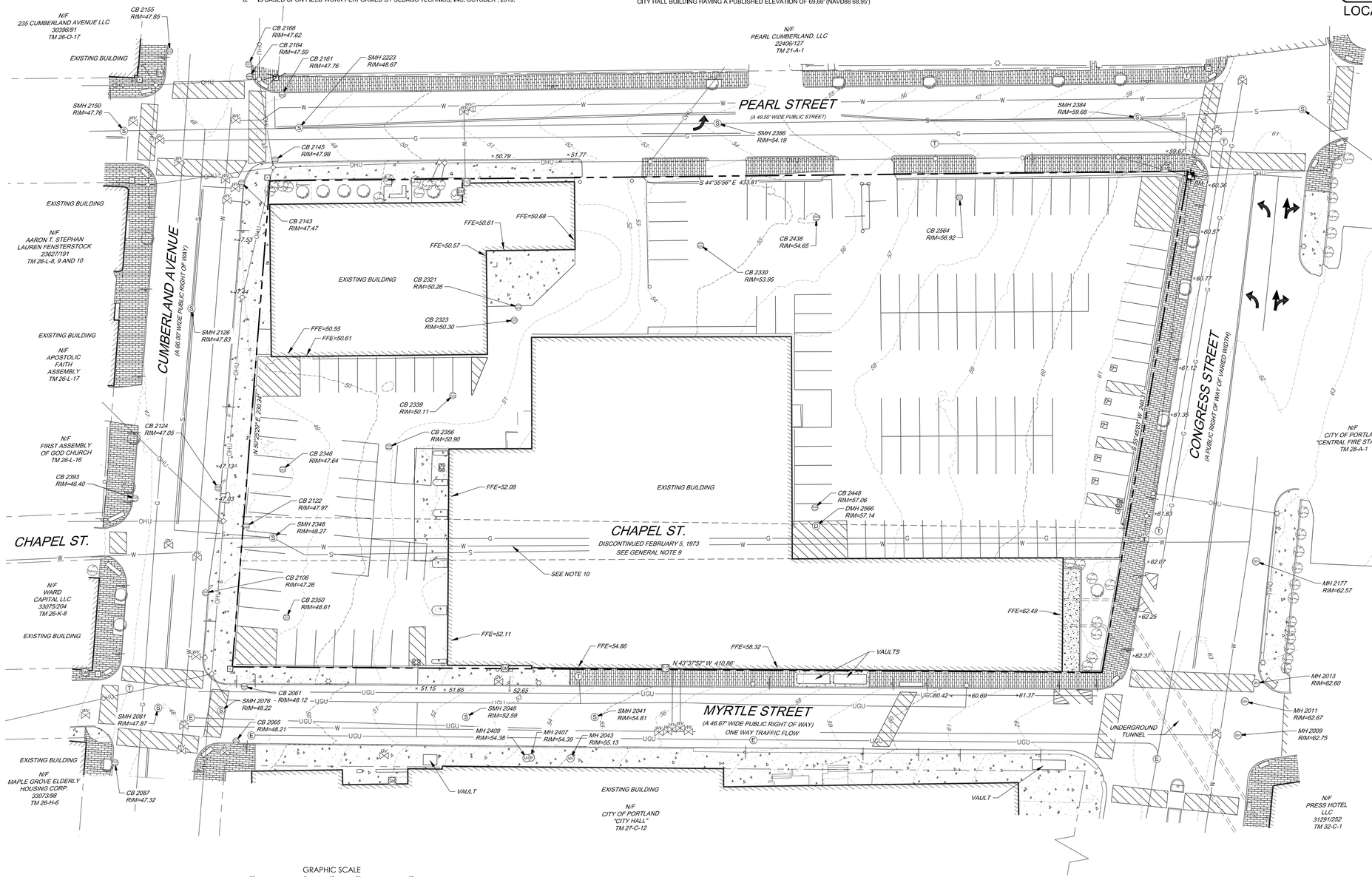
4. TOTAL AREA OF PARCEL IS APPROXIMATELY 2.26 ACRES.
5. THE BOUNDARY IS BASED ON PLAN REFERENCE 6F. TOPOGRAPHIC INFORMATION SHOWN HEREON. SEBAGO TECHNICS INC. UPDATED RECORDS RESEARCH FROM 2009 TO DATE REGARDING THE BOUNDARY INFORMATION.
6. IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHNICS, INC. OCTOBER , 2019.
7. PLAN REFERENCES:
   - A. PLAN OF CITY BUILDING LOT, PORTLAND, ME, DATED AUGUST 1908 BY THE CITY OF PORTLAND ENGINEER, AND ON FILE WITH THE PORTLAND DEPARTMENT OF PUBLIC WORKS AS 159/5.
   - B. PORTLAND DEPARTMENT OF PUBLIC WORKS STREET WORKSHEETS AND BLUESHEETS FOR STREETS BOUNDING THE LOCUS PARCEL AND ON FILE WITH THE PORTLAND DEPARTMENT OF PUBLIC WORKS AS 159/5.
   - C. PLAN OF PROPERTY IN PORTLAND, ME. MADE FOR GUY GANNETT PUBLISHING CO. BY H.I. & E.C. JORDAN - SURVEYORS, DATED JULY 1964 AND ON FILE WITH THE PORTLAND DEPARTMENT OF PUBLIC WORKS AS 663/2.
   - D. NEW MECHANICAL BUILDING, GUY GANNETT PUBLISHING COMPANY, PORTLAND, ME, TUNNEL PLAN AND SECTIONS BY LOCKWOOD, GREENE ENGINEERS, INC, REVISED THROUGH MAY 12, 1965 AND ON FILE WITH THE PORTLAND DEPARTMENT OF PUBLIC WORKS AS 203/2.
   - E. PLAN OF PROPERTY IN PORTLAND, ME. MADE FOR GUY GANNETT PUBLISHING PUBLISHING CO. BY H.I. & E.C. JORDAN - SURVEYORS, REVISED THROUGH FEBRUARY 6, 1973 AND ON FILE WITH OWEN HASKELL INC.
   - F. ALTA/ACSM LAND TITLE SURVEY OF CONGRESS STREET SITE, 385 CONGRESS STREET, PORTLAND, ME DATED JULY 1, 2009 BY SEBAGO TECHNICS INC, PROJECT NUMBER 09235.
8. PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83, ELEVATIONS DEPICTED HEREON ARE NGVD29 PER CITY STANDARDS AS VERIFIED BY A UNITED STATES COAST & GEODETIC SURVEY BRASS DISK LOCATED IN A GRANITE BLOCK OF THE CITY HALL BUILDING HAVING A PUBLISHED ELEVATION OF 69.66' (NAVD88 68.95')
9. THE CITY OF PORTLAND DISCONTINUED THAT PORTION OF CHAPEL STREET ''RUNNING FROM CONGRESS STREET TO CUMBERLAND STREET'' BY ORDER OF CITY COUNCIL ON FEBRUARY 5, 1973 AND RECORDED AT THE CITY OF PORTLAND RECORDS IN VOLUME 89, PAGE 61, PUBLIC AND PRIVATE RIGHTS MAY EXIST FOR PUBLIC HIGHWAY AND UTILITIES THAT STILL LIE WITHIN THE LIMITS OF CHAPEL STREET. SEBAGO TECHNICS, INC. SUGGEST LEGAL COUNSEL BE SOUGHT TO CLARIFY THE INTEREST OF OTHERS IN THESE RIGHTS.
10. PURSUANT TO A CONVERSATION BETWEEN SEBAGO TECHNICS, INC. AND THE PORTLAND WATER DISTRICT, THE WATER LINE SHOWN AS BEING LOCATED IN THE DISCONTINUED PORTION OF CHAPEL STREET HAS BEEN REMOVED AND NO LONGER EXISTS.
11. UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD CI/ASCE 38-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
12. THE LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR PORTLAND, MAINE, CUMBERLAND COUNTY, COMMUNITY-PANEL NUMBER 230051 0013 B, HAVING AN EFFECTIVE DATE OF JULY 17 1986. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE C, AREAS OF AREAS OF MINIMAL FLOODING.
13. BENCHMARK:

BM-1 EASTERLY BOLT AT BASE OF UTILITY POLE ELEVATION: 61.55 (NGVD29)



LOCATION MAP N.T.S.

JOSHUA R. EON, PLS 2558



LEGEND

EXISTING

- PROPERTY LINE/R.O.W.
- ABUTTER LINE/R.O.W.
- DEED LINE/R.O.W.
- N/F NOW OR FORMERLY
- BUILDING
- DECK/STEPS/ OVERHANG
- EDGE PAVEMENT
- EDGE CONCRETE
- PAVEMENT PAINT
- CURB LINE
- 120 118 CONTOURS
- DECIDUOUS TREE
- SHRUB
- BOLLARD
- SIGN
- G GAS
- GAS GATE VALVE
- GAS METER
- W WATER
- WATER GATE VALVE
- HYDRANT
- S SANITARY SEWER
- SANITARY MANHOLE
- UNKNOWN MANHOLE
- D DRAINAGE MANHOLE
- CATCH BASIN
- OHU OVERHEAD UTILITY
- UGU UNDERGROUND UTILITY
- E ELECTRICAL MANHOLE
- ELECTRIC METER
- COMMUNICATIONS BOX
- T TELEPHONE MANHOLE
- LIGHT POLE
- UTILITY POLE
- GUY WIRE
- BM-1 BENCHMARK
- FIRE DEPARTMENT HOOKUP
- GRANITE MONUMENT

GRAPHIC SCALE

25 0 12 25 50

(IN FEET)
1 INCH = 25 FT.

PROJECT BENCHMARK
USC&G BRASS DISK SET IN GRANITE STEP.
DESIGNATION: TIDAL 38 STA 84
STAMPED ''1919/38''
NAVD 88 ELEVATION = 68.95'
NGVD29 ELEVATION = 69.66'

SURVEYOR'S STATEMENT

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

JOSHUA R. EON, PLS 2558 12/16/2019

REV:	BY:	DATE:	STATUS:
A.	JRE	12/16/2019	ISSUED TO CLIENT FOR REVIEW
B.	JRE	1/09/2020	CORRECTED SPACE AND BULK CRITERIA PER PM REQUEST
C.	JRE	1/20/2020	MINOR DRAFTING REVISIONS PER PM REQUEST
D.	JRE	2/7/2020	MINOR DRAFTING REVISIONS PER PM REQUEST, ADDED NOTE 9
E.	JRE	2/10/2020	ADDED NOTE 10
F.	JRE	2/20/2020	ADDED STRUCTURE INFO AND MINOR DRAFTING REVISIONS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC., ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

EXISTING CONDITIONS PLAN
OF:
CONGRESS / PEARL BLOCK
CONGRESS STREET AND PEARL STREET
PORTLAND, MAINE 04101
FOR RECORD OWNER:
385 CONGRESS STREET, LLC.
2730 TRANSIT ROAD
WEST SENECA, NY 14224

DESIGNED	-
DRAWN	RHS/TSL
CHECKED	JRE/CDM
DATE	12/16/19
SCALE	1" = 25'
PROJECT	19371

SHEET 1 OF 2

19371EC.dwg TABEC1

STRUCTURE TABLE

POINT #	STRUCTURE TYPE	RIM EL.	INV.	INV. EL.	SIZE	TYPE	LOCATION (N=12)	COMMENTS
2041	SMH	54.78	IN	49.43	12	VIT CLAY	3	
			IN	49.49	4	VIT CLAY	6	
			IN	46.39	10	VIT CLAY	4	
			IN	45.56	UNK	UNK	5	FULL OF SEDIMENT
			OUT	45.34	UNK	UNK	11	FULL OF SEDIMENT
			SHELF	45.81				
2048	SMH	52.54	IN	43.04	18	VIT CLAY	5	
			IN	35.36	UNK	UNK	5	
			IN	36.34	10	PVC	3	
			IN	36.39	UNK	STEEL	4	TOP OF PIPE
2061	CBR	48.09	OUT	44.12	8	PVC	7	HOOD
			SUMP	42.12				
2065	CBR	48.25	IN	44.81	8	VIT CLAY	8	
			OUT	44.71	8	UNK	2	
			SUMP	40.71				
2076	SMH	48.19	IN	41.31	12	VIT CLAY	4	
			IN	40.94	8	VIT CLAY	8	
			IN	48.22	0	NONE	NONE	2 INVERTS & SHELF FURTHER THAN 25'
2081	SMH	47.90	IN	38.77	18	VIT CLAY	4	
			IN	24.67	18	VIT CLAY	4	
			OUT	24.67	18	VIT CLAY	10	
			SHELF	25.77				
2106	CBR	47.27	OUT	43.46	UNK	UNK	10	HOOD
			SUMP	40.26				
2124	CBR	47.00	IN	44.75	12	VIT CLAY	6	
			OUT	47.05	0	NONE	NONE	NO OUT VISIBLE
			SUMP	40.05				
2126	SMH	47.80	IN	39.41	12	VIT CLAY	8	
			OUT	39.32	12	VIT CLAY	2	
			SHELF	40.03				
2143	CBR	47.40	OUT	45.27	10	VIT CLAY	3	
			SUMP	45.17				
2145	CBR	47.95	IN	44.48	8	VIT CLAY	9	
			OUT	43.78	12	VIT CLAY	12	
			SUMP	42.98				
2150	MH	47.77	IN	37.46	18	VIT CLAY	4	
			OUT	37.21	18	VIT CLAY	10	
			SHELF	38.11				
2161	CBR	47.77	OUT	43.36	12	UNK	8	
			SUMP	40.76				
2164	CBR	47.54	IN	44.26	8	VIT CLAY	4	
			IN	44.19	8	VIT CLAY	2	
			OUT	43.49	12	UNK	9	
			SUMP	40.09				
2166	CBR	47.59	OUT	44.42	8	VIT CLAY	8	
			SUMP	44.02				
2223	SMH	48.67	IN	39.72	15	VIT CLAY	4	
			OUT	39.62	15	VIT CLAY	10	
			SHELF	40.77				
2386	SMH	54.12	IN	44.67	15	VIT CLAY	4	
			OUT	44.62	15	VIT CLAY	10	
			SHELF	45.69				

JOSHUA R. EON, PLS 2558

STATE OF MAINE
JOSHUA R. EON
2558
PROFESSIONAL LAND SURVEYOR

REV.	BY	DATE	STATUS
E.	JRE	2/10/2020	ADDED NOTE 10
D.	JRE	2/7/2020	MINOR DRAFTING REVISIONS PER PM REQUEST, ADDED NOTE 9
C.	JRE	1/20/2020	MINOR DRAFTING REVISIONS PER PM REQUEST
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OF:
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CHECKED	JRE/CDM
DATE	12/16/19
SCALE	1" = 25'
PROJECT	19371

19371EC.dwg, TAB:EC2

SHEET 2 OF 2

203 Fore Street
Major Site Plan Application
PL-002892-2024, CU-002921-2024
Chatham Lodging Trust, Applicant

Submitted to:	Portland Planning Board	**Prepared By:**	Eric Freeman
Public Hearing Date:	July 8, 2025	**Date:**	June 30, 2025

I. INTRODUCTION

Gorrill Palmer Engineering, on behalf of Chatham Lodging Group, has submitted a Major Site Plan and Conditional Use application for the construction of a five-story, 130-room extended-stay hotel with three ground-floor retail units and associated site improvements at 203 Fore Street, within the India Street Neighborhood.

This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.6. Additionally, this application is required to meet the City of Portland's inclusionary zoning requirements for hotel projects as outlined in Section 18.2 of the City's Land Use Code. As this application predates the adoption of ReCode on November 4, 2024 (effective December 4, 2024), this application has pending proceeding status under the version of the code in effect prior to the adoption of ReCode. For reference, this version of the code is attached as Attachment A.

The Planning and Urban Development Department mailed 176 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the June 26th and 27th editions of the Portland Press Herald



Applicant: Chatham Lodging Group
Applicant Representatives: Gorrill Palmer Engineering, ProCon Architects

II. REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 14.6
Conditional Use	Section 6.5.2
Inclusionary Zoning	Section 18.2.5
ISFBC Design Review Standards	Section 9.1 City of Portland Design Manual (I)
Project Data	
Existing Zoning	India Street Form Based Code (IS-FBC)
Property Size	47,473 SF
Existing Use	Surface Parking Lawn and decorative landscaping
Proposed Development Program	Five-Story, 132-room hotel 3 retail units 108 valet parking spaces

Waver Requests	Applicable Standards
1. Parking Lot and vehicle display lot Landscaping	**Land Use Code Article 14.6.2.C.3** *Developments shall include at least two trees (or one tree and three shrubs) per five parking spaces planted in landscaped islands to screen, shade and break up parking.*
2. Drive Aisle Width.	**Technical Manual Section 1.10.3** *Minimum two-way drive aisle width is 24 feet for right-angle parking. The applicant is requesting a 22-foot drive aisle width.*

III. DECEMBER 10, 2024 Workshop

A workshop was held for this application on December 10, 2024. At this workshop, Board discussion focused primarily on:

- **Parking:**
  The Board requested that the applicant provide additional information regarding anticipated valet operations and parking demand.

  Applicant Response:
  The applicant has since provided a detailed plan for valet operations and anticipated parking needs, which has been reviewed by Staff and peer-review traffic engineers, and which is discussed in detail within this report.

- Site access and operations:
  The Board questioned how the hotel will manage daily operations, including trash removal, laundry, restaurant service, and deliveries.

  Applicant Response:
  The applicant has stated that delivery and service vehicles will be directed to the existing Hampton Inn driveway.

- Mid-block permeability
  The Board requested that the applicant enhance the mid-block pedestrian corridor to enhance its safety and usability.

  Applicant Response:
  The applicant has redesigned the mid-block corridor with additional landscaping and a change of materiality within the valet parking area.

IV. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is located within the India Street neighborhood and is bounded by Middle, India and Fore Streets. This block was formerly the site of Jordan's Meats, which ceased operations in 2009 and subsequently burned down in 2010.The site is currently used as surface-level valet parking for the adjacent Hampton Inn, which was built in 2010 as the first phase of an intended multi-phase redevelopment of this block. The existing valet parking lot is buffered on all sides by landscaped open space. There is an approximately 8-foot change in elevation between Middle Street and Fore Street.

The surrounding India Street neighborhood has an urban context with various building typologies and uses.



Figure 1: The existing site

V. PROPOSED DEVELOPMENT

The proposed development involves the construction of a five-story, 130-room Home2 Suites extended stay hotel, which is geared towards guests staying 10 or more nights, and which includes flexible living and sleeping areas and fully equipped kitchens. The proposed building would have frontages on Middle, India and Fore Streets, with the primary hotel entrance at the corner of India and Fore Streets. Given the change in elevation on the site, the building will have a five-story frontage along Fore Street and a Four-story frontage along Middle Street. The proposed building will have approximately 5,400 square feet of retail space, with two retail units fronting Middle Street and one fronting India Street.

The ground floor of the hotel will feature a lobby and reception area, restaurant space and one retail unit fronting India Street. The primary entrance at the corner of Fore and India Street will feature an outdoor patio area fronting the street corner. The second floor will feature two additional retail spaces fronting Middle Street. The upper floors will consist entirely of hotel guest rooms.

The existing valet parking lot would be expanded from 87 to 108 spaces and reconfigured to serve as parking for both the existing Hampton Inn and the proposed Homee2 Suites. The shared valet parking area would be accessed from an existing curb cut on Fore Street.

The proposed development would feature two publicly accessible landscaped terraces along Middle Street. These terraces would create a partial canopy over the valet parking lot and would serve as a visual buffer between the parking area and Middle Street. These landscaped terraces wouldl be publicly accessible and would feature a mixture of landscaping and programed elements. Additionally, a “pocket park” is proposed along Fore Street to create a landscaped buffer between the proposed building and the existing Hampton Inn.



Figure 2: India Street Elevation

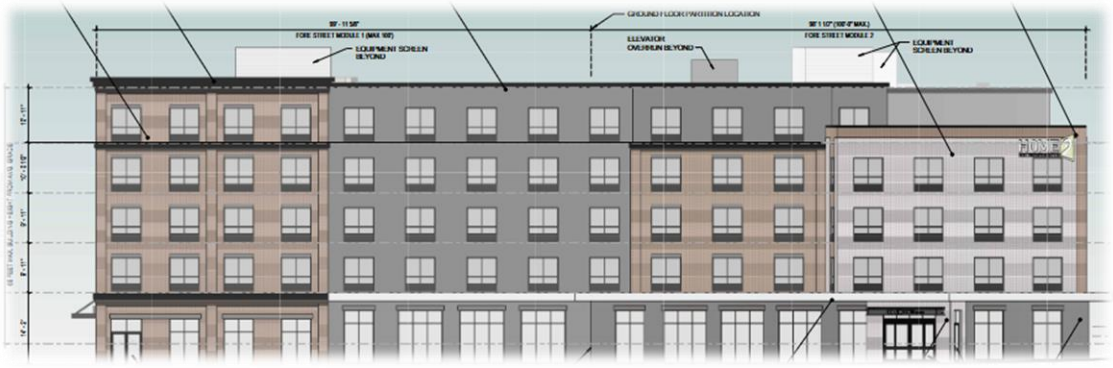


Figure 3: Fore Street Elevation

VI. RIGHT, TITLE, & INTEREST

The applicant has demonstrated right, title and interest to the parcel involved in this application. The subject lot was conveyed together with associated rights and easements to Chatham Lodging trust on December 21, 2012. Conveyance of this parcel is recorded in the Cumberland County Registry of Deeds Book 28022, Page 181.

Full Right, Title and Interest documentation is included as attachment C

VII. FINANCIAL & TECHNICAL CAPACITY

Chatham Lodging Trust is a publicly traded hotel investment firm registered on the New York Stock Exchange. This project will be financed with a portion of a $260 million line of credit.

Full financial capacity documentation is included as attachment D

VIII. TRAFFIC MOVEMEMT PERMIT

The applicant has provided a Traffic Movement Permit (TMP) application. The City has delegated review authority for this traffic movement permit. A traffic scoping meeting was held on March 11, 2025 with the City's traffic reviewer and the applicant team. During the meeting, the intersection of India and Fore Street was identified as an area of concern, given high pedestrian volumes and poor sightlines.

The applicant has since submitted a full Section 7 Traffic Study, including what was prepared as part of the TMP Application. The traffic study was prepared in accordance with state regulations and includes an analysis of pre- and post-development conditions related to peak hour traffic generation, vehicle queuing lengths at intersections, and an evaluation of high crash locations. The study was reviewed by the City's third-party traffic reviewer, Tom Errico, P.E. with T.Y. Lin.

During the initial TMP scoping meeting, City Staff recommended mitigation strategies to improve pedestrian safety at four intersections surrounding the site. Particular emphasis was placed on the need for safety improvements at the intersection of India and Fore Streets.

Recommended pedestrian mitigation and safety improvements as part of the development are included below:

- Construct four curb extensions with relocated ADA-accessible crosswalks at the intersection of Fore and India Streets.
- Remove a total of four on-street parking spaces on Middle and India Streets to improve sightlines to crosswalks.

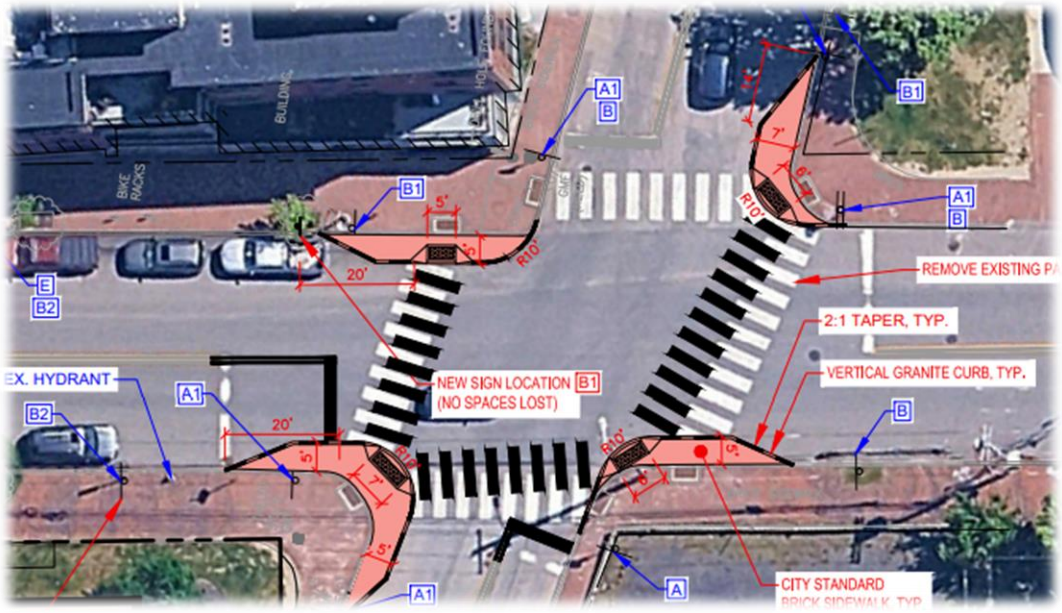


Figure 4: TMP Mitigation at the intersection of India and Fore Streets

Full Traffic Movement Permit documentation is included as attachments S, T and U

IX. ZONING ANALYSIS

The development would be located within the India Street Form-Based Code (IS-FBC) zone. The IS-FBC is different than traditional zoning, placing the primary emphasis on a building's design and its relationship to the street. The intent of the zone is to establish a built-environments that is walkable with a mixture of uses, that preserves and values the existing historic neighborhood fabric. The IS-FBC establishes subdistricts to define how buildings should interact with the existing character of the street they are on. This project fronts both Urban Active (UA) and Urban Transitional (UT) streets, which each promote different levels of use:

- Urban Active (UA)
  The proposed hotel fronts Middle and India Streets, which are defied as Urban Active streets by the ISFBC.

  UA streets should promote moderate-scale and mixed-use buildings with active ground floor spaces. Building frontages should be transparent and directly engage the street. Buildings should be smaller in scale.

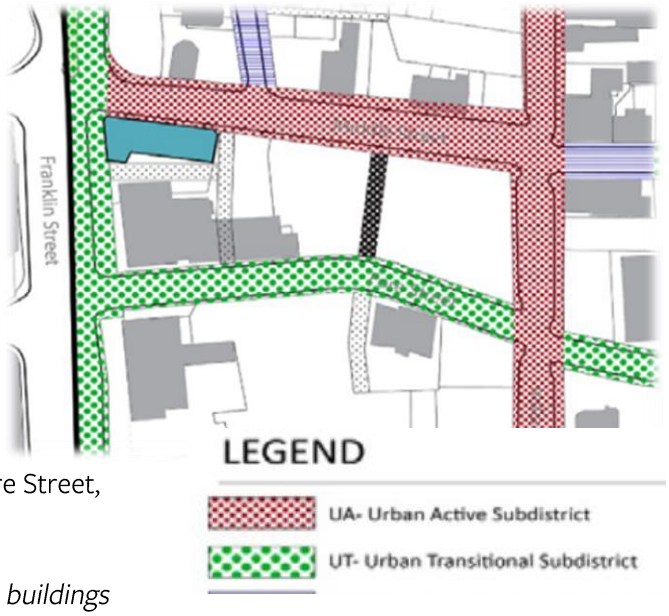


Figure 5: ISFBC Subdistricts

- Urban Transitional (UT)
  The proposed building's primary entrance is on Fore Street, which is defined as an Urban Transitional Street.

  UT streets should feature higher density mixed-use buildings with larger footprints and a wider variety of uses. The streetscape may be less active than the UA subdistrict, with wider sidewalks and street trees to help break the massing of larger buildings.

- Mid-Block Permeability
  This parcel is required to provide mid-block permeability as outlined in Section 9.1.6 of the Land Use Code. Mid-Block permeability is defied as:

  " A continuous, open-air corridor at least 20 feet in width that connects two streets or public rights-of-way and physically provides a break in the street wall. The corridor must be unobstructed and open to the sky for the majority of its length"

  The applicant provides mid-block permeability through the site with a pedestrian walkway connecting Middle Street to Fore Street. This walkway, which would be flush through the valet parking area and delineated by brick pavers, would cut through the middle of the valet parking lot and connect to Middle Street via a stairwell between the two landscaped terraces.

	Required	Proposed
Lot Size	None	15,224 SF
Maximum Height (ft)	50 ft. (UA) 65 ft. (UT)	50 ft. (UA) 58 ft. (UT)
Front Yard Maximum	5 ft (UA) 10 ft. (UT)	4 ft
Yard Right Maximum	5 ft. (Fore Street)	<2 feet.
Side Street Setback	35 feet.	35 feet.
Side Setback	5 ft	5 ft
Stepback	15 ft.	15 ft.
Lot Coverage	90%	38%

- Inclusionary Zoning

As outlined in Section 18.2.5 of the City of Portland's Land Use Code, this application is subject to Inclusionary Zoning standards. The applicant intends to pay a fee-in-lieu into the City's Jill C. Duson Housing Trust Fund for the 130 guest rooms. The current in-lieu fee amounts to $4,831 per hotel room, and the total required contribution would be $628,030, which would be required to be paid into the Housing Trust Fund prior to the issuance of the Certificate of Occupancy. This has been drafted as a condition of approval.

Conditional Use Standards (Section 6.4)

A. The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone.

The applicant has demonstrated that the proposed development will not create significant impact on surrounding streets and has proposed off-site mitigation to improve pedestrian safety within the neighborhood.

Staff Finding: Met

B. The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter.

This application is a permitted use within the IS-FBC zone and has demonstrated compliance with all relevant site plan standards.

Staff Finding: Met

C. *The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.*

This application meets all relevant dimensional standards within the IS-FBC zone. This application has also demonstrated that there will be minimal impact to surrounding streets and properties associated with the day-to-day operations of the hotel.

Staff Finding: Met.

C. SITE PLAN STANDARDS (Section 14.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's Site Plan Ordinance, Section 14.6. Staff comments are below.

1. Transportation Standards (Section 14.6.1

A. Impact on surrounding street systems

This application proposes to utilize three existing hourly parking spaces on Fore Street for valet pick-up and drop-off. Valet drivers will deliver the vehicles to either the on-site valet parking lot or

nearby parking lots. Three on-street parking spaces on the northern side of Fore Street would be converted to 15-minute loading areas for hotel valet drop-off. Valet drivers would then bring guest vehicles to either the on-site valet parking lot or off-site spaces. Upon check out guests would pick up their vehicles in the existing off-street Hampton Inn valet areas.

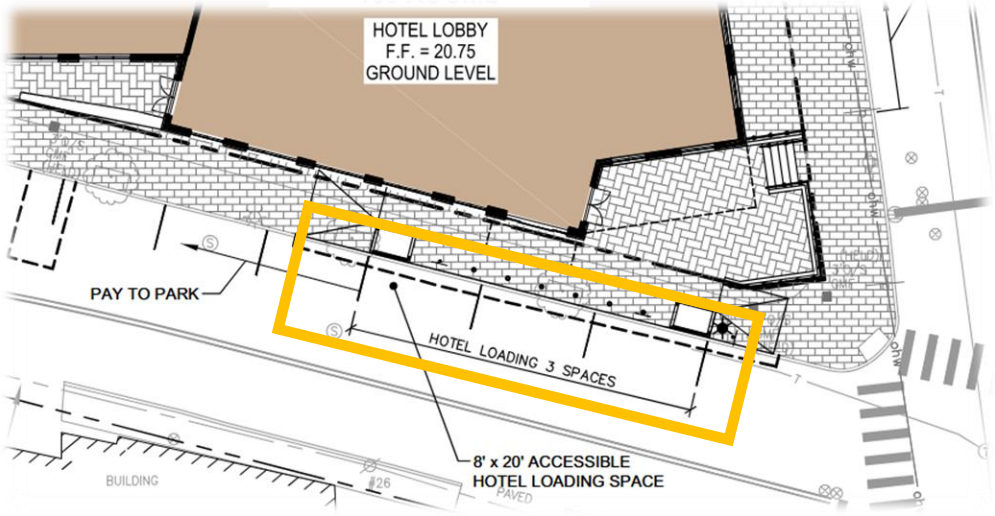


Figure 6: Parking spaces to be designated as valet drop-off

Existing traffic patterns on surrounding streets would minimally change as a result of the proposed intersection realignment, at the intersection of Fore Street and India Street. In response to feedback from City staff, the curbs at all four corners of this intersection would be extended out further into the right-of-way, in order to shorten crossing distances, and improve visibility for both vehicles and pedestrians. This improvement would also adjust the location of vehicle stop bars at the intersection, which as noted, should have the effect of improving functionality and safety in this location.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

B. Access and circulation

The proposed building would have multiple entry points for different uses. The primary entrance to the hotel will be located at the corner of India and Fore Streets. Retail storefronts would be accessed from Middle and India Streets.

A mid-block pedestrian connection would be provided to enable direct access from Fore Street to Middle Street. This pedestrian connection crosses the valet parking lot and ascends to the Middle Street elevation with a stairwell.
Sidewalks along Middle, India and Fore Street would be reconstructed with brick pavers and granite curbing.

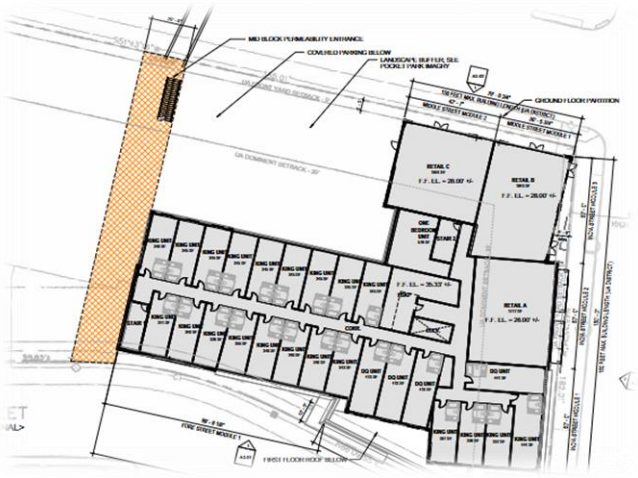


Figure 7: The 20 ft. mid-block corridor (orange) in relation to the proposed building

The applicant is requesting a waiver of technical manual section 1.10.3 to allow a drive aisle width of 22.5 feet within the valet parking area. Staff are supportive of the waiver request on the basis of this being a surface parking lot primarily limited to valet use that minimally deviates from the City's standard.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met. .

C. Public transit access

This site is directly serviced by METRO's Route 8 and Husky Line. The site is also proximate to routes 1, 7, 9A/B and Breez. As there is an existing transit shelter within a quarter of a mile of the development, the applicant is not required to construct a new shelter as part of this application.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be not applicable.

D. Parking

Based on the site's proximity to fixed-route transit, the applicant is not required to provide any off-street parking. The applicant intends to expand and reconfigure the existing 87-space valet parking area, which currently serves the Hampton Inn, which has a total of 125 guest rooms and 12 residential units. This application is proposing an expansion of the valet parking area from 87 to 108 spaces. These spaces would serve as valet parking for both the 125-room Hampton Inn and the proposed 130-room Home2 Suites.

The primary entrance to the shared valet parking lot would remain in its current location, which runs beneath a portion of the Hampton Inn building and connects through to the off-street surface parking lot. A total of 12 existing parking spaces, which serve the residential units located within the Hampton Inn building, would remain under this proposal.

85 off-site valet parking spaces in nearby surface parking lots during peak times. Proposed off-site valet parking areas are shown in figure 7 below. The applicant has also contracted with the owners of 100 Middle Street to provide approximately 240 enclosed parking spaces for use on weekends only. The applicant anticipates needing approximately 35 to 40 off-site parking spaces during peak times.



Figure 8: Off-site valet parking

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

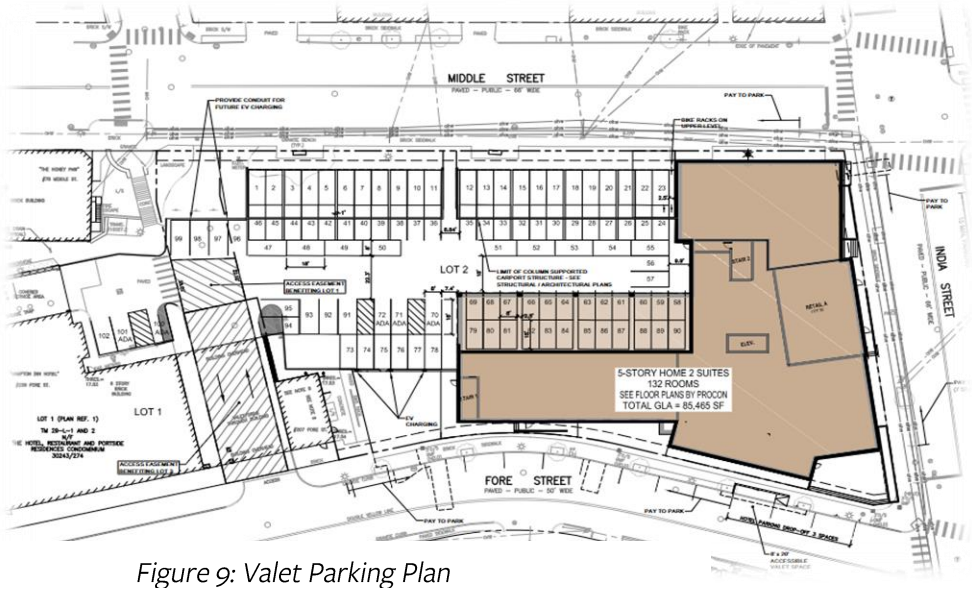


Figure 9: Valet Parking Plan

E. Transportation demand management (TDM)

The applicant has provided a TDM Plan, developed in accordance with the City's requirements as listed within Section 2 of the Technical Manual. TDM strategies outlined by the applicant include:

- Guest shuttle service to the Jetport, Transportation Center and destinations off-peninsula

- Incentive programs for staff to utilize rideshare or transit

The full TDM plan is included as attachment I. The City's Transportation Program Manager, who administers the City's TDM program, has reviewed the TDM plan against this site plan standard, and the TDM specific requirements listed in the Technical Manual, and has determined that the plan as provided meets City requirements.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

This parcel is an urban infill lot which was previously fully built over. There are no significant natural features on this site, as defined in the City's Land Use Code, which would be required to be preserved.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be not applicable.

B. Landscape preservation

The existing site consists primarily of surface parking and grassed open space with limited site landscaping, which were planted at the time of the Hampton Inn's construction in 2010. The UA and UT subdistricts of the IS-FBC zone do not require setbacks and thus this application is not required to maintain any existing vegetation on private property.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be not applicable.

C. Site landscaping and buffers

The site would feature a new "pocket park" along Fore Street to create a green buffer between the proposed hotel and the existing Hampton Inn. This pocket park would also serve as an entryway to the mid-block pedestrian connection through the site to Middle Street, and would feature a mixture of perennial plantings, bushes and trees.

Sixteen new street trees are proposed, with six on Fore Street, three on India Street and seven on Middle Street. One existing street tree at the corner of India and Fore Street would be preserved. The proposed pocket park would feature four canopy trees, two of which are within 20 feet of the public right-of-way. The proposed planting plan meets the requirement to provide one street tree per 25-35 feet of property frontage.

Two publicly accessible landscaped terraces would be created along Middle Street. These terraces would create a partial canopy over the below-grade valet parking area and would create a new public open space. These terraces would feature a mixture of open grassed surface, street trees, seating, and perennial plantings. The terraces would feature a decorative wall on the interior edge of the terrace to create a visual separation between the public space and the valet parking area below. The two terraces would be intersected by a publicly accessible stairwell connecting Middle

Street to Fore Street via a mid-block pedestrian walkway. This mid-block walkway will extend through the valet parking area at grade and would be differentiated with brick pavers.

The applicant has requested a waiver of Section 14.6.2.C.3 which requires landscaped planting islands within parking areas. Given the confined nature of the site and it use as a valet parking area, staff are supportive of the waiver request, subject to the applicant contributing an equivalent fee in lieu of the required number of parking lot landscape trees. Staff are excluding the parking spaces that are entirely covered, and are basing this contribution of the 48 parking spaces which are partially or entirely uncovered. The City requires that two parking lot landscape trees be provided for every five surface parking spaces, and therefore the applicant is required to provide the equivalent of 19 trees as a fee in lieu. The fee per required tree totals $400, and the required contribution amount would therefore be $7,600. This has been drafted as a condition of approval for the Board's consideration.
The applicant has provided a landscaping plan included as attachment 15

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met subject to the draft condition of approval.

D. Water quality/storm water management/erosion control
The project results in the creation of more than 1,000 square feet of new impervious surface and is required to provide for stormwater management in accordance with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. The applicant has submitted a full stormwater management plan demonstrating compliance with both Section 5 of the Technical manual and Maine DEP chapter 500 standards.

Stormwater Treatment will be accomplished using a "Focal Point" subsurface filtration system which will retain and treat runoff from the flat-roof building. Additional impervious surface will be treated with an R-tank chamber located underneath the valet parking lot. This system will provide storage and treatment for stormwater before discharging into the Fore Street catch basin.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

3. Public Infrastructure and Community Safety Standards (Section 14.6.3)

A. Consistency with City Master Plans
The India Street Form Based Code is intended to promote a mixed-use urban fabric that enhances the neighborhoods historic character. The IS-FBC promotes the creation and preservation of an active and human-scaled public realm supporting a variety of commercial and residential uses.

Finding of Fact: The proposed project is consistent with the designated zoning, which has been found to be in conformance with the City's comprehensive plan and therefore this standard is determined to be met.

B. Availability and capacity of public utilities
The proposed building would be served by existing electrical, water and sewer utilities. The building would be served by a 3-inch domestic service line and an 8-inch fire service line, connecting to Fore Street. Wastewater would discharge into the separated sewer system on Fore Street.

Utility providers have been contacted for their ability to serve the proposed project. The applicant has provided ability to serve letters from Central Maine Power and Portland Water district. Additionally, a wastewater capacity authorization has also been provided from the Department of Public Works.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact
The proposed building meets all height and dimensional standards of the ISFBC and is similar in height and scale to the existing Hampton Inn. There are no massing impacts anticipated with this application. All HVAC equipment is proposed to be located on the roof of the building, and centered away from the building's exterior. This equipment will be screened from public view through the use of architectural screening elements.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

B. Shadows
The proposed building is similar in height and scale to surrounding buildings. No adverse shadow impacts are anticipated with this application.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

C. Snow and ice loading
The location of this building is not anticipated to impact snow and ice clearing on abutting properties or public rights-of-way. The applicant has detailed snow storage locations on included plans.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

D. View corridors
This project would not be located within a protected view corridor.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be not applicable.

E. Historic resources
Although this site is in direct proximity to the India Street Historic District, the IS-FBC does not require Historic Preservation Advisory Review for sites outside of the district's boundary. Furthermore, in the event that historic or archaeologically significant resources are uncovered during construction, the applicant would be required to adhere to the protocols listed under this standard.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

F. Exterior lighting
The proposed development includes full cutoff / dark sky-compliant light fixtures to minimize light spillover. The building would feature architectural and brand-specific signage which would also be illuminated. This signage would be reviewed as part of a sign permit application, which is administratively reviewed by the Department of Permitting & Inspections, against the requirements listed in Article 20 in the Land Use Code.

A full photometric plan has been included as attachment K, which demonstrates that the project meets site lighting requirements related to light trespass, fixture placement, and City requirements around minimum, average, and maximum light levels.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

G. Noise and vibration
HVAC, air handling units, and other necessary equipment would be installed on the roof of the building and would be screened.
Given the location of the proposed building, the placement of HVAC, generators and other equipment, the City does not anticipate adverse impacts related to noise or vibration on abutting properties or publicly accessible spaces.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

H. Signage and wayfinding
No wayfinding signage is proposed as part of this application. The proposed hotel will feature brand-specific signage. Any signage would be reviewed as part of a sign permit application, which would be administratively reviewed by the Department of Permitting & Inspections against the requirements listed in Article 20 in the Land Use Code.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

I. Zoning-related design standards
The project was reviewed against the design standards of the India Street Form Based Code (ISFBC) as defined in Section 14.6.4.I of the Land Use Code. The building is designed to meet the

standards of the IS-FBC and reflects the context of the surrounding neighborhood. The building engages with all three streets surrounding the site and features a "module" design, which breaks the massing of the building to allow it to better reflect the surrounding built environment. The primary entrance of the hotel faces India Street, with retail storefronts creating active streetscapes along India and Middle Streets.

Perspective renderings are included as attachments 25-30 Staff design review materials are included as attachment S3

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

CI. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on August 24, 2024 at 5:30 PM. The in-person meeting was held in a conference room at the Hampton Inn at 209 Fore street. Twenty-nine members of the public were in attendance.

Public comment centered on:

- Building design and massing
- Construction management
- Parking and valet operations
- Waste removal, snow clearing and day-to-day operations
- Open space and water views

A full sign-in sheet and meeting minutes are included as attachment R.

CII. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning & Urban Development Department staff recommends that the Planning Board find that the Major Site Application for 203 Fore Street (PL-002892-2024) meets the applicable standards of Portland's Land Use Code.

CIII. PROPOSED MOTIONS

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing held on July 8, 2025 for application PL-002892-2024 relevant to the Site Plan Standards of the Land Use Code and Portland's Technical and Design Standards, and other regulations, and testimony presented at the Planning Board public hearing:

1. Landscape Preservation

The Planning Board [finds/does not find] based upon the City Staff's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with Section 14.6.2.C.3 of the

City of Portland's Land Use Code, which states that parking lots shall provide landscaped islands within the parking area. That substantial justice and the public interest are secured with the proposed variation in this standard, and that variation is consistent with the intent of the ordinance. The Planning Board [waives/does not waive] Land Use Code Section 14.6.2.C.3 to allow the hotel valet parking lot to be reconstructed without landscaped islands.

2. Drive Aisle Width
The Planning Board [finds/does not find] based upon the Planning Staff's review that extraordinary conditions exist or undue hardship may result from strict compliance with Technical Manual Section 1.10.3. which states that the minimum two-way drive aisle width must be 24 feet, that substantial justice and the public interest are secured with the proposed variation in this standard, and that variation is consistent with the intent of the ordinance. The Planning Board [waives/does not waive] Technical Manual Section 1.10.3 to allow two-way drive aisle widths of 22.5 feet.

B. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on July 8, 2025 for application # PL-002892-2024 at 203 Fore Street relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the site plan standards of the land use code, subject to the following conditions of approval:

PRIOR TO ISSUANCE FOR A BUILDING PERMIT

1. The applicant shall establish a public easement encompassing all publicly accessible areas of the site within the property boundary including sidewalks, open spaces and the mid-block corridor. This easement shall be reviewed and accepted by the Planning Authority and Corporation Council and be recorded in the Cumberland County Registry of Deeds.

2. The applicant shall finalize their stormwater maintenance agreement to the satisfaction of the Department of Public Works and Corporation Council.

PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY

3. The applicant shall provide a financial contribution totaling $7,600 into the City of Portland Tree Fund in order to satisfy the City's parking lot landscaping requirement, which would require a total of 19 trees for the 48 off-street surface parking spaces provided.

C. TRAFFIC MOVEMENT PERMIT

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on July 8, 2025 for application PL-002892-2024 at 203 Fore Street relevant to the traffic movement permit regulations; and the testimony presented at the Planning Board public hearing, conclusions and recommendations contained in the Planning Board, the Planning Board [finds/does not find] that that the plan is in conformance with 23 M.R.S. §704-A and Chapter 305 Rules and Regulations pertaining to

Traffic Movement Permits, subject to the following conditions of approval:

1. The applicant shall update their proposed off-site mitigation based upon comments from the Department of Public Works related to the proposed reconfiguration of the intersection at India and Fore Street.

D. CONDITIONAL USE – HOTEL INCLUSIONARY ZONING

On the basis of the application, plans, reports, and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on July 8, 2025 for PL-002892-2024, relevant to Land Use Code Sections 6.5.2 and 18.2.5 and the testimony presented at the Planning Board hearing, the Planning Board finds that the **plan [is/is not]** in conformance with the Conditional Use standards of the Land Use Code subject to the following condition of approval:

1. The applicant shall provide a financial contribution into the Jill C. Duson Housing Trust Fund totaling $628,030 or an amount equivalent to $4,831 per hotel room, if the number of hotel rooms changes post approval.

CIV. PLANNING BOARD DECISION

On the basis of the findings, conclusions and recommendations contained in the Planning Board report for the public hearing on July 8, 2025 related to application PL-002892-2024 for 203 Fore Street, which is attached to the draft approval letter and incorporated therein, the Planning Board **[adopts/does not adopt]** the approval letter as drafted as the Planning Board's decision for application PL-002892-2024, and authorizes the Planning Board Chair to sign the approval letter as drafted.

ATTACHMENTS

Report Attachments

S1. 2024 Land Use Code
S2. 2024 Technical Manual
S3. Design Review – April 10, 2025
S4. Site Plan Worksheet – April 14, 2025
S5. TMP Comments from Tom Errico

Public Comment

PC1. Portside Condo Association

Applicants Submittal

A. Project Description
B. Major Site Plan Checklist
C. Right Title Interest
D. Financial Capacity
E. Technical Capability
F. Zoning Assessment

G, Site Plan Review Standards
H. Easements and Covenants
I. Transportation Demand Management
J. Stormwater Report s
K. Site lighting
L. May 30 2025 Response to Comments
M. May 30 2025 Design Response
N. Unitil Ability to Serve
O. Central Maine Power Ability to Serve
P. Construction Management Plan
Q. Waiver Requests
R. Neighborhood Meeting
S. Traffic Impact Statement
T. Revised Traffic Figures
U. Traffic Movement Permit

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2. Cover Sheet
3. Survey
4. Existing Conditions & Demolition
5. Subdivision Plan
6. General Notes
7. Site Plan
8. Parking Plan
9. Grading and Drainage Plan
10. Overhead Wire Setbacks
11. Utility Plan
12. Utility Details
13. Site Details
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20. Fore Street Elevation
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22. Valet Drive Elevation
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26. Perspective - Fore Street
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28. Perspective - Middle Street

29. Perspective - Site Landscaping
30. Perspective- Site Entrance Details
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32. Second Floor Plan
33. Third & Fourth Floor Plan
34. Fifth Floor Plan
35. Roof Plan
36. Proposed Intersection Changes

Att. S1

CITY OF PORTLAND
LAND USE CODE



5/6/24

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Date	Section(s)	Order No.
11/3/20	Article 3 Definitions Section 18.2.3 Ensuring Workforce Housing	By Referendum
1/4/21	Article 3 Definitions Article 6 Table 6-C	146-20/21
2/22/21	Article 6 Table 6-C	163-20/21
3/15/21	Section 18.3.2 Establishment of the Housing Trust	178-20/21
3/15/21	Article 7 Table 7-E	180-20/21
7/19/21	Article 3 Definitions Article 6 Table 6-A Article 7 Table 7-B	303-20/21
3/7/22	Article 9 Table 9-C Section 9.1.7(A)(1)(a) Height bonus applicability	153-21/22
6/22/22	Article 6 Table 6-A Article 7 Table 7-A	260-21/22
6/22/22	Table of Contents, Table 5-A, Table 7-A Section 8.7 Munjoy Hill Neighborhood Conservation	284-21/22
11/8/22	Section 18.4.5 Conversion Permit	By Referendum
2/6/23	Section 8.5.7 The Roux Institute at Northeastern University Overlay	125-22/23
12/18/23	Article 3 Definitions Article 6 Table 6-A, Sections 6.4.2, 6.4.12, 6.6.2(A) Article 7 Tables 7-A, 7-D Article 18 Table 18-C, Section 18.2.4 Article 19 Table 19-B	85-23/24
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1 INTRODUCTORY PROVISIONS

1.1 TITLE

The title of this chapter of the City of Portland Code of Ordinances is the City of Portland Land Use Code and is referred to as the City of Portland Land Use Code or the Land Use Code.

1.2 ZONING MAP

The City of Portland zoning map is incorporated by reference.

1.3 PURPOSE

The intent of the Land Use Code is to protect the health, safety, and general welfare of the residents of Portland, consistent with the City's Comprehensive Plan, through standards that govern the orderly and compatible use of land, the form and mass of buildings, and the relationship of development to the public realm, Portland's open spaces, and the environment.

1.4 APPLICABILITY

No building or structure shall be erected, structurally altered, enlarged, repaired, moved, rebuilt, or used, and no land shall be sold, leased, conveyed, used, developed, or altered except in conformity with the provisions of this Land Use Code.

1.5 ENFORCEMENT

1.5.1 Enforcement

The Building Authority and/or a City of Portland Code Enforcement Officer is authorized to institute or cause to be instituted by the Corporation Counsel in the name of the City any and all actions, legal or equitable, that may be appropriate or necessary for the enforcement of the Land Use Code.

1.5.2 Violations

Any person being the owner or occupant of, having control of, or having the use of any building or premises or part thereof, who violates any of the provisions of this Land Use Code, shall be guilty of an offense and subject to the penalties and remedies provided in Chapter 1, Section 1-15 of the City of Portland Code of Ordinances and 30-A M.R.S. § 4452.

1.6 RELATIONSHIP WITH OTHER LAWS

1.6.1 Federal and state law

Where conditions, standards, or requirements imposed by any provision of this Land Use Code are found to be inconsistent with a provision listed in the law or regulations of the State of Maine or federal government, the more restrictive provision shall control.

1.6.2 City of Portland Land Use Code

If any provision of this Land Use Code contains an actual, implied, or apparent conflict with another provision of this code, the more restrictive provision shall control.

1.6.3 Fair Housing accommodation

The City of Portland may make reasonable modifications to the requirements of the Land Use Code to accommodate the needs of persons with disabilities as so defined in Title VII of the Civil Rights Act of 1968, as amended by the Fair Housing Amendments Act of 1988.

1.6.4 Comprehensive Plan

The Comprehensive Plan serves as the basic policy guide for this Land Use Code. Amendments to this Land Use Code shall be generally consistent with the current Comprehensive Plan.

1.6.5 Current versions and citations

All references to other regulations or manuals in this Land Use Code refer to the most current version and citation for those regulations or manuals, unless expressly indicated otherwise. When the referenced regulations or documents have been repealed and not replaced by other regulations or manuals, Land Use Code requirements for compliance are no longer in effect.

1.6.6 Private agreement

This Land Use Code does not nullify any private agreement or covenant. However, where this code is more restrictive than a private agreement or covenant, this code controls. The City does not enforce private agreements.

1.7 DELEGATION OF AUTHORITY

Whenever a provision requires the head of a department to perform an act or duty, that provision will be interpreted as authorizing the department head or officer to delegate that responsibility to others over whom he or she has authority.

1.8 RULES OF INTERPRETATION

1.8.1 Meaning of words and terms

All words and terms shall have the meanings shown in Article 3, unless otherwise expressly stated. For words or terms not specifically defined in this Land Use Code, they are interpreted by their common dictionary meaning or customary usage consistent with their context.

1.8.2 Graphics and illustrations

Graphics and illustrations are included to illustrate the intent of the text. In the case of a conflict between the text and any graphic or illustration, the text controls.

1.8.3 Lists and examples

Unless otherwise expressly indicated, lists of items or examples that use "including," "such as", or similar terms are intended to provide examples only, and shall not be construed as being limited to the items or examples listed.

1.8.4 Time

When a number of days is specified as a period from a certain day within which or after or before which an act is authorized or required to be completed, time is computed as the number of calendar days excluding the calendar day when the act is authorized or required to be completed. Business days shall be interpreted as days on which the City of Portland is open for business.

1.8.5 Obligatory terms and conjunctions

The terms in the text of the Land Use Code shall be interpreted in accordance with the following rules of construction:

A. The terms "must", "shall", or "will" are mandatory terms that express a requirement or impose an obligation.
B. The terms "must not", "shall not", "will not", and "may not" express a prohibition.
C. The term "should" expresses a recommendation or suggestion and does not express a requirement or imposition.

D. The term "may" is permissive and does not express a requirement or imposition.
E. The conjunction "and" indicates that all connected words or provisions apply.
F. The conjunction "or" indicates that the connected words or provisions may apply singly or in any combination.
G. The conjunction "either [...] or" indicates that the connected words or provisions apply singly, but not in combination.

1.8.6 Gender

Words denoting one gender apply to all genders.

1.8.7 Abbreviations

Building Authority. Either the Department of Permitting and Inspections, its director, or their designee.

Council. The Portland City Council.

Planning Authority. Either the Department of Planning and Urban Development, its director, or their designee.

Public Works Authority. Either the Department of Public Works, its director, or their designee.

1.9 SUCCESSIVE APPLICATIONS

Whenever any application, appeal, or other request filed pursuant to this Land Use Code has been finally denied on its merits, a second application, appeal or other request seeking essentially the same relief, whether or not in the same form or on the same theory, shall not be brought within one year of such denial unless, in the opinion of the authority or board before which it is brought, there has been a substantial change in circumstance or substantial new evidence is available.

1.10 AMENDMENTS

1.10.1 Authority

The City Council may amend this Land Use Code and the zoning map incorporated herein.

1.10.2 Procedure

A. An application for a text or zoning map amendment shall be filed with the Planning Authority. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The fee for text or zoning map amendment applications may be waived or reduced by the Planning Authority in the case of an application submitted by a governmental body or where an applicant can establish financial hardship. If a text or zoning map amendment application is withdrawn by an applicant prior to the submission of the advertisement copy to the newspaper to announce the public hearing, a refund of half of the amount of the application fee will be made to the applicant by the City provided that all costs incurred by the City have been paid in full by the applicant.
B. Once it is determined that the application is complete, the Planning Authority shall give a dated receipt to the applicant and, in the case of a map amendment, shall notify, by mail, all property owners within the limits of the proposed zoning map amendment and all property owners 500 feet beyond said area, except that for map amendments to a site located within industrial zone designations the notice range shall be 1,000 feet. The notice

hereunder shall include a brief description of the application, the address or location of the property involved, and contact information where additional information may be obtained. The cost of noticing shall be charged to the applicant.

C. A private applicant for a map amendment that would permit a development subject to major site plan review shall conduct neighborhood outreach according to the provisions for neighborhood meetings under Article 14.

D. The Planning Authority shall review the application against the standards of this article and make a recommendation to the Planning Board.

E. The Planning Board shall hold a public hearing in accordance with the provisions of Article 2 and make a recommendation to adopt, adopt with modifications, or not adopt the proposed map or text amendment, and forward the recommendation to the City Council.

F. The City Council shall review the proposed amendment and determine whether and how to amend the Land Use Code or zoning map.

1.10.3 Review fees

The applicant shall pay a fee to cover the professional and administrative costs for review and analysis associated with the amendment, including but not limited to planning, legal, engineering, or other services. The fee shall be based on the hours of review and processing time and the prevailing hourly rate for reimbursement of City costs. The City shall periodically invoice the applicant for such costs incurred by the City, which invoice shall be paid promptly by the applicant.

1.10.4 Review standards

Except as otherwise required by law, amendments to the City's Land Use Code shall be pursuant to and consistent with the Comprehensive Plan.

1.11 TRANSITION RULES

A permitted use established prior to the effective date of the Land Use Code that is now classified as a conditional use shall be deemed a lawful conditional use. Any subsequent addition, enlargement, or expansion of that use shall conform to the procedural and substantive requirements for conditional uses in Article 6. A permitted or conditional use established prior to the effective date of this Code that is now classified as a prohibited use shall be deemed a nonconforming use and is controlled by the provisions of Article 4.

2 ADMINISTRATION

2.1 PLANNING BOARD

2.1.1 Composition

There shall be a Planning Board of seven members. Members of the Planning Board shall be residents of the city and shall not be officers or employees of the City. Members shall serve without compensation.

2.1.2 Appointments

A. **Terms.** The members of the Planning Board shall be appointed by the City Council for terms of three years. Such members shall serve until their successors are duly appointed and qualified. Such terms shall be staggered so that the terms of not more than three members shall expire in any calendar year; providing, however, such service shall not extend to over 120 days after expiration of their term. Members may serve for three consecutive three-year terms.

B. **Vacancies.** Permanent vacancies on the Planning Board shall be filled by the City Council, in the same manner as other appointments hereunder, for the unexpired term of the former member.

2.1.3 Removal of members

Any member of the Planning Board may be removed for cause by the City Council at any time, provided, however, that before any such removal, such member shall be given an opportunity to be heard in their own defense at a public hearing.

2.1.4 Officers

A. **Chair.** The members of the Planning Board shall annually elect one of their number as chair to preside at all meetings and hearings and to fulfill the customary functions of that office. The chair may administer oaths.

B. **Vice chair.** The members of the Planning Board shall annually elect one of their number as vice chair. In the absence of the chair, the vice chair shall act as chair and shall have all the powers of the chair. The vice chair shall have such other powers and duties as may be provided by the rules of the Planning Board.

2.1.5 Committees

The chair of the Planning Board shall assign the members of the board to such regular and special committees as may be established by the board. Such committees shall have no final authority but shall assist the board in the conduct of its business by making recommendations to it concerning such specific items as may be assigned to them for study and report. The board shall adopt such rules as it shall deem appropriate to govern the organization and operation of its committees. Committee meetings deliberative in nature shall be open to the public in accordance with Title 1 M.R.S. § 401 et seq.

2.1.6 Quorum and necessary vote

As to any matter requiring a hearing, no business shall be transacted by the Planning Board without a quorum, consisting of four members, being present. The vote of at least four members shall be necessary to authorize any action by the board. If less than a quorum is present, the hearing may be adjourned for a period not exceeding three weeks at any one time. The Planning Authority shall notify

in writing all members of the date of the adjourned hearing and shall notify such other interested parties as may be directed in the vote of adjournment.

2.1.7 Conflicts

No member of the Planning Board shall participate in the hearing or disposition of any matter in which he or she has an interest. Any question of whether a member has a conflict of interest sufficient for a member to be recused shall be decided by a majority vote of the members present, except the member whose possible conflict is being examined. Where such vote results in a tie, the subject member shall be recused from the matter.

2.1.8 Meetings and procedures

A. **Meetings.** Regular meetings of the Planning Board shall be held at the call of the chair or as provided by rule of the board. Special meetings may be called by the chair or any four members of the Board or at the request of the City Council.

1. *Workshops.* Workshops of the Planning Board or any of its committees may be held at the call of the board or committee chair, as the case may be, for the presentation of information by the Director of the Department of Planning & Urban Development, their staff, an applicant, or others. These meetings will be open for public comment according to the rules of the Planning Board. Such meetings, unless open to the public as provided in Title 1 M.R.S. § 401 et seq. shall be informational only and shall not result in final decisions on any matter.
2. *Public hearings.* Public hearings shall be held as required by the various statutes, codes, and ordinances pursuant to which matters are brought before the Planning Board and shall be conducted in accordance with relevant state law, the Land Use Code, and the rules of the board.

B. **Notice.** The Planning Authority shall give notice of the time and place of public workshops and hearings, including a brief description of the application(s) to be considered, as follows:

1. *Site plan and subdivision.* Notice shall be given to the general public by publication in a newspaper of general circulation in the City of Portland at least two times, the date of the first publication to be at least 10 calendar days prior to the workshop or hearing. Notice shall also be sent by regular United States mail at least 10 calendar days in advance of the workshop or hearing date to the applicant, the owner(s) of the subject property, and all owners of property located within 500 feet of the subject property, except that for subdivisions within industrial zones the notice range shall be 1,000 feet.
2. *Land Use Code or zoning map amendment.* Notice of public hearing shall be publicly posted in the municipal office at least 13 days before the public hearing on such application. In addition, notice of said public hearing must be published at least two times in a newspaper of general circulation in the City of Portland. The date of the first publication must be at least 12 days prior to any public hearing and the date of the second publication must be at

least seven days prior to the public hearing. For map amendments, notice shall be sent by regular United States mail to at least 13 calendar days in advance of any workshop or hearing date to all property owners within the area proposed for rezoning and all property owners 500 feet beyond said area, except that rezoning to industrial zone designations the notice range shall be 1,000 feet.

3. *Contract or conditional zoning.* Notice of public hearing shall be posted in the City Clerk's office at least 13 days prior to the public hearing and shall be published in a newspaper of general circulation within the city at least two times, the date of the first publication to be at least seven days prior to the hearing. Notice shall also be sent to the owners of all property abutting the property to be rezoned at their last known address. This notice shall contain a copy of the proposed conditions and restrictions, with a map indicating the property to be rezoned.

The cost of noticing shall be charged to the applicant.

C. **Procedures.** The Planning Board shall adopt its own rules for the conduct of its business not inconsistent with the statutes of the state and this article. Such rules shall be filed with the Planning Authority and with the City Clerk. Any and all rule changes shall be placed on a City Council public agenda as a communication requiring a public hearing. Any rule may be vetoed, in whole or in part, by order of the Council within 45 days of the date of filing with the City Clerk. No rules change shall take effect until that time period has elapsed. If a part of a rule is vetoed, the remainder shall continue in effect. Any rule so adopted, which is not required by the statutes of the state or by this article, may be waived by the chair upon good cause being shown. Except as otherwise provided in Subsection 2.1.8(A)(1), all meetings, hearings, and deliberations of the Planning Board and its committees shall be open to the public in accordance with Title 1 M.R.S. § 401 et seq. Testimony at any hearing may be required by the Planning Board to be given under oath.

D. **Keeping of records.** The Director of the Department of Planning & Urban Development shall designate a member of their staff who shall attend all Planning Board proceedings. The staff shall provide for the keeping of minutes of the proceedings of the Board, showing the vote of each member on every question, or their absence or failure to vote, and shall maintain the permanent records and decisions of all Board meetings, hearings, and proceedings and all correspondence of the Board, as required by statute. Such records shall be public records open to inspection during working hours upon reasonable notice.

2.1.9 Record and decisions

A. **Record.** The minutes of the staff, and the transcript if one is made, and all exhibits, papers, applications, and requests filed in any proceeding before the Planning Board and the decision of the Board shall constitute the record.

B. **Decision.** Every final decision of the Planning Board and every recommendation of the Planning Board to the City Council shall include written findings of fact, and shall specify the reason or reasons for such decision or

recommendation. The Planning Authority shall mail notice of any decision of the Planning Board to the applicant.

2.1.10 Jurisdiction and authority

In addition to the jurisdiction conferred on it by other provisions of state law and the ordinances of the City and in accordance therewith, the Planning Board shall have the following jurisdiction and authority:

A. To prepare and recommend a Comprehensive Plan to the City Council.
B. To prepare and recommend to the City Council changes in and amendments to the Comprehensive Plan.
C. To aid and assist the City Council and departments and agencies of the City in implementing general plans and in planning, developing, and completing specific projects.
D. To hear, review, and approve, conditionally approve, or deny master development plans and major site plans.
E. To hear, review, and approve, conditionally approve, or deny applications for subdivision approval.
F. To hear, review, and approve or deny applications for conditional uses listed in Article 6.
G. To hear, review, and offer its recommendations to the City Council on applications for amendments to, or revisions of, this Land Use Code.
H. To review and offer its recommendations to the City Council on certain public projects.
I. To review and approve, conditionally approve, or disapprove site plans for regulated projects in shoreland areas.
J. To prepare and offer its recommendations to the City Council with regard to the City's annual Capital Improvement Program.
K. Upon reasonable request, to make its special knowledge and expertise available to any official, department, board, or agency of the city, county, state, or federal governments to aid them in the performance of their respective duties relating to the planning and development of the city and its region, including request from the City Council to review proposed developments in which the developer does not have the right, title, or interest in all the property necessary for the proposed development because some or all of that property is owned by the City.
L. To make such investigations, maps and reports, and recommendations in connection therewith, relating to the planning and development of the city as seem desirable.
M. To employ or contract with such experts and other assistants as may be necessary or convenient to carry out its duties hereunder and to pay for their services and for such other expenses as may be necessary and proper, provided, however, that such expenditures shall not exceed such funds as may be appropriated for such purposes by the City Council.
N. To hear, review, and offer its recommendations to the City Council on petitions for street vacations and discontinuances.
O. To hear, review, and decide appeals where it is alleged there is an error in any decision, requirement, or determination made by the Planning Authority.
P. To approve, following a public hearing and at the recommendation of the Public Works Authority and the Planning Authority, *Technical*

Manual and *Design Manual* standards, provided that such standards shall be additional to and consistent with the provisions of this Land Use Code, necessary and reasonable, and in accordance with sound engineering and urban design practice.

2.1.11 Administrative appeals

A. **Application procedures.** An appeal may be taken to the Planning Board by any person affected by a final decision of the Planning Authority except as provided elsewhere in this Land Use Code. Such appeal shall be taken within 30 days of the action complained of by filing with the Planning Authority an application for appeal specifying the grounds thereof. The application shall be in such form as specified by the Planning Authority. A payment of a nonrefundable filing fee, as established by the City Council to cover administrative costs and costs of hearing, shall accompany each application. The Planning Authority shall forthwith transmit to the Planning Board all of the papers constituting the record upon which the action appealed from was taken.

B. **Public hearing.** A public hearing shall be set, advertised and conducted by the Planning Board in accordance with the provisions of this article.

C. **Action**. Within 30 days following the close of the public hearing, the Planning Board shall render a decision on the appeal in the manner and form specified in the provisions of this article and the statutes of the state. The failure of the board to act within 30 days shall be deemed a denial of the appeal unless mutually extended in writing by the appellant and the board. Within five days of such decision or failure to act notice thereof shall be mailed to each party.

D. **Conditions and limitations.** Any right granted by the reviewing board on appeal shall be subject to the same conditions and limitations as if secured without the necessity of an appeal.

2.1.12 Planning Board appeals

An appeal from any final decision of the Planning Board as to any matter over which it has final authority may be taken by any party or by any authorized officer or agent of the City to the superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure. No appeal shall lie concerning any matter as to which the power of the Board is limited to the making of a recommendation.

2.2 HISTORIC PRESERVATION BOARD

2.2.1 Composition

The Historic Preservation Board shall consist of seven voting members who shall serve without compensation. Members shall not be officers or employees of the City. Members shall have demonstrated interest, knowledge, ability, experience, or expertise in restoration, rehabilitation, or neighborhood conservation or revitalization and shall be residents of the city.

2.2.2 Appointments

A. **Terms.** Members shall be appointed by the Council for terms of three years. Appointments shall be staggered so that the terms of not more than three members expire in any calendar year. Members may serve for three consecutive three-year terms.

B. **Vacancies.** Vacancies on the Historic Preservation Board shall be filled within 60 days. However, every member shall continue in office after expiration of the term until a

successor has been appointed. Vacancies on the Historic Preservation Board shall be filled for the unexpired term of the former member.

2.2.3 Removal of members

Members may be removed for cause by the Council. Cause shall include, but is not limited to, the failure to attend meetings without good cause. Any member proposed to be removed shall be given written notice and an opportunity to be heard prior to final action.

2.2.4 Officers

A. **Election and terms.** Officers of the Historic Preservation Board shall consist of a chair and vice chair. Officers shall be elected by the Historic Preservation Board and shall serve a term of one year and shall be eligible for re-election.

B. **Chair.** The chair shall preside at all meetings and hearings and fulfill the customary functions of that office.

C. **Vice chair.** In the absence of the chair, the vice chair shall act as chair and shall have all the powers of the chair. The vice chair shall have such other powers and duties as may be provided by the rules of the Historic Preservation Board.

2.2.5 Conflicts

No member of the Historic Preservation Board shall participate in the hearing or disposition of any matter in which he or she has an interest.

2.2.6 Meetings and procedures

A. **Meetings.** Regular meetings of the Historic Preservation Board shall be held no less frequently than monthly. Special meetings may be called by the chair or any four members or at the request of the chair of the Planning Board.

B. **Notice.** The Planning Authority shall give notice of the time and place of Historic Preservation Board public workshops and hearings, including a brief description of the application(s) to be considered, as follows:

1. *Landmark or district nomination.* Notice shall be given to the general public by publication in a newspaper of general circulation in the City of Portland at least two times, the date of the first publication to be at least 10 calendar days prior to the workshop or hearing. Notice shall be sent by regular United States mail at least 10 calendar days in advance of the workshop or hearing date to the applicant and to the owner(s) of the subject property or properties.
2. *Certificate of Appropriateness review.* Notice shall be given to all property owners within 100 feet of the property at least seven days prior to the date of the workshop or public hearing.
3. *Major site plan review.* For alteration or new construction that is classified as a major site plan under Article 14, notice shall be given to all property owners within 500 feet of the property at least seven days prior to the date of the workshop or hearing.

The cost of noticing shall be charged to the applicant.

C. **Procedures.** The Historic Preservation Board may adopt procedural rules for the conduct of its business not inconsistent with this article, including the creation of a subcommittee

structure to enhance efficiency in consideration of Historic Preservation Board business. Such rules shall be filed with the Planning Authority and with the City Clerk. All such rules shall be subject to veto, in whole or in part, by the Council within 45 days of such filing. The initial rules shall take effect when filed, subject to veto as provided above. Amendments to the rules shall take effect upon expiration of said veto period. Any rule may be waived by the chair upon good cause being shown.

2.2.7 Record and decisions

A. The Director of the Department of Planning & Urban Development or their designated staff representative shall attend all Historic Preservation Board meetings. The staff shall provide for the keeping of tape recordings or minutes of the proceedings of the Historic Preservation Board, showing the vote of each member on every question or their absence or failure to vote, and shall maintain the records and decisions of all meetings, hearings, and proceedings and all correspondence of the Historic Preservation Board. Copies of permanent records shall be filed with the City Clerk. Staff shall publish and distribute copies of the records, reports, and decisions of the Historic Preservation Board to Historic Preservation Board members and to others upon approval of the Historic Preservation Board.

B. No final action shall be taken by the Historic Preservation Board which could in any manner deprive or restrict the owner of a property in its use, alteration, maintenance, disposition, or demolition until such owner either has knowledge of the proceeding or is sent notice offering opportunity to be heard. This paragraph shall not affect the interim protection provisions of Section 17.6.

C. Every recommendation or recommended decision of the Historic Preservation Board shall include written findings of fact and shall specify the reason or reasons for such action.

D. Staff shall mail notice of any final determination or recommendation of the Historic Preservation Board to the applicant and property owner(s).

2.2.8 Responsibilities

The Historic Preservation Board shall have the following responsibilities:

A. To conduct or administer an ongoing survey to identify historically, culturally, architecturally, and archaeologically significant areas, sites, structures, and objects.

B. To review all areas, sites, structures, and objects listed in the National Register of Historic Places, including the boundaries of areas so listed, and make recommendations to the Planning Board and City Council for the designation of those areas, sites, structures, and objects as local landmarks or districts.

C. To investigate and recommend to the Planning Board and City Council the designation of areas, sites, structures, and objects not listed in the National Register of Historic Places as local landmarks and districts and to make recommendations to the Planning Board concerning sites, structures, and objects that have contributing significance or are intrusions within nominated or designated districts.

D. To keep and make available to the public a register of all areas, sites, structures, and

objects that have been designated as landmarks or districts, including all information required as part of each designation.

E. Upon request, to advise and assist owners of landmarks and property, sites, structures, or objects within districts on physical and financial aspects of preservation, renovation, rehabilitation, and reuse and for procedures for inclusion on other registers of significant areas, sites, structures, and objects, including the National Register of Historic Places.

F. To recommend to the Planning Board the nomination of areas, sites, structures, and objects to the National Register of Historic Places or to any State of Maine Register of Historic Places that may be established.

G. To participate in the Certified Local Government Program of the National Historic Preservation Act Amendments of 1980 and the Maine Historic Preservation Commission, and carry out any responsibilities delegated to it under that program, including review and comment on any National Register nominations submitted to the Historic Preservation Board.

H. To seek funding for which the City of Portland is eligible through the Certified Local Government Program to assist in local preservation projects, including projects undertaken by local non-profit organizations.

I. To, upon request by the City Council, participate in any review of federal actions or undertakings pursuant to Section 106 of the National Historic Preservation Act, attend informational and educational programs sponsored by the Maine Historic Preservation Commission, and prepare an annual report of the activities of the Historic Preservation Board.

J. To inform and educate the citizens of Portland concerning the cultural, historic, architectural, and archeological heritage of the city by publishing appropriate maps, newsletters, brochures, and pamphlets and by sponsoring programs and seminars.

K. To hold meetings and public hearings to review applications for Certificates of Appropriateness affecting proposed or designated landmarks and districts and to recommend approval or disapproval of Certificates of Appropriateness.

L. To provide testimony to the Board of Appeals in connection with any application for a Certificate of Economic Hardship.

M. To develop design guidelines affecting landmarks or districts for review and approval by the Planning Board.

N. To advise the Planning Board as to recommendations on any preservation or conservation easements that the City of Portland may have or be offered as a gift or otherwise.

O. To advise the Planning Board as to the administration of such gifts, grants, and money as may be appropriated for the purposes of this article upon authorization and approval by the City Council.

P. To provide comment, as appropriate, to the Planning Board and/or City Council on matters pertaining to historic preservation in Portland.

Q. To confer recognition upon the owners of landmarks or properties, sites, structures, or objects within districts by means of certificates, plaques, or markers.

R. To assist the Planning Board in the development of a preservation component in the Comprehensive Plan of the City of Portland.

S. To periodically review the Land Use Code and to make recommendations to the Planning Board concerning any amendments appropriate for the protection and continued use of landmarks or properties, sites, structures, or objects within districts.

2.2.9 Administrative appeals

A. **Application procedures.** An appeal may be taken to the Historic Preservation Board by any person affected by a decision of the Planning Authority relative to Article 17. Such appeal shall be taken within 30 days of the action complained of by filing with the Planning Authority an application for appeal specifying the grounds thereof. The application shall be in such form as specified by the Planning Authority. A payment of a nonrefundable filing fee, as established by the City Council to cover administrative costs and costs of hearing, shall accompany the application. The Planning Authority shall forthwith transmit to the Historic Preservation Board all of the papers constituting the record upon which the action appealed from was taken.

B. **Public hearing.** A public hearing shall be set, advertised, and conducted by the Historic Preservation Board in accordance with the provisions of this article.

C. **Action.** Within 30 days following the close of the public hearing, the Historic Preservation Board shall render a decision on the appeal in the manner and form specified in the provisions of this article and the statutes of the state. The failure of the board to act within 30 days shall be deemed a denial of the appeal unless mutually extended in writing by the appellant and the Board. Within five days of such decision or failure to act notice thereof shall be mailed to each party.

D. **Conditions and limitations.** Any right granted by the board on appeal shall be subject to the same conditions and limitations as if secured without the necessity of an appeal.

2.2.10 Historic Preservation Board appeal

A. **Historic Preservation Board decision.** An appeal from any final decision of the Historic Preservation Board as to any matter over which it has final authority may be taken by any party or by any authorized officer or agent of the City to the Planning Board, adhering to the requirements of Subsection 2.1.11 of this article.

B. The Planning Board shall deny the appeal unless it finds that the action of the Historic Preservation board was arbitrary or capricious or was not based on substantial evidence. Review by the Planning Board under this subsection is intended to be appellate in nature. Except where the Planning Board determines that injustice would result, the Planning Board shall determine the appeal without considering any facts or arguments which were not presented to the Historic Preservation Board. Where the Planning Board finds it necessary to consider such new evidence in order to do substantial justice, it shall remand the matter to the Historic Preservation Board for further consideration, unless it determines that the resulting delay is likely to result in undue hardship to the applicant.

C. **Planning Board decision. T**he Planning Board's decision on an appeal from a decision of the Historic Preservation Board shall be final with respect to the application or matter initially

presented to the Historic Preservation Board. An appeal from any final decision of the Planning Board as to any matter over which it has final authority may be taken by any party or by any authorized officer or agent of the city to the superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure. No appeal shall lie concerning any matter as to which the power of the board is limited to the making of a recommendation.

2.3 ZONING BOARD OF APPEALS

2.3.1 Composition

There shall be a Board of Appeals of seven members. Members of the Board shall be residents of the city and shall not be officers or employees of the City or any of its agencies or departments. Members shall serve without compensation.

2.3.2 Appointments

A. **Terms.** The members of the Board of Appeals shall be appointed by the City Council for terms of three years. Terms shall be staggered so that the terms of no more than three members shall expire in any calendar year. Such members shall serve until their successors are duly elected and qualified provided, however, that such service shall not extend to over 120 days after expiration of their term. Members may serve for three consecutive three-year terms.

B. **Vacancies.** Permanent vacancies on the Board of Appeals shall be filled by the City Council, in the same manner as other appointments under this article, for the unexpired term of a former member whose place has become vacant.

2.3.3 Removal of members

Any member of the Board of Appeals may be removed for cause by the City Council at any time, provided, however, that before any such removal, such member shall be given an opportunity to be heard in their own defense at a public hearing.

2.3.4 Officers

A. **Chair.** The members of the Board of Appeals shall annually elect one of their number as chair to preside at all meetings and hearings and to fulfill the customary functions of that office. In the absence of the chair, the secretary shall act as chair and shall have all the powers of the chair.

B. **Secretary.** The members of the Board of Appeals shall annually elect one of their number as secretary. The secretary shall fulfill the duties provided by statute and this article and have such other duties as may be provided by the rules of the board.

C. **Pro tempore officers.** In the absence of both the chair and the secretary, the board shall elect a chair pro tempore from among its number and the chair pro tempore shall have all the powers of the chair during the chair's and the secretary's absence. In the absence of the secretary, or when the secretary is serving as chair, the board shall elect a secretary pro tempore from among its number and the secretary pro tempore shall have all the powers of the secretary during the secretary's absence or service as chair.

2.3.5 Quorum and necessary vote

No business shall be transacted by the Board of Appeals without a quorum, consisting of four members, being present. The concurring vote of at

least four members of the board shall be necessary to grant any request or application or to sustain any appeal. Any matter that receives fewer than four votes shall be deemed to have been denied.

2.3.6 Conflicts

No member of the Board of Appeals shall participate in the hearing or disposition of any matter in which he or she has an interest. Any question of whether a member has a conflict of interest sufficient to disqualify him or her shall be decided by a majority vote of the members, except the member who is being challenged. Where such a vote results in a tie, the challenged member shall be deemed disqualified.

2.3.7 Meetings and procedures

A. **Staff.** The Building Authority or their designee shall serve as staff to the Board of Appeals.

B. **Meetings.** Regular meetings of the Board of Appeals shall be held at the call of the chair or as provided by the rules of the board. Special meetings shall be called by the chair at the request of any two members of the board or at the request of the City Council. All meetings and hearings of the board shall be open to the public. For all matters properly brought before the Board of Appeals, the board shall select a reasonable time and place for a public hearing following the submission of the subject application.

C. **Notice.** The Building Authority shall give notice of public hearings in the form and manner and to the persons herein specified. The notice shall include the time and place of such hearing, a description of the contents of the matter to be heard and the address or location of the property involved. Where notice by mail is required, it shall be mailed at least seven days in advance of the hearing date by regular United States mail. Notices shall be given to each of the following as specified:

1. In all cases, to the petitioner.
2. In all cases, to all residents of the city by publication in a newspaper of general circulation in the city at least once, not more than 30 nor less than five days before the date of the hearing, and by mail to the applicant.
3. In the case of hearings relating to zoning appeals, a variance, or a conditional use, to the Planning Board and City Council by reasonable means.
4. In the case of hearings relating to a variance request from the provisions of Article 11, the application and all supporting information supplied by the applicant shall be forwarded to the State of Maine Commission of the Department of Environmental Protection at least 20 days prior to action by the board.
5. In the case of hearings related to a variance or conditional use, by mail to the owners of all the property within 500 feet of such parcel or tract.
6. In the case of hearings related to all other appeals, by mail to the owners of property directly abutting, and directly across a street or alley from the subject property.

For purposes of this subsection, the owners of property shall be considered to be the parties listed by the Assessor's Department as those against whom taxes are assessed. Failure of any property owner to receive a notice of public hearing shall not necessitate another hearing and shall not invalidate any action of the board.

The cost of noticing shall be charged to the applicant.

D. **Procedures.** The Board of Appeals shall adopt its own rules of procedure for the conduct of its business not inconsistent with the statutes of the state and this article. Such rules shall be filed with the City Clerk. Any rule so adopted which relates solely to the conduct of hearings, and which is not required by the statutes of the state or by this article, may be waived by the board upon good cause being shown.

1. *Conduct of hearings.*
   a. Any person may appear and testify at a public hearing, either in person or by a duly authorized agent or attorney, and may submit documentary evidence, provided, however, that the Board shall exclude irrelevant, immaterial and unduly repetitious evidence.
   b. The applicant and any abutter or similar person with standing shall in addition have the right to present witnesses on their own behalf and offer rebuttal evidence, to cross examine all witnesses testifying in opposition to their position through the chair, and to examine and introduce any documents produced at the hearing.
2. All other matters pertaining to the conduct of hearings shall be governed by the provisions of the relevant state statutes, this article, and the rules promulgated by the Board of Appeals.

2.3.8 Records and decisions

A. **Record.** The recording of testimony, if any, and all exhibits, papers, applications, and requests filed in any proceeding before the Board of Appeals and the decision of the board shall constitute the record.

B. **Decision.** Every decision of the Board of Appeals shall include findings of the fact, shall refer to the evidence in the record and the exhibits, plans or specifications upon which such decision is based, shall specify the reason or reasons for such decision, and shall contain a conclusion or statement separate from the findings of fact setting forth the specific relief granted or denying relief. The Building Authority shall hand deliver or mail a copy of the decision to the applicant, the Planning Board, and City Council within seven days of such decision, and shall also file the decision with the City Clerk.

2.3.9 Jurisdiction and authority

The Board of Appeals shall have the following jurisdiction and authority:

A. To hear and decide appeals from the granting or denial of any permit required by Chapter 6, Article II or Chapter 10 of the City of Portland Code of Ordinances.

B. To hear and decide appeals from any decision or order made by the Building Authority pursuant to the provisions of this chapter, except that decisions relating to enforcement of the Shoreland Zone provisions of this chapter may not be appealed to the Board of Appeals and may only be appealed directly to Superior Court in accordance with M.R. Civ. P. 80B and 30-A M.R.S. §§ 2691 & 4483.

C. To review interpretations of the Zoning Administrator or their designee, except that decisions on such interpretations shall be advisory only and shall not be appealable.

D. To hear and grant or deny applications for variances from the terms of this Land Use Code, including but not limited to terms related to use; dwelling unit conversion; space and bulk, such as lot size, density, and setbacks; parking; loading; and signs.

E. To hear and grant or deny applications for conditional uses, as specified in Article 6.

2.3.10 Administrative appeals

A. **Application procedures.** Application for any appeal to the board shall be submitted to the Building Authority. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The application shall be in such form as prescribed by the Building Authority.

B. **Public hearing.** A public hearing shall be set, advertised and conducted by the Board of Appeals in accordance with Subsection 2.3.7.

C. **Standard of review.** The standard of review for appeals pursuant to Subsections 2.3.9(A), (B), and (C) shall be de novo. The appellant shall bear the burden of proof.

D. **Conditions and limitations on rights granted by appeal.** Any right granted by the Board of Appeals on appeal shall be subject to the same conditions and limitations as if secured without the necessity of an appeal.

2.3.11 Variances

A. **Application procedures**

1. Application for a variance shall be submitted to the Building Authority. A payment of a nonrefundable application fee, as established from time to time by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The application shall be in such form as prescribed by the Building Authority.
2. A public hearing shall be set, advertised, and conducted by the Board of Appeals in accordance with Subsection 2.3.7.
3. All decisions by the board shall be rendered in a manner and form not inconsistent with the statutes of this state.

B. **Undue hardship variance.** An undue hardship variance may be granted by the board only where strict application of the ordinance, or a provision thereof, to the petitioner and his or her property would cause undue hardship. The words "undue hardship" as used in this subsection mean the following:

1. The land in question cannot yield a reasonable return unless a variance is granted.
2. The need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood.
3. The granting of a variance will not alter the essential character of the locality.
4. The hardship is not the result of action taken by the applicant or prior owner.

C. **Disability variance**

1. *By the Board of Appeals.* Notwithstanding the provisions of subsection (B) above, the

board may grant a variance to an owner of a residential dwelling for the purpose of making that dwelling accessible to a person with a disability who resides in or regularly uses the dwelling. The board shall restrict any variance granted under this subsection solely to the installation of equipment or the construction of structures necessary for access to or egress from the dwelling by the person with the disability. The board may impose conditions on the variance, including limiting the variance to the duration of the disability or to the time that the person with the disability lives in the dwelling. The term "structures necessary for access to or egress from the dwelling" shall include railing, wall, or roof systems necessary for the safety or effectiveness of the structure. For the purpose of this subsection, a disability has the same meaning as a physical or mental disability under 5 M.R.S. § 4553.

2. *By the Building Authority.* Notwithstanding the provisions of subsections (B) and (C(1)) above, the Building Authority may issue a permit to the owner of a dwelling for the purpose of making a dwelling accessible to a person with a disability who resides in or regularly uses the dwelling. If the permit requires a variance, the permit is deemed to include that variance solely for the installation of equipment or the construction of structures necessary for access to or egress from the dwelling for the person with a disability.

D. **Practical difficulty variance.** Notwithstanding the provisions of subsections (B) and (C) above, the Board of Appeals may grant a variance from the dimensional standards of this Land Use Code that relate to lot area, lot coverage, frontage, and setback requirements when strict application of these standards would both preclude a permitted use of the property and result in significant economic injury to the applicant. Significant economic injury shall mean that the value of the property if the variance were denied would be substantially lower than its value if the variance were granted. To satisfy this standard, the applicant need not prove that denial of the variance would mean the practical loss of all beneficial use of the land. In granting a practical difficulty variance, all of the following conditions must be found to exist:

1. The need for a variance is due to the unique circumstances of the property, and not to the general conditions in the neighborhood.
2. The granting of the variance will not produce an undesirable change in the character of the neighborhood and will not have an unreasonably detrimental effect on either the use or fair market value of abutting properties.
3. The practical difficulty is not the result of action taken by the applicant or a prior owner.
4. No other feasible alternative is available to the applicant, except a variance.
5. The granting of a variance will not have an unreasonably adverse effect on the natural environment.
6. The property is not located, in whole or in part, within a shoreland area, as defined in 38 M.R.S. § 435, nor within a Shoreland

Zone or flood hazard area, as defined in this Land Use Code.

E. Specified variances prohibited

1. No use permitted in medium- and high-density residential zones shall be permitted in low-density residential zones. No use permitted in mixed-use or office zones shall be permitted in any residential zone. No use permitted in industrial and airport zones shall be permitted in any mixed-use, office, or residential zone. No use permitted in residential zones shall be permitted in any industrial or airport zone. The general use categories are listed below:
   a. Low-density residential: IR-1, IR-2, IR-3, R-1, R-2, R-3.
   b. Medium- and high-density residential: R-4, R-5/R-5a, R-6/R-6a.
   c. Mixed-Use/Office: B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, B-4, B-5/B-5b, B-6, B-7, I-B, R-P, O-P.
   d. Industrial: I-L/I-Lb, I-M/I-Ma/I-Mb, I-H/I-Hb, A-B.
2. A variance may only be granted with respect to the generally applicable space and bulk requirements of the zone in which the property is located and not from any provision that allows a deviation from those requirements.
3. No variance shall be granted which would permit the creation of a lot or parcel that cannot be developed in compliance with the zoning, subdivision, and other regulations applicable thereto.
4. No variance shall be granted which would result in a use or development of the lot or parcel in question which would not be in harmony with the general purpose and intent of this Land Use Code or the Comprehensive Plan; which would be materially detrimental to the public welfare or materially injurious to the enjoyment, use, or development of property or improvement permitted in the vicinity; or which would materially impair an adequate supply of light and air to properties and improvements in the vicinity, substantially increase congestion in the public streets, increase the danger of flood or fire, or endanger the public safety.
5. No variance shall be granted which would be greater than the minimum variance necessary to relieve the undue hardship or the hardship of the applicant.
6. No variance shall be granted from the minimum lot sizes set forth in Subsection 4.3.1 for lots in the IR-1 and IR-2 zones.
7. No variance shall be granted from the requirements in Subsection 6.4.1.

F. Conditions on variances; variances less than requested. Reasonable conditions and safeguards relating to construction, character, location, landscaping, screening, and other matters may be imposed upon the premises benefited by a variance as considered necessary to prevent injurious effects upon other property and improvements in the vicinity or upon public facilities and services. Such conditions shall be expressly set forth in the resolution granting the variance and in the notice informing the applicant thereof. Violation of such conditions and safeguards shall be a violation of this article. A variance less than or different from that requested may be granted when the record supports the

applicant's right to some relief but not to the relief requested.

G. **Limitations on variances.** No variance permitting the erection or alteration of a building shall be valid for a period longer than two years, unless a building permit for such erection or alteration is issued and construction is actually begun within that period and is thereafter diligently pursued to completion. No variance relating to the establishment or maintenance of a use not involving a building or structure shall be valid for a period longer than two years, unless an occupancy permit is issued and a use commenced within such period.

H. **Recording of variances.** No variance shall be valid unless, within 90 days of final approval of the variance, a certificate describing the variance has been recorded by the applicant for the variance in the registry of deeds as required by 30 M.R.S. § 4353(5).

2.3.12 Violations

In addition to any other remedies available, the Board of Appeals after notice and hearing may revoke any variance or other relief granted under this section when the provisions of this chapter or the conditions under which the relief was granted have not been complied with.

2.3.13 Appeals

An appeal from any final decision of the Board of Appeals may be taken by any aggrieved party to the superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure and 30-A M.R.S. §§ 2691 & 4483., except as otherwise specifically provided in this article.

3 DEFINITIONS

Accessory dwelling unit. A dwelling unit subordinate in size to the principal residential structure(s) on a lot and located either within the principal residential structure(s) or in an accessory structure.

Adjacent grade (within the floodplain). For the purposes of calculating floor elevation in areas of special flood hazard, the natural elevation of the ground surface prior to the construction next to the proposed wall of a structure.

Adult business establishment. Any business, including but not limited to any bookstore, newsstand, novelty store, nightclub, bar, cabaret, amusement arcade, or theater, which:

A. Keeps for public patronage or permits or allows the operation of any adult amusement device as defined in Chapter 4 of the City of Portland Code of Ordinances; or

B. Customarily, meaning more often than an average of one calendar week during any calendar month of operation, exhibits motion pictures or displays any other visual representation described or advertised as being "X rated" or "for adults only," or which customarily excludes persons from any portion of the premises by reason of immaturity of age by the use of such, or similar, phrases; or

C. Is adjudged to be in violation of 17 M.R.S. §§ 2911, 2912.

Affordable housing. Housing for which the percentage of income a household is charged in rent and other housing expenses or must pay in monthly mortgage payments (including condominium/HOA fees, mortgage insurance, other insurance and real estate taxes), does not exceed 30% of a household's income, or other amount established in City regulations that does not vary significantly from this amount.

After-hours entertainment license. Any of the music, dancing, and special entertainment licenses required or authorized by Chapter 4, Article III of the City of Portland Code of Ordinances.

Agriculture. The practice of farming, including the cultivation of the soil for the growing of crops and rearing of animals to provide food and other products. Agriculture may include nurseries, greenhouses, and truck gardens, provided that there is no sale of products not produced on the premises.

Airport restricted access areas. Runways, taxiways, and other areas of the Jetport accessible to aircraft, whether access is restricted by the Federal Aviation Administration or not.

Alley. Any way designed primarily for vehicular and pedestrian or utility access to the back or side of premises otherwise abutting on a street, except driveways unless officially designated otherwise.

Animal-related services. Establishments principally for the training or boarding of animals. Such uses shall not include veterinary services.

Approval. An affirmative decision on an application, including an approval with conditions.

Appurtenance. A device or structure not designed for human occupancy and attached to the exterior of a building.

Area of shallow flooding. Area designated AO and AH zone on the Flood Insurance Rate Map (FIRM) with a 1 % or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard. The land in the floodplain having a 1% or greater chance of flooding in any given year as specifically identified in the most recently adopted FEMA Flood Insurance Study for the City of Portland.

Auto service station. A business selling gasoline, diesel, or propane fuel, providing services specific to electric vehicles, or providing motor vehicle repairs including, but not limited to, tune-ups, engine repair, brake work, muffler replacement, tire repair, or similar activities. Such businesses may also include car-washes and/or vacuums.

Back office use. An office-related use with minimal public visitation and minimal direct service to the general public, primarily to provide support services to larger organizations such as educational institutions, social service agencies, or business headquarters.

Bar. Any establishment required to be licensed to sell alcoholic beverages for on-premises consumption, which is not regularly used for the purpose of providing full-course meals, as defined in Title 28-A of the Maine Revised Statutes, on the premises.

Base flood. The flood having a 1% chance of being hereof or exceeded in any given year (i.e., a 100-year storm).

Basement. Area of building that includes a floor that is subgrade (below ground level) on all sides.

Bed and breakfast. A building that contains between two and nine guest rooms; is used to provide or offer overnight accommodations for transient guests; has an owner, manager, or operator living in the building as a permanent resident; does not provide cooking facilities in any of the guest rooms; and does not provide meals other than breakfast, which shall be offered only to overnight guests.

Blasting operations. The use of explosives for purposes of breaking up and removing soil, rock, and ledge, related to construction and development of real estate within the city.

Breakaway wall. A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without damage to the elevated portion of the building or supporting foundation system.

Building. A roofed and walled structure built for permanent use.

Building, accessory. A detached roofed and walled structure that is incidental and subordinate in area and extent, and/or use to the principal building(s) on

the property. A lot may have more than one accessory building.

Building addition. Any increase to footprint, floor area, or volume of an existing building.

Building alteration. A change or rearrangement in the structural supports, exterior appearance, or removing from or otherwise affecting the exterior appearance of a building.

Buildings, attached. Two or more independent buildings that share at least one common party wall but have full building separation and independent principal entries; not free-standing. Attached buildings may or may not have common ownership.

Building, principal. The main roofed and walled structure on a lot having the predominant area, extent, and/or use. A lot may have more than one principal building. When a garage is attached to the principal building in a substantial manner as by an enclosed area with roof or common wall, it shall be considered as a part of the principal building.

Clinics. Any establishment where patients are examined and treated by one or more health care providers, such as, but not limited to, physicians, dentists, psychologists, or social workers. Clinics may include laboratory services and facilities for ambulatory or outpatient surgical procedures.

Coastal AE Zone. The portion of the coastal high hazard area with wave heights between 1.5 feet and 3.0 feet and bounded by a line labeled the "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM). VE Zone floodplain construction standards are applied to development, new construction, and substantial improvements in the Coastal AE Zone.

Coastal high hazard area. An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Coastal high hazard areas are designated as Zone VE and Zone AE bounded by a line labeled "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM).

Coastal wetland. All tidal and subtidal lands; all lands with vegetation present that is tolerant of salt water and that occurs primarily in a salt water or estuarine habitat; and/or any swamp, marsh, bog, beach, flat, or other contiguous low land that is subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes.

Containment wall. Wall surrounding all sides of an above ground tank to contain any spills or leaks.

Commercial vessel. Any watercraft used principally in a business or trade, including common carriers of passenger or freight, whether for governmental, nonprofit, or emergency purposes, but not including pleasure craft used principally for recreational purposes.

Common areas. Portions of a lodging house which are available for use by all residents of the lodging house. Common areas shall include, but are not limited to, one or more of the following: kitchens,

living rooms, recreation rooms, improved basements, and finished porches. Bathrooms, stairways, hallways, and storage areas shall not be counted as common areas.

Communication studio. A commercial or public communication facility, including radio and television broadcasting and receiving stations and studios.

Community hall. A building or portion of a building used for social, recreational, artistic, civic, or educational community functions. Such a facility would be open to the public for such functions, which, for example, could include but not be limited to performances, dance, exhibitions, cultural exchange, training programs and workshops, neighborhood meetings, or gatherings. As part of these functions and activities, it shall be permissible to serve food, subject to other applicable codes and ordinances.

Condominium. Any interest in real estate created pursuant to the Unit Ownership Act, 33 M.R.S. § 560 et seq., or its equivalent, as it may from time to time be amended.

Congregate care facility. A residential development intended to facilitate aging in place that includes individual dwelling units with support services which provide assistance to residents. The population of a congregate care facility shall consist of persons 55 years of age or older and their spouses. A congregate care facility may also accommodate the needs of persons with disabilities and their spouses that are younger than 55 years of age, provided the majority of the residents are 55 years of age or older. Services to be provided shall include the following:

A. Transportation for essential support activities.
B. Provision of at least one meal per day.
C. Programmed social activities which are facilitated by staff.
D. Provision of personal care services including, but not limited to, housekeeping, laundry, and minimal health monitoring.
E. Installation of emergency call buttons or systems in each unit.

Correctional pre-release facility. A facility housing up to 12 persons, plus staff, serving a primary clientele of persons in correctional pre-release programs.

Drive-through. A facility which provides a service directly to a motor vehicle occupant and where the customer drives a motor vehicle onto the premises and to a window or mechanical device through or by which the customer is served with or without exiting the vehicle. Drive-throughs do not include major or minor auto service stations.

Drive-through features. Features associated with drive-throughs including but not limited to designated travel or stacking lanes, intercom systems, menu boards, service windows, kiosks, mechanical devices, etc.

Dwelling unit. One or more rooms forming a single unit for habitation by one family, including food preparation, living, sanitary, and sleeping facilities.

Dwelling, multi-family. A building or portion thereof containing three or more dwelling units.

Dwelling, single-family. A single building containing one dwelling unit.

Dwelling, two-family. A single building containing two dwelling units.

Earth-moving activity. Any removal or placement, excavation, filling, stockpiling, or grading of soil, earth, loam, sand, gravel, rock, and other mineral deposits.

Easement. A right, privilege, or liberty which one has in land owned by another for some special and definite purpose.

Elevation certificate. An official form (FEMA form FF-206-FY-22-152, as amended) that is used to verify compliance with the floodplain management regulations of the National Flood Insurance Program.

Emergency operations. Operations conducted for the public health, safety, or general welfare, such as protection of resources from immediate destruction or loss, law enforcement, and operations to rescue human beings and livestock from the threat of destruction or injury.

Emergency shelter. A facility providing temporary overnight shelter to homeless individuals in a dormitory-style or per-bed arrangement.

Entrance, principal. The main point of access for pedestrians into a building. A building may have more than one principal entrance.

Esplanade. That portion of a street which is located between the curbline and the edge of the sidewalk closest to the street.

Essential services. The construction, alteration, or maintenance of gas, electrical, or communication facilities; steam, fuel, electric power, or water transmission or distribution lines, towers and related equipment; telephone cables or lines, poles, and related equipment; gas, oil, water, slurry, or other similar pipelines; municipal sewage lines, collection, or supply systems; and associated storage tanks. Such systems may include towers, poles, wires, mains, drains, pipes, conduits, cables, fire alarms and police call boxes, traffic signals, hydrants, and similar accessories, but shall not include service drops or buildings which are necessary for the furnishing of such services.

Explosives. Any material or container containing a chemical compound or mixture that is commonly used or intended for the purpose of producing an explosion and that contains any oxidizing and combustible materials or other ingredients in such proportions, quantities, or packaging that an ignition by fire, by friction, by compound or mixture may cause such a sudden generation of highly heated gasses that the resultant gaseous pressures are capable of producing destructive effects on contiguous objects, but shall not mean the components for handloading rifle, pistol and shotgun ammunition, or fireworks.

Family. One or more individuals related by blood, marriage, civil union, adoption, or guardianship and/or up to eight unrelated individuals living together in a dwelling unit as a single nonprofit housekeeping unit.

Fill. Soil, earth, loam, sand, gravel, rock and other mineral deposits.

Filling. The placement of soil, earth, loam, sand, gravel, rock and other mineral deposits. Filling shall include stockpiling.

Fixture, fully shielded. A light fixture or luminous tube constructed and mounted such that all light emitted by the fixture or tube, either directly from the lamp, tube, or a diffusing element, or indirectly by reflection or refraction from any part of the light fixture, is projected below the horizontal. If the lamp or tube, any reflective surface, or lens cover (clear or prismatic) is visible when viewed from above or directly from the side, from any angle around the fixture or tube, the fixture or tube is not fully shielded.

Flag. A fabric sheet of square, rectangular, or triangular shape having no enclosing or supporting framework that is typically mounted on a pole.

Flood or flooding.

A. A general and temporary condition of partial or complete inundation of normally dry land areas from:
   1. The overflow of inland or tidal waters.
   2. The unusual and rapid accumulation or runoff of surface waters from any source.

B. The collapse or subsidence of land along a shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined above.

Flood elevation study. An examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations.

Flood Insurance Rate Map (FIRM). The official map on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the city.

Floodplain or floodprone area. Any land area susceptible to being inundated by water from any source (see Flood or Flooding).

Floodplain management. The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

Floodplain management regulations. Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance, and erosion control ordinance), and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodproofing. Any combination of structural or nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage

to real estate or improved real estate, to water and sanitary facilities, structures, and their contents.

Floodway encroachment lines. The lines marking the limits of floodways on federal, state, and local floodplain maps.

Foundation. The supporting substructure of a building or other structure, excluding wooden sills and post supports, but including basements, slabs, frost walls, or other base consisting of concrete, block, brick, or similar material.

Freeboard. A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed, which could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions.

Freshwater wetland. Freshwater swamps, marshes, bogs, and/or similar areas which are both:

F. Of ten or more contiguous acres or of less than ten contiguous acres and adjacent to a surface water body except for any river, stream or brook such that, in a natural state, the combined surface area is in excess of ten acres or of less than ten acres that is depicted on the Shoreland Zoning map.

G. Inundated or saturated by surface or ground water at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils.

Freshwater wetlands may contain small stream channels or inclusions of land that do not conform to the criteria of this definition.

Functionally-dependent use (within the floodplain). A use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

General office. An office for the conducting or managing of a business or the practice of a profession, including that of a licensed health care provider, so long as such office does not include laboratory services and facilities for ambulatory surgical procedures.

General services. Establishment primarily engaged in rendering services to persons or business on a fee basis, including but not limited to banks, health clubs, laundries, employment services, management services, personnel services, or maintenance services.

Handicapped family unit. A dwelling unit which provides living facilities for handicapped persons. A handicapped family unit may also provide counseling and support services. Staff members may also be included in the population.

Helistop. An area used for the landing of helicopters at any location other than an airport. Such area shall include a landing area or pad, and may include parking required for access to the

landing area or pad, a loading and unloading area for emergency vehicles, and other related facilities other than maintenance and repair facilities.

Hospital. An institution providing health services, primarily on an inpatient basis, and medical or surgical care of the sick or injured, including as an integral part of the institution such related facilities as laboratories, outpatient departments, training facilities, central service facilities, and staff offices.

Hostel. An overnight lodging facility for transient guests that provides sleeping rooms and common spaces for cooking. A hostel shall not be used as an emergency shelter.

Hotel. A building used for more or less temporary occupancy of individuals who are lodged with or without meals.

Impervious surface. Area covered with low-permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability.

Industrial, high-impact. Industrial activity involving the manufacturing, packaging, assembly, or distribution of finished products from either raw materials or previously prepared material which are generally incompatible with residential, commercial, and lower-impact industrial uses and sensitive natural areas due to their high generation of traffic, noise levels, emissions, lighting, and odors.

Industrial, low-impact. Industrial activity involving the manufacturing, packaging, assembly, or distribution of finished products from previously prepared material, including but not limited to the following: artist studios, bakeries; breweries; distilleries; bottling; coffee roasters; commercial kitchens; pharmaceuticals; machine shops; watchmakers; makers of precision instruments, musical instruments, toys and sporting goods, pottery and ceramics using only previously pulverized clay, wood products, jewelry; assembly of electrical components; canteen services; tool and die shops; plant and tree nurseries; and the packaging of foods. Low-impact industrial uses do not include the processing of raw materials or salvaging operations. Low-impact industrial uses are generally compatible, due to their size and nature of impact, with residential, commercial and other low impact industrial uses.

Intermediate care facility. A facility which provides, on a regular basis, health-related care and services for more than 13 individuals who do not require the degree of care and treatment which a hospital or extended care facility is designed to provide but who, because of their mental or physical condition, require such care and services above the level of room and board. Said facility must be licensed as a board care, residential care facility or equivalent pursuant to the regulations promulgated by the State of Maine Department of Health and Human Services.

Kitchen facilities. Facilities used for the preparation of meals, including refrigerators and devices used for the cooking and preparation of food.

Limit of Moderate Wave Action (LiMWA). The landward limit of the 1.5 foot breaking wave within a

Coastal AE Zone. These areas are bounded by a line labeled "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM). The LiMWA line delineates that portion of the Special Flood Hazard Area (SFHA) landward of a VE zone in which the principal sources of flooding are astronomical high tides, storm surges, or tsunamis, not riverine sources. These areas may be subject to wave effects, velocity flows, erosion, scour, or combinations of these forces. The floodplain development and construction standards for VE Zones will be applied in the Coastal AE Zone.

Locally-established datum. For purposes of the floodplain ordinance, an elevation established for a specific site to which other elevation at the site are referenced. This elevation is generally not referenced to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD), or any other established datum and is used in areas where mean sea level data is too far from a specific site to be practically used.

Lodging house. A house, building or portion thereof containing two or more rooming units, as well as common areas, and providing such units to individuals on not less than a monthly basis for compensation.

Long-term or extended care facility. An institution or a distinct part of an institution that is licensed or approved to provide full-time convalescent or chronic care, or health care under medical supervision for 24 or more consecutive hours, to nine or more individuals who, by reason of advanced age, illness, or infirmity are unable to care for themselves, and who are not related to the governing authority by marriage, blood, or adoption.

Lot. A parcel or area of land that is designated as an individual unit for use, development, or ownership that is either: a) a parcel or area of land that is separately described in a deed or on a plan recorded in the Cumberland County Registry of Deeds; b) a contiguous combination of such lots under common ownership and designated as one unit for development; or c) a newly established parcel meeting all the dimensional requirements of the zone in which it is located.

Lot of record. A nonconforming parcel or area of land that: a) is separately described in a deed or on a plan recorded in the Cumberland County Registry of Deeds as of the date designated in the relevant provision of this chapter and b) conformed to the requirements of this chapter as of the date designated in the relevant provision of this chapter.

Lowest floor (within the floodplain). The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Article 12.

Low-income household. A household having an income not exceeding 80% of median income for area of residence as set forth in regulations promulgated from time to time by the United States Department of Housing and Urban Development pursuant to 42 U.S.C. sections 1437 et seq.

Low-income housing unit for rent. A dwelling unit for which:

A. The rent is affordable to a household earning 80% or less of Area Median Income (AMI) as defined by the United States Department of Housing and Urban Development (HUD).
B. The unit is rented to a household earning 80% or less of AMI.
C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

Low-income housing unit for sale. A dwelling unit for which:

A. The sale price is affordable to a household earning 100% or less of Area Median Income (AMI
B. The unit is sold to a household earning 100% or less of AMI.
C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for future sales for the applicable length of time in this ordinance.

Manufactured housing. A structural unit or units designed for residential occupancy and constructed in a manufacturing facility and then transported by the use of its own chassis or placement on an independent chassis to a building site. The term includes any type of building which is constructed at a manufacturing facility and then transported to a building site where it is utilized for housing and may be purchased or sold by a dealer in the interim. For purposes of this article, two types of manufactured housing are included. They are:

A. Those units constructed after June 15, 1976, which the manufacturer certifies are constructed in compliance with the standards required by the United States Government Department of Housing and Urban Development, as such standards are from time to time revised or amended, meaning structures, transportable in one or more sections, which in the traveling mode are 14 body feet or more in width and are 750 or more square feet, and which are built on a permanent chassis and designed to be used as dwellings, with or without permanent foundations, when connected to the required utilities, including the plumbing, heating, air conditioning, and electrical systems contained therein. This term also includes any structure which meets all the requirements of this subparagraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the Secretary of the United States Department of Housing and Urban Development and complies with the standards established under the National Manufactured Housing Construction and Safety Standards Act of 1974, United States Code, Title 42, Section 5401 et seq.; and
B. Those units constructed after June 15, 1976, which the manufacturer certifies are constructed in compliance with the state's Manufactured Housing Act and regulations, meaning structures, transportable in one or more sections, which are not constructed on a permanent chassis and are designed to be used as dwellings on foundations when connected to required utilities, including the plumbing, heating, air conditioning, or electrical systems contained therein.

Any unit which does not fall within the definitions of this section and which is legally sited within the city on December 18, 1989, may be relocated to any

location in the city in which manufactured housing is allowed.

Manufactured housing park. A parcel of land under unified ownership approved by the Planning Board under 30-A M.R.S. § 4358 for the placement of single-component manufactured housing.

Marijuana cultivation facility. A cultivation facility required to be licensed pursuant to 28-B M.R.S. § 201 or any other facility engaged primarily in the business of planting, propagation, growing, harvesting, drying, curing, grading, trimming, or other processing of marijuana, including mature marijuana plants, immature marijuana plants, seedlings, and marijuana seeds, for use or sale.

Marijuana manufacturing facility. A manufacturing facility required to be licensed pursuant to 22 M.R.S. § 2423-F or 28-B M.R.S. § 201.

Marijuana product. As defined by 22 M.R.S. § 2422 or 28-B M.R.S. § 102.

Marijuana retail store. A retail establishment licensed to sell marijuana, marijuana products, immature marijuana plants, and seedlings to adult use or medical marijuana customers. A marijuana retail store is only authorized as a principal use, and is not permitted as an accessory use. A marijuana retail store may not exceed a maximum gross floor area of 2,000 square feet. A marijuana retail store shall not include a registered dispensary.

Marijuana testing facility. A facility licensed to develop, research and test marijuana, marijuana products and other substances as defined by 22 M.R.S. § 2422 or 28-B M.R.S. § 102.

Marina. A commercial operation providing floats, slips, and piers intended primarily for berthing of noncommercial vessels and the provision of related services such as supplies, fuel, equipment and repairs, which may be provided both to tenants and non-tenants.

Mean sea level (within the floodplain). For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD), or other datum, to which base flood elevations shown on the City's FIRM are referenced.

Military personnel berthing. A building, or portion thereof, which is primarily used as, and intended for, temporary living quarters for military personnel.

Moderate-income household. A household having an income not exceeding 120% of median income for area of residence as set forth in regulations promulgated from time to time by the United Sates Department of Housing and Urban Development pursuant to 42 U.S.C. sections 1437 et seq.

Multi-family development. The construction or creation of three or more dwelling units on any parcel of land or the addition of two or more dwelling units cumulatively within a three-year period.

Multiplex. A residential development consisting of three or more horizontally or vertically attached dwelling units, or a series of such attached dwelling units, and the construction of at least one building.

National Geodetic Vertical Datum (NGVD). The national vertical datum, a standard established in

1929, which is used by the National Flood Insurance Program (NFIP). NGVD is based upon mean sea level in 1929 and also has been called "1929 Mean Sea Level (MSL)".

Neighborhood center. A building or portion of a building used for recreational, artistic, social, educational, health, culture, or similar activities and services, usually owned and operated by a public or nonprofit group or agency. As part of these functions and activities, it shall be permissible to serve food, subject to other applicable codes and ordinances.

Non-commercial vessel berthing. The use of berthing space for berthing of watercraft other than commercial vessels. Berthing space used in the following manner shall not be included in the calculation of the number of linear feet under this use category:

A. Space used principally for sale or repair of vessels.

B. Commercial vessel tenant space used by a noncommercial vessel for a period not exceeding ten consecutive days while the primary commercial vessel tenant is conducting its business or trade.

Normal high-water line (non-tidal waters). That line which is apparent from visible markings, changes in the character of soils due to prolonged action of the water or changes in vegetation, and which distinguishes between predominantly aquatic and predominantly terrestrial land. Areas contiguous with rivers that support non-forested wetland vegetation and hydric soils and that are at the same or lower elevation as the water level of the river during the period of normal high-water are considered part of the river.

North American Vertical Datum (NAVD). The national datum whose standard was established in 1988, which is the new vertical datum used by the National Flood Insurance Program (NFIP) for all new Flood Insurance Rate Maps. NAVD is based upon vertical datum used by other North American countries such as Canada and Mexico and was established to replace NGVD because of constant movement of the earth's crust, glacial rebound and subsidence, and the increasing use of satellite technology.

Office park. Separate office buildings planned, constructed, or managed on an integrated coordinated basis.

Off-peninsula. All land located north of I-295.

100-year flood. See base flood.

On-peninsula. All land located south of I-295.

Open space. Any park and any other area outside of a building open to the public.

Owner. Any person that has any interest, legal or beneficial, in any parcel or lot.

Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high-water line or within a wetland, temporary. Structures which remain in or over the water for less than seven months in any period of 12 consecutive months.



Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high-water line or within a wetland, permanent. Structures which remain in or over the water for seven months or more in any period of 12 consecutive months.

Place of assembly. A building or portion of a building used as a community hall, neighborhood center, private club, or fraternal organization, or place of religious assembly. This definition shall not include buildings or portions of buildings used as a community hall, neighborhood center, private and fraternal organization, or place of religious assembly where 15 or fewer people, not including the permanent residents of a single-family dwelling, assemble.

Place of **religious** assembly. A building or portion of a building used for religious worship or instruction including, but not limited to, churches, synagogues, masjids, mosques, and other places of worship.

Planned residential unit development (PRUD). A residential subdivision consisting of attached or detached dwellings intended for separate ownership and land to be owned and used in common, with open spaces, recreational areas, access ways, and buildings which are designed, built, and managed in accordance with a unified development plan.

Planned unit development (PUD). A development consisting of either detached or attached single-family dwelling units and commercial or other uses, on substantially-sized properties of greater than 20 acres and designed to be compatible with the surrounding built and natural environment.

Plant canopy. As defined by 28-B M.R.S. § 102.

Preschool facility. Facility which provides a regular program of care and protection for children generally younger than those attending elementary school, which may also encompass daycare facilities.

Private club or non-profit social and recreational facility. A private club or nonprofit social and recreational facility is open exclusively to members and to their bona fide guests accompanying them, in order to promote fellowship, social living, proper recreation, civic responsibility, neighborhood responsibility, community welfare, or other endeavors. It shall be permissible to serve food and meals on such premises provided adequate dining room space and kitchen facility are available and are provided within all regulations of this Land Use Code and other applicable codes and ordinances.

Recent floodplain soils. Recent floodplain soils include the following soil series as described and identified by the National Cooperative Soil Survey: Alluvial. Charles, Cornish, Fryeburg, Hadley, Limerick, Lovewell, Medomak, Ondawa, Podunk, Rumney, Saco, Suncook, and Winooski.

Recreational vehicle. A vehicle that is:

A. Built on a single chassis;
B. 400 square feet or less when measured at the largest horizontal projection, not including slideouts;
C. Designed to be self-propelled or permanently towable by a motor vehicle; and,
D. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Recreation and amusement centers. Facilities equipped for the conduct of sports or indoor leisure time recreation activities, including games of skill or games of chance licensed either by the City of Portland or by the State of Maine. Such facilities may limit admission either to members or to persons paying an entrance fee.

Registered dispensary. A registered medical marijuana dispensary as defined by 22 M.R.S. § 2422.

Registered patient. As defined by 22 M.R.S. § 2422.

Regulatory floodway. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. When not designated on the Flood Insurance Rate Map (FIRM), it is considered to be the channel of a river or other watercourse and the adjacent land areas to a distance of 1/2 the width of the floodplain, as measured from the normal high-water mark to the upland limit of the floodplain.

Repair services. Establishments primarily engaged in rendering services related to the maintenance or repair of goods. In industrial zones only, repair services shall include motor vehicle repair services.

Restaurant. Any food service establishment with indoor seating capacity for ten or more patrons.

Retail. Any shop or store offering goods or merchandise to the general public for direct consumption and not for resale, or food service establishment with indoor seating capacity for nine or fewer patrons. Retail shall not include gasoline, diesel, or propane fuel sales.

Riverine. Relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

Roadway. That portion of a street between the regularly established curblines, or that part of a street or alley devoted to vehicular traffic.

Rooming unit. One or more rooms forming a single unit used, or intended to be used, for living and sleeping purposes by an individual or a family, but not designed for food preparation. In a suite of rooms, each room that provides sleeping accommodations shall be counted as one rooming unit for the purpose of this chapter.

Self-storage facility. A fully enclosed building with individual, secured units (accessed with or without supervision) used for the exclusive purpose of storage of non-hazardous business or personal materials.

Sexually explicit. The display or depiction of sex organs during actual or simulated sexual intercourse or sexual acts as defined in 17 A M.R.S. § 251.

Sheltered care group home. A facility which, in addition to providing food and shelter to a defined population of up to 12 individuals, provides guidance or counseling services as a primary function of the facility.

Shore frontage. The length of a lot bordering on a water body or wetland measured in a straight line between the intersections of the lot lines with the shoreline.

Sidewalk. That portion of a street not included in the roadway, and devoted in whole or part to pedestrian traffic.

Site. All contiguous land under the same ownership or control, whether proposed for development or not, except where development is limited to a lot or lots within a subdivision.

Small-scale marijuana caregiver. A registered caregiver who sells or dispenses marijuana to no more than five individual registered patients in any one calendar month; does not process or manufacture marijuana using chemicals or solvents; and cultivates no more than: 1) 250 square feet of plant canopy where located in a single-family dwelling or commercial space; or 2) 125 square feet of plant canopy where located in a dwelling unit within a two-family or multi-family building.

Solar access. Space open to the sun and clear of overhangs or shade, including orientation of buildings and lots to the sun, so as to permit the use of active and/or passive solar energy systems on individual properties.

Solar energy system. A complete assembly consisting of one or more solar collectors and associated mounting hardware or equipment, intended to provide for the collection, storage, and distribution of solar energy for heating or cooling, electricity generation, or solar/thermal hot water systems. Solar energy systems shall include the following:

A. Accessory solar **energy system.** A system as defined above where power generation is incidental to a principal use, which may take the form of either a building integrated or roof-mounted solar array of any size, or a ground-mounted array occupying less than 1,000 square feet of air-space over ground area.

B. Minor solar **energy system.** A system as defined above where power generation is considered a principal use, which may take the form of either a building- or roof-mounted solar array of any size, or a ground-mounted system occupying between 1,000 and 9,999 square feet of ground area.

C. Major solar **energy system.** A system as defined above where power generation is considered a principal use, which may take the form of either a building or roof-mounted solar array of any size, or a ground-mounted system occupying greater than 10,000 square feet of ground area.

Solar energy system, building-integrated. A solar energy system that is an integral part of a principal or accessory building and include, but are not limited to, photovoltaic or hot water systems that are contained within roofing materials, windows, walls, skylights and awnings.

Solar energy system, ground-mounted. Also known as free-standing solar energy systems, a solar energy system that is structurally mounted to the ground. The panels may be stationary or revolving and of any size.

Solar energy system, roof-mounted. A solar energy system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames which can be tilted toward the south at an optimal angle.

Sounds, impulse. Sound events characterized by brief excursions of sound pressure, each with a duration of less than 1 second.

Sounds, tonal. Sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time.

Special Flood Hazard Area. See area of special flood hazard.

Special needs independent dwelling unit. A dwelling unit developed and managed by a nonprofit organization for habitation by persons with special social, physical or mental needs beyond strictly economic needs. Such persons shall be provided required levels of supervision, care and/or counseling services appropriate to their special needs, and the services shall be provided by either the sponsoring nonprofit agency or through another entity with which the agency has entered into a contractual arrangement.

Sports complex. One or more facilities located on the same parcel of land where athletic events are held and with a combined seating capacity of at least 6,000 seats.

Stockpiling. Any placement or creation of piles or loads of soil, loam, sand, gravel, rock, or other mineral deposits upon a site for the purpose of storage, warehousing, or reserving for future use.

Stormwater retention area. A pond or basin used for the permanent storage of stormwater runoff.

Stormwater detention area. A storage area for the temporary storage of stormwater runoff which does not contain water during non-storm conditions.

Stream. A free-flowing body of water from the outlet of the confluence of two perennial streams as depicted on the most recent edition of a United States Geological Survey 7.5-minute series topographic map, or if not available, a 15-minute series topographic map, to the point where the body of water becomes a river or flows to another water body or wetland within a shoreland area, or any stream designated within a Stream Protection Zone.

Street. A public way established by or maintained under public authority, or a way dedicated to the use of the public and appearing on the official map of the city.

Street line. The line of demarcation between private property and a street.

Street, cul-de-sac or dead end. A street with only one outlet.

Structure. Anything constructed or erected of more than one member having a permanent or semi-permanent location on another structure or in or on the ground, including without limitation buildings, fences, gazebos, signs, antennas, satellite sending or receiving dishes, and swimming pools. Stockpiles shall be considered structures for the purposes of dimensional requirements.

Studios for artists and craftspeople. A facility for the production of arts and crafts products such as

paintings, sculpture, or other arts, or the practice of arts such as music or dance, or the production of custom, hand-crafted, or limited production of products such as furniture, wood, clay, and metal products, publications, and similar low-impact arts and crafts activities.

Subdivider. Any individual, firm, association, syndicate, partnership, corporation, trust, or any other legal entity commencing proceedings under these regulations to effect a subdivision of land hereunder for himself, herself, or for another.

Subdivision. As defined in 30 A M.R.S. § 4401 and 4402.

Tasting room. A facility for the sampling of beer, wine, spirits, other alcoholic or non-alcoholic beverages, or food.

Telecommunication tower. Radio masts or tower structures built primarily to hold telecommunication antennas.

Tenant. Any occupant in lawful possession of a rental unit, whether by lease, sublease, or otherwise.

Theater or performance hall. Any establishment devoted to showing motion pictures, or for dramatic, musical, or live performances.

Transient guest. A person who occupies a facility offering accommodations on an overnight basis for compensation and whose actual occupancy is limited to no more than 15 days out of any 60-day period.

Tributary stream. A channel between defined banks created by the action of surface water, which is characterized by the lack of terrestrial vegetation or by the presence of a bed, devoid of topsoil, containing waterborne deposits or exposed soil, parent material or bedrock; and which is connected hydrologically with other water bodies. Tributary stream does not include rills or gullies forming because of accelerated erosion in disturbed soils where the natural vegetation cover has been removed by human activity.

Upland edge of a wetland. The boundary between upland and wetland. For purposes of a coastal wetland, this boundary is the line formed by the landward limits of the salt tolerant vegetation and/or the highest annual tide level, including all areas affected by tidal action. For purposes of a freshwater wetland, the upland edge is formed where the soils are not saturated for a duration sufficient to support wetland vegetation, or where the soils support the growth of wetland vegetation but such vegetation is dominated by woody stems that are six meters or taller.

Use. The purpose for which land or structures thereon is designed, arranged, or intended to be occupied, or for which it is occupied, maintained, rented, or leased.

Utility substation. Any sewage or water pumping station, electric power substation, transformer station, telephone equipment enclosures, or other similar structures owned or operated by a utility.

Vegetation. All live trees, shrubs, ground cover, and other plants including, without limitation, trees both

over and under four inches in diameter, measured at four and one-half feet above ground level.

Very low-income household. A household having an income not exceeding 50% of median income for area of residence as set forth in regulations promulgated from time to time by the United States Department of Housing and Urban Development pursuant to 42 U.S.C. section 1437 et seq.

Warehousing, storage, and distribution. The storage of goods, wares, and merchandise in a warehouse from which distribution occurs. May include wholesale use, but not retail or direct sales to consumers.

Watercourse. Any natural or artificial stream, river, creek, ditch, channel, swale, canal, conduit, culvert, drain, waterway, gully, ravine, or wash in which water flows in a definite direction or course, either continuously or intermittently, or which has a definite channel, bed, and banks, and includes any area adjacent thereto subject to inundation by reason of overflow or floodwater.

Water-dependent uses. Those uses that require, for their primary purpose, location on submerged lands or that require direct access to, or location in, coastal or inland waters and which cannot be located away from these waters.

Wetlands (outside of shoreland zones). Those areas which have two or more of the following:

A. A water table at or near the surface during the growing season;

B. Very poorly drained soils, including Sebago mucky peat; or

C. Obligate wetland vegetation.

Very poorly drained soils and obligate wetland vegetation shall be as defined and illustrated in the United States Department of Interior, Fish and Wildlife Service publication of Wetland Plants of the State of Maine (1986).

Wind energy system. A wind energy generator and all associated facilities.

Wind energy system, useful life. The period for which the system has been designed by the manufacturer to operate in a safe manner, including the period during which new parts and refurbishment allow it to continue operating safely.

Wholesale. Sale for resale, not for direct consumption.

Workforce housing unit for rent. A dwelling unit for which:

A. The rent is affordable to a household earning 80% or less than of AMI.

B. The unit is rented to a household earning 80% or less of AMI.

C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

Workforce housing unit for sale. A dwelling unit for which:

A. The purchase price is affordable to a household earning 80% or less of AMI.

B. The unit is sold to a household earning 80% or less of AMI.

C. The requirements of (A) and (B) above are limited by deed restriction or other legally

binding agreement for the applicable length of time in this ordinance.

4 NONCONFORMING USES, STRUCTURES, & LOTS

4.1 CONTINUATION

Any building, structure, lots, or use, that was legally existing at the time of its creation and made nonconforming by the provisions of this Land Use Code or any amendment thereto may be continued although such building, structure, lot, or use does not conform with the provisions of this Land Use Code.

4.2 NONCONFORMING USES

4.2.1 Increase in nonconforming use

A. A structure whose use is wholly nonconforming shall not be altered so as to increase the cubical content or the extent of nonconformity, except as provided for in (C), below.

B. A nonconforming use on premises outside of a building shall not be extended or allowed to occupy additional land area.

C. No alterations, modifications, or additions shall be made so as to increase the cubical content or the degree of nonconforming use, nor shall a nonconforming use be extended to any other part of a structure, unless such extension of a nonconforming use is solely for the purpose of bringing the use into compliance with health or safety codes, or to correct a condition which is determined by the Board of Appeals to constitute a health or safety problem. In either case, the expansion shall be limited to the minimum necessary to accomplish that purpose.

D. Except as expressly provided herein, any alteration, modification, or addition permitted under this subsection shall be in compliance with all other applicable sections of this Land Use Code. Nothing within this subsection shall be construed to permit an increase in the number of units in a building which is nonconforming as to the number of dwelling units or will become nonconforming as a result of such alteration, modification, or addition.

4.2.2 Change of nonconforming use

When a nonconforming use has been changed to a permitted use, it shall not thereafter be changed back to any non-permitted use. For purposes of this subsection, a use shall be deemed to have been so changed when an existing nonconforming use is terminated and a permitted use is commenced and continued for a period of seven days. Any change of use in violation of this article shall be deemed to be an abandonment of the lawfully existing nonconforming use. A lawful nonconforming use shall not be changed to any use other than a use permitted in the zone in which the use is located or to any use other than a nonconforming use of a more restricted zone, as set forth in the following schedule, provided that in no such case shall any structural alterations be made in any building except those required by law, ordinance, or other regulations:

A. In a mixed-use zone, from any use permitted in an industrial zone to any use permitted in a mixed-use zone.

B. In a B-1/B-1b zone, from any use permitted in a B-3 zone to any use permitted in a B-2 zone.

C. In a residential zone, from any use permitted in a B-2 zone to any use permitted in a B-1/B-1b zone.

D. In a residential zone, from any use permitted in any other residential zone to any use permitted in a more restrictive residence zone. For the purpose of this subsection, an R-6 zone shall be

deemed the least restrictive and an R-1 zone shall be deemed the most restrictive, with the intervening zones restricted in order of zone number.

4.2.3 Discontinuance of use of land

A nonconforming use of land where no buildings or only incidental or accessory buildings are employed together with such use shall not be changed to any other nonconforming use, and if such use is discontinued for a period of 90 days, it shall not be reestablished.

4.2.4 Discontinuance of use of property

If a legally nonconforming nonresidential use is discontinued for a period of 12 months or if a legally nonconforming residential use is discontinued for a period of 24 months, such discontinuance shall constitute an abandonment of the use and the property shall not thereafter be occupied or used except in conformity with the provisions of this article. A nonconforming use of land which is incidental or accessory to such nonconforming use shall be considered as being discontinued at the same time as the nonconforming use of the structure. In cases of foreclosure or similar situations involving a legally nonconforming use, the Planning Authority shall be authorized to extend the aforementioned period up to an additional five years provided that the extension is for good cause and the minimum length considered necessary to resume the legally nonconforming use of the structure. If the Planning Authority extends the period for resuming the nonconforming use, any associated existing nonconformities of structures and land shall also be extended. For buildings in the Shoreland Zone, state regulations may also govern and provide for a shorter period of time for nonconforming properties.

4.3 NONCONFORMING LOTS

4.3.1 Lots of record

A. A lot of record that has been held in separate and distinct ownership from adjoining lots as of the relevant date below shall be considered a buildable lot if it meets the following minimum standards:

1. A lot of record as of June 5, 1957 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5a, or R-6 zones provided that: a) the applicable setback dimensions can be met; b) the lot has a minimum street frontage of 40 feet or the applicable street frontage of the zone, whichever is less; and c) the lot has a minimum lot size of 5,000 square feet or the applicable minimum lot size of the zone, whichever is less.
2. A lot of record as of June 5, 1984 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5a, or R-6 zones provided that the applicable setback dimensions can be met.
3. A lot of record as of July 15, 1985 may be considered a buildable lot in the IR-1 and IR-2 zones, provided that the applicable setback dimensions can be met and provided further that a lot in the IR-1 zone has a minimum lot area of 10,000 square feet and a lot in the IR-2 zone has a minimum lot area of 6,500 square feet unless the lot is served by both public sewer and public water, in which case the lot has a minimum area of 5,000 square feet.

B. A lot of record that has been held in common ownership with any adjoining lot(s) at any point after the relevant date below shall be considered a buildable lot only if: 1) none of the lot(s) are in the Shoreland Zone; 2) any existing structure meets, or will be modified to meet, the applicable setback dimensions; and 3) it meets the following minimum standards:

1. A lot of record as of June 5, 1957 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5A, or R-6 zones provided that: a) the applicable setback dimensions can be met; b) the lot has a minimum street frontage of 40 feet or the applicable street frontage of the zone, whichever is less; and c) the lot has a minimum lot size of 5,000 square feet or the applicable minimum lot size of the zone, whichever is less.
2. A lot of record as of June 5, 1984 may be considered a buildable lot in the R-1, R-2, R-3, R-4, R-5, R-5A, or R-6 zones provided that the applicable setback dimensions can be met.
3. So long as the setbacks are met, any nonconformities of structures and buildings, existing prior to June 5, 1957, on developed lots of record shall be considered lawfully existing nonconformities.

4.4 NONCONFORMING BUILDINGS/STRUCTURES

4.4.1 Restoration or reconstruction

A. A lawful nonconforming nonresidential structure may be maintained, repaired, or reconstructed in kind within a one-year period or within a two-year period for a lawful nonconforming residential structure, but no alterations, modifications, or additions shall be made to it, except as provided in Subsections 4.4.2 and 4.4.3.

B. A nonconforming structure damaged by fire, explosion, flood, riot, act of the public enemy, accident of any kind, decay, or otherwise may be maintained, repaired, reconstructed, restored or rebuilt only where:

1. The restoration or reconstruction is of a building which is lawfully nonconforming only as to lot area, setbacks, or any other dimensional requirements.
2. Where the restoration or reconstruction will occur entirely within the existing footprint and previous shell of the building and where no alterations, modifications, or additions will be made except as provided in this article and as permitted in Subsections 4.4.2 and 4.4.3.
3. Restoration or reconstruction is commenced within one year for a nonconforming nonresidential structure, or two years for a nonconforming residential structure, of the initial damage where such damage is sudden and accidental and is diligently pursued to completion without expiration of permits. For buildings in the Shoreland Zone, state regulations may also govern and provide for a shorter period for restoration or reconstruction of nonconforming structures.
4. Restoration or reconstruction necessitated by decay must be commenced within one year of the demolition of the building and diligently pursued to completion without expiration of permits.

5. Any reconstruction, under this provision, in the R-6 zone on a lot with 10,000 square feet or less, other than the exact restoration of a previously existing building on the site, shall comply with the applicable standards contained within the City of Portland *Design Manual*.

4.4.2 Alteration or modification

Alteration or modification may be made to a building which is lawfully nonconforming as to any dimensional requirement where the proposed changes in existing exterior walls and/or roofs would be within the space occupied by the existing shell of the building, and would not create any new nonconformity nor increase any existing nonconformity, except as provided elsewhere in this article and as permitted under Subsection 4.4.3. This subsection shall not apply to buildings located within the Shoreland Zone and existing on June 15, 1992, which are nonconforming only as to setbacks from wetlands, tributary streams, or other water bodies, which shall be regulated in accordance with Subsection 4.4.5.

4.4.3 Building extensions

Existing principal buildings which are lawfully nonconforming as to dimensional requirements may be enlarged subject to the following provisions:

A. No modification to an existing nonconforming building shall increase any existing nonconformity of a lot, use, or structure, except as provided in (D) below.

B. No modification to an existing nonconforming building shall create new noncompliance with any provision of this Land Use Code.

C. Existing buildings that are lawfully nonconforming as to required minimum setbacks may be vertically or horizontally expanded provided that the area of expansion meets all current dimensional requirements, except as provided in (D) below.

D. A vertical expansion above a portion of a building that is lawfully nonconforming as to minimum setbacks may be permitted a one-time increase of one additional story provided that:

1. No portion of the expansion horizontally extends beyond the nonconforming portion of the first story of the structure.
2. Any portion of a vertical expansion above the permitted one additional story shall meet the required minimum setback.

4.4.4 Enclosure of porches in required setbacks

Any open porch existing with a roof over the same on June 5, 1957, and encroaching upon any setback required by this chapter may be enclosed if the major portion of the enclosure is of glass.

4.4.5 Expansions in the Shoreland Zone

A nonconforming structure may be added to or expanded if such addition or expansion does not increase the nonconformity of the structure and is in accordance with the following provisions:

A. After January 1, 1989, if any portion of a structure is less than the required setback from the normal high water line of a water body or tributary stream or the upland edge of a wetland that portion of the structure shall not be expanded, as measured in floor area or volume, by 30% or more, during the lifetime of the structure. If a replacement structure conforms with the requirements of this subsection, and is less than the required setback from a water body, tributary stream, or

wetland, the replacement structure may not be expanded if the original structure existing on January 1, 1989 had been expanded by 30% in floor area and volume since that date.

B. Whenever a new, enlarged, or replacement foundation is constructed under a nonconforming structure, the structure and new foundation must be placed such that the setback requirement is met to the greatest practical extent as determined by Building Authority, basing its decision the criteria specified in (C) below. If the completed foundation does not extend beyond the exterior dimensions of the structure, except for expansion in conformity with (A) above, and the foundation does not cause the structure to be elevated by more than three additional feet as measured from the uphill side of the structure (from original ground level to the bottom of the first floor sill), it shall not be considered to be an expansion of the structure.

C. A nonconforming structure may be relocated within the boundaries of the parcel on which the structure is located, provided that the site of the relocation conforms to all setback requirements to the greatest practical extent as determined by the Building Authority, and provided that the applicant demonstrates that the present subsurface sewage disposal system meets the requirements of state law, the State of Maine Subsurface Wastewater Disposal Rules, or that a new system can be installed in compliance with state law, such rules, and all applicable chapters of the City of Portland Code of Ordinances. In no event shall a structure be relocated in a manner that causes the structure to be more nonconforming. In determining whether the building relocation meets the setback requirements to the greatest practical extent, the Building Authority shall consider the size of the lot, the slope of the land, the potential for soil erosion, the location of other structures on the property and on adjacent properties, the location of septic system and other on site soils suitable for septic systems, and the type and amount of vegetation to be removed to accomplish the relocation. When it is necessary to remove vegetation within the water or wetland setback are in order to relocate a structure, the Building Authority shall require replanting of native vegetation to compensate for the destroyed vegetation. In addition, the area from which the relocated structure was removed must be replanted with vegetation. Replanting shall be required as follows:

1. Trees removed in order to relocate a structure must be replanted with at least one native tree, three feet in height, for every tree removed. If more than five trees are planted, no one species of tree shall make up more than 50% of the number of trees planted. Replaced trees must be planted no further from the water or wetland than the trees that were removed.
2. Other woody and herbaceous vegetation and ground cover that are removed or destroyed in order to relocate a structure must be re-established within the setback area. The vegetation and/or ground cover must consist of similar native vegetation and/or ground cover that was disturbed, destroyed or removed.
3. Where feasible, when a structure is relocated on a parcel the original location

of the structure shall be replanted with vegetation which may consist of grasses, shrubs, trees, or a combination thereof.

D. Buildings in existence on January 1, 1989, and located in the Shoreland Zone may be expanded once during the lifetime of the structure up to 25 feet toward a freshwater wetland or tributary stream, provided that a minimum setback of 40 feet is maintained and that the existing floor area or volume is not increased by more than 30%, and shall not create any undue environmental impact or flood-prone condition.

4.4.6 Nonconformity as to number of dwelling units

A. **Purpose.** The purpose of this provision is to establish a process whereby certain dwellings which contain more dwelling units than the number permitted by the applicable provisions of the Land Use Code may be recognized as legal, nonconforming uses.

B. **Application.** Application for validation of such nonconforming dwelling units shall be on a form provided by the Building Authority, and will be accompanied by:

1. An application fee as established by the City Council to cover administrative costs.
2. A plan, drawn to scale, which shows the location of the building(s) on the lot, parking, easements, dumpsters, fencing, public ways, and any other significant feature.
3. A floor plan for each unit in the dwelling, whether or not it is the subject of the application.

C. **Eligibility.** In order for a nonconforming dwelling unit to be validated by administrative action of the Building Authority as authorized herein, the Building Authority must find, based on competent evidence, supported by public records, that:

1. The nonconforming dwelling units were either in existence April 1, 2005, or the structure in which they are located was originally designed to accommodate more than the number of such units presently in use.
2. The applicant neither constructed nor established the nonconforming dwelling units.
3. The nonconforming dwelling units comply with or can be made to comply with current standards of Chapter 10 of the City of Portland Code of Ordinances, including the National Fire Protection Association Life Safety Code and the National Fire Protection Association 1: Fire Prevention Code, as amended.
4. Each of the nonconforming dwelling units complies with, or can be made to comply with, provisions of the Chapter 6 of the City of Portland Code of Ordinances, as amended, including, but not limited to, the minimum standards for space and occupancy, the minimum plumbing standards, and the minimum ventilation standards.
5. The structure containing the nonconforming dwelling units is located in the R-3, R-4, R-5/R-5a, R-6/R-6a, R-7, B-1/B-1b, B-2/B-2b/B-2c, or IS-FBC zones.

In the absence of legally competent evidence, supported by records (such as, but not limited to, Assessor's records, purchase and sale agreements, affidavits, deeds, mortgages, as

well as reliable secondary sources), that the conditions of (C)(1), (2), (3), (4), or (5) above can be met, the Building Authority may not approve the application, but shall advise the applicant that the matter may be appealed to the Board of Appeals.

D. **Notice to abutters**. Upon receipt of a completed application, the Building Authority will provide the owners of abutting properties and the owners of property situated within 300 feet of the structure notice of the application, along with a notice that they may object to the Building Authority's acting on the application and require the applicant to appeal to the Board of Appeals. The notice shall advise the abutters and owners of property within 300 feet that any objection must be submitted in writing to the Building Authority within 10 days of the date of the notice sent to them. The failure of any property owner to receive the notice described above shall not invalidate any action by the Building Authority. The Building Authority shall promptly notify the applicant of receipt of the objection, that the Building Authority is without authority to proceed, and advise the applicant that, within 30 days from receipt of the letter, an application may be filed to have the matter reviewed by the Board of Appeals as a conditional use.

E. **Approval of application.** The Building Authority may approve the application, provided that the evidence presented satisfies all of the requirements of this subsection and provided that no abutter nor person entitled to notice has requested that the application be referred to the Board of Appeals, instead of the Building Authority. Upon approval of the application, final inspection by the Building Authority certifying the units as in compliance with all applicable codes, and receipt of an inspection fee as established by the City Council for each nonconforming dwelling unit which has been recognized as a lawful, nonconforming use, the Building Authority will issue a certificate of occupancy.

F. **Disapproval of application.** In the event the application is not approved by the Building Authority or in the event of a timely objection filed by a person qualified herein to file such an objection, the applicant, within 30 days from the decision of the Building Authority or objection, may appeal the matter to the Board of Appeals as a conditional use.

G. **Action by Board of Appeals.** The Board of Appeals shall treat applications filed under this subsection as an application for a conditional use, applying the standards applicable to conditional uses under Section 6.5 as well as the requirements of this subsection.

H. **Dimensional and parking requirements**.In making decisions under this subsection, neither the Building Authority nor the Board of Appeals shall apply the dimensional or parking requirements which would otherwise apply in the zones where the nonconforming dwelling units are situated.

I. **Exclusions.** The provisions of this subsection shall not apply to rooming units, but shall apply to efficiency apartments under Chapter 6 of the City of Portland Code of Ordinances. The Board of Appeals is without jurisdiction to grant any relief (including, but not limited to, variances) which would recognize the particular dwelling units which are the subject of this subsection as legal, nonconforming uses,

except in strict compliance with each requirement of this subsection.

J. **Prior judicial and administrative action.** Decisions of any court or administrative body, including but not limited to, the Building Authority, the Planning Board, or the Board of Appeals, made prior to the effective date of this subsection and which addressed the number of nonconforming dwelling units in a particular structure, will not bar relief under this subsection.

5 ZONES

5.1 ESTABLISHMENT OF ZONES

In order to carry out the provisions of this Land Use Code, the City of Portland shall be divided into the zones in Table 5-A.

5.2 ZONING MAP

5.2.1 Zoning map adopted

The zones in Table 5-A are shown upon a map filed in the Department of Planning and Urban Development. Such zoning map, with amendments, is hereby adopted as the official zoning map of the City of Portland and as part of this Land Use Code.

5.2.2 Zone boundaries when uncertain

Where uncertainty exists with respect to the boundaries of the various zones, as shown on the zoning map, the following rules shall apply:

A. Unless otherwise indicated, zone boundary lines are the center lines of streets, alleys, parkways, waterways, or rights-of-way of public utilities and railroads or such lines extended.

B. Unless otherwise shown, lines within blocks less than 200 feet wide are median lines between their sides, and lines within blocks 200 feet or more wide are 100 feet distant from the less restricted side of the block.

C. The depictions of the Shoreland Zone and Stream Protection Zone on the zoning map are illustrative of the general location of such zones. The actual boundaries of these zones shall be determined by measurement of the distance indicated on the map and in this Land Use Code from the normal high-water line of the water body or the upland edge of wetlands. Where such measurement is not the same as the location of the boundary of the zoning

TABLE 5-A: ZONES

Residential	R-1, R-2, R-3, R-4, R-5, R-5a, R-6, R-6a
Island	IR-1, IR-2, IR-3
	I-B Island Business
Mixed-Use	B-1, B-1b Neighborhood Business
	B-2, B-2b, and B-2c Community Business
	B-3, B-3b, and B-3c Downtown Business
	B-4 Commercial Corridor
	B-5 and B-5b Urban Commercial
	B-6 Eastern Waterfront
	B-7 Mixed Development
Office	O-P Office Park
	R-P Residence Professional
Industrial & Airport	I-L and I-Lb Low-Impact
	I-M, I-Ma, and I-Mb Moderate Impact
	I-H and I-Hb High Impact
	A-B Airport Business
Open Space	R-OS Recreation and Open Space
Waterfront	EWPZ Eastern Waterfront Port
	WCZ Waterfront Central
	WPDZ Waterfront Port Development
Overlay Zones	Compact Urban Residential (R-7)
	Downtown Entertainment Overlay
	Fort Sumner Park Height Overlay
	Helistop Overlay
	Institutional Overlay (IOZ)
	Island Transfer Station Overlay
	Pedestrian Activities District Overlay
	Stream Protection Overlay
	University of Southern Maine Overlay
	Waynflete School Overlay
Form-Based	IS-FBC India Street Form-Based Code
Other	Shoreland
	Floodplain Management
	RPZ Resource Protection

map, the measurement shall control, unless the zoning map indicates that the zone boundary shall follow an existing property line.

5.2.3 Extension of zone lines

Where a zone boundary line divides a lot in single or joint ownership of record at the time such line is established, the provisions of this Land Use Code for the less restricted portion of such lot shall extend not more than 30 feet into the more restricted portion, provided that the lot has at least 20 feet of street frontage in the less restrictive zone when taken together with adjacent premises which are under the same or equivalent ownership or control. If such boundary line divides a business or industrial zone from a residential zone, no frontage on a street other than the principal business street in the less restrictive zone may be taken into consideration in connection with the right herein granted. This subsection shall not apply to differing dimensional requirements, including height, within a zoning district.

5.3 CONDITIONAL OR CONTRACT ZONING

5.3.1 Authority and purpose

Pursuant to 30-A M.R.S.§ 4352(8), conditional or contract zoning is hereby authorized for rezoning of property where, for reasons such as the unusual nature or unique location of the development proposed, the City Council finds it necessary or appropriate to impose, by agreement with the property owner or otherwise, certain conditions or restrictions in order to ensure that the rezoning is consistent with the City's Comprehensive Plan. Conditional or contract zoning shall be limited to where a rezoning is requested by the owner of the property to be rezoned. The conditional or contract zoning must be consistent with the Comprehensive Plan, and rezoned areas must be consistent with the existing and permitted uses within the original zone. Nothing in this section shall authorize either an agreement to change or retain a zone or a rezoning which is inconsistent with the City's Comprehensive Plan.

5.3.2 In the I-H zone

A conditional or contract rezoning shall only be approved in the I-H or I-Hb zones if, after public hearing and opportunity for public comment, the reviewing body finds that the applicant has carried the burden of proof to show that the proposed development meets the following standards:

A. The proposed development is consistent with the Comprehensive Plan.
B. The proposed development is consistent with the purposes of the underlying zone.
C. The proposed development is designed and operated so that it will prevent undue adverse environmental impacts, substantial diminution of the value or utility of neighboring structures, or significant hazards to the health or safety of neighboring residents by controlling noise levels, emissions, traffic, lighting, odors, and any other potential negative impacts of the proposal.
D. All plans must include complete information of processes, materials, or methods of storage to be used by the development and shall specify how hazardous impacts to neighboring properties will be prevented.

5.3.3 Hearing

The Planning Board shall conduct a public hearing in accordance with Section 2.1.8 prior to any property being rezoned under this section.

5.3.4 Conditions and restrictions

Conditions and restrictions imposed under the authority of this section shall relate only to the physical development and operation of the property and may include, by way of example:

A. Limitations on the number and types of uses permitted.
B. Restrictions on the scale and density of development.
C. Specifications for the design and layout of buildings and other improvements.
D. Schedules for commencement and completion of construction.
E. Performance guarantees securing completion and maintenance of improvements, and guarantees against defects.
F. Preservation of open space and buffers, and protection of natural areas and historic sites.
G. Contributions toward the provision of municipal services required by the development.
H. Provisions for enforcement and remedies for breach of any condition or restriction.

5.3.5 Amendments

Except as expressly modified in any contract or conditional rezoning agreement, the use and occupancy of any property within the City of Portland used or occupied pursuant to a contract or conditional rezoning agreement otherwise shall be governed by and comply with the provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

5.3.6 Enforcement

Notwithstanding language in any contract or conditional zoning to the contrary, any violation of a conditional or contract zone shall be enforced pursuant to 30-A M.R.S. § 4452, as may be amended from time to time, or in any other manner available by law. No alleged violation of a contract or conditional rezoning may be prosecuted until the City has delivered written notice of the alleged violation(s) to the owner or operator of the property that is subject to the contract or conditional rezoning and given the owner or operator an opportunity to cure the violation(s) within 30 days of receipt of the notice. In addition, if such an enforcement action should result in a finding that the terms of the conditional or contract zone have been violated, then the City may act to modify or rescind the conditional or contract zone and to rezone the property.

5.4 BASE ZONE PURPOSE STATEMENTS

Base zone purpose statements shall be as established in Tables 5-B to 5-G.



TABLE 5-B: RESIDENTIAL ZONE PURPOSE STATEMENTS

R-1	To provide for lower density residential development characterized by single-family homes on individual lots in outlying areas of the city and along traffic corridors with limited additional traffic capacity.
R-2	To provide for low-density residential development characterized by single-family homes on individual lots in outlying areas of the city and along traffic corridors with limited additional traffic capacity.
R-3	To provide for medium-density residential development characterized by single-family homes on individual lots and also to provide for planned residential unit developments on substantially sized parcels.
R-4	To preserve the unique character of the Western Promenade area of the city by controlling residential conversions and by allowing the continued mix of single-family, two-family, and low-rise multi-family dwellings and other compatible development at medium densities.
R-5	To provide appropriate areas of the city for medium-density residential development characterized by single-family, two-family and low-intensity multifamily dwellings on individual lots; to ensure the stability of established medium-density neighborhoods by controlling residential conversions; and to provide for planned residential unit development on substantially-sized parcels.
R-5a	To provide for moderate-density residential development in off-peninsula locations that can provide a unique residential living experience with a high degree of natural site amenities; and to provide areas of the city in the general proximity of the peninsula that have the capability for adequate municipal services, including traffic corridors with adequate traffic capacity, that can appropriately accommodate a more intensive use of land than other lower-density zoned land and be compatible with surrounding neighborhoods; and to increase affordable housing opportunities in off-peninsula locations by providing a moderate-density zone.
R-6	To set aside areas on the peninsula for housing characterized primarily by multi-family dwellings at a high density providing a wide range of housing for differing types of households; to conserve the existing housing stock and residential character of neighborhoods by controlling the scale and external impacts of professional offices and other nonresidential uses; and to encourage new housing development consistent with the compact lot development pattern typically found on the peninsula.
R-6a	To encourage neighborhood livability with higher density multi-family housing on large parcels located off the peninsula along major public transportation routes, near service areas, and in redevelopment (underutilized) or infill areas.

TABLE 5-C: ISLAND ZONE PURPOSE STATEMENTS

IR-1	To provide for low-intensity residential, recreational, and rural uses in the less developed areas of the islands in order to preserve the rustic character of the islands, to protect groundwater resources and natural and scenic areas, and to permit only appropriate low-intensity development in areas lacking adequate public facilities and services.
IR-2	To protect the character of existing developed residential neighborhoods on the islands and to allow infill where there are adequate public services. Expansion or extension of an existing IR-2 zone should be strictly limited, generally focused toward areas adjacent to existing village IR-2 areas, and restricted by such factors as adequacy of access, whether adequate water will be available for private use and for fire protection, and whether soils in the area are adequate for subsurface water disposal or whether public sewers are available. IR-2 rezoning on substantially sized parcels should not be considered for those sites that should be more appropriately zoned otherwise.
IR-3	To allow for a planned unit development in a manner compatible with both the natural and built environment, which provides for adequate circulation and waterfront access, adequate water supply for private use and fire protection, and safe and clean disposal of solid and septic wastes. The following guidelines shall be considered, among others, in establishing an IR-3 zone: A. An IR-3 zone should have a minimum land area of 20 acres. B. A site for an IR-3 zone should be able to accommodate higher density development by providing buffers from surrounding areas on a substantially-sized parcel for which natural amenities are capable of being conserved in a development plan for the site. C. IR-3 zones should not be established unless issues of municipal services, including infrastructure, education, and police and fire services and other municipal services can be appropriately and adequately addressed. D. The differences in scale and intensity of uses between existing development and the IR-3 zone, and the cumulative impact on the overall density of the island, should be mitigated by appropriate open space and buffer areas. E. The development plan should have the capability of meeting the development review standards of the zone.
I-B	To provide limited areas on the islands for retail and service establishments that primarily serve the needs of the local island market area.



TABLE 5-D: MIXED-USE ZONE PURPOSE STATEMENTS

B-1	To provide limited areas for the location of small-scale commercial establishments intended to serve a local market. Uses that are complimentary, quiet, and generally do not disturb the comfort and enjoyment of the adjoining neighborhood environment are encouraged, and should be designed for the pedestrian scale and to provide convenient access for nearby residents and workers to walk in to purchase goods and services. Buildings and uses shall be designed with attractive storefronts or similar features, with windows and doors convenient to a public sidewalk. This zone encourages mixed-use buildings, such as commercial first floor with residential uses above or combined retail/office uses in a multi-story structure. The zone also provides the opportunity for high residential density. Suitable locations for this zone may include street intersections and arterial streets with existing or proposed traditional neighborhood retail and service uses.
B-1b	To provide appropriate opportunities for the establishment of small-scale ground floor commercial uses to serve a local market, while supporting mixed-use buildings with residential uses above ground floor commercial space and on the ground floor where the principal street frontage is maintained for active commercial uses. The zone also provides the opportunity for mixed use and high residential density. Suitable locations for this zone may include street intersections, arterial streets, and sites with existing or traditional neighborhood retail and service uses.
B-2	To provide appropriate locations for the development and operation of community centers offering a mixture of commercial uses, housing, and services serving the adjoining neighborhoods and the larger community. The variety, sites, and intensity of the permitted commercial uses in the B-2 zone are intended to be greater than those permitted in the B-1/B-1b zones. The zone provides a broad range of goods and services with a mixture of large and small buildings, such as grocery stores, shops and services located in major shopping centers and along arterial streets. Such establishments should be readily accessible by automobile, by pedestrians and by bicycle. Development in the B-2 zone should relate to the surrounding neighborhoods by design, orientation, and circulation patterns. The zone should provide locations for moderate to high-density housing in urban neighborhoods along arterials.
B-2b	To provide neighborhood and community retail, business and service establishments that are oriented to and built close to the street. The B-2b zone is appropriate in areas where a more compact urban development pattern exists or where a neighborhood-compatible commercial district is established which exhibits a pedestrian scale and character. Such locations may include the peninsula and other arterials and intersections with an existing urban or neighborhood-oriented building pattern. The B-2b should provide locations for moderate to high-density housing in urban neighborhoods along arterials.
B-2c	To protect and enhance the quiet enjoyment of adjoining residential neighborhoods from the impacts of businesses that serve liquor and from other uses that are incompatible with adjoining neighborhoods due to noise.
B-3 & B-3b	To maintain and enhance the role of the downtown as the business and commercial center of the region; to enhance and promote the orderly expansion of retail and service businesses downtown, satisfying the related needs of the city's resident, working, and visitor populations; to encourage increased housing opportunity downtown for a diverse residential population; to enhance the pedestrian environment through the encouragement of intensive mixed-use activities, through the enhancement and maintenance of public and private open space, and through the enlivenment and increased attractiveness of the street environment; to encourage excellence in urban design; to preserve and capitalize on the unique character and historic fabric of the downtown through the encouragement of reuse of significant existing structures; to provide opportunity for an enhanced presence and integration of the arts and cultural activities; to reinforce the role of the downtown as a meeting place for community residents and visitors alike from all walks of life and all socio- economic groups; to provide adequate parking and transportation facilities which promote accessibility, enhance and encourage development opportunity, and enhance and protect the pedestrian environment; In the Pedestrian Activities District (PAD) Overlay Zone, to create continuity of pedestrian-oriented uses along streets where such uses predominate and along streets which, over time, will establish and maintain a strong retail and pedestrian-oriented use pattern; and to provide for the relocation of residents who are displaced by development.

TABLE 5-D (CONT.): MIXED-USE ZONE PURPOSE STATEMENTS

B-3c	In addition to the purpose of the B-3 and B-3b zone, to promote the safety, quiet enjoyment, and general welfare of citizens residing in a dense urban neighborhood by decreasing the conflicts between residential uses and loud late-night activities. The B-3c zone recognizes that the business uses appropriate in this zone are constrained by the proximity of multi-unit elderly housing.
B-4	To provide appropriate locations in the city for the development and operation of businesses catering primarily to highway-oriented trade along major arterials (uses which have market areas which are primarily dependent on the regional highway network or serve a regional or larger market), as well as to provide appropriate locations for large-scale commercial uses that require larger land areas to accommodate their operations.
B-5 & B-5b	To provide areas of the peninsula near the downtown where a mixture of uses, including marine, industrial, commercial, and residential, is encouraged. The B- 5 and B-5b zones are characterized by larger underdeveloped lots with great potential for denser, clustered, urban mixed-use development and more efficient reuse of existing land and buildings. It is anticipated that the dense, mixed-uses of the B-5 and B-5b zones will rely on a shared infrastructure system, including service alleys, parking lots, public transportation facilities, stormwater management, and driveways.
B-6	To establish a zoning district for the upland portion of the Eastern Waterfront area. The B-6 zone encourages this district to acquire a distinctly urban form through development that emphasizes a quality pedestrian experience, promotes public transit, and demonstrates exemplary urban design. The zone promotes a range of uses to achieve 24-hour urban vitality and shared use of parking infrastructure as recommended in the Eastern Waterfront Master Plan for redevelopment. The B-6 zone promotes a mixed-use development pattern envisioned for urban land on Portland's peninsula.
B-7	To establish a zoning district for urban areas in which the City has adopted master plans for redevelopment. Certain areas, including but not limited to Bayside, lie at the perimeter of the established downtown and contain significant redevelopment opportunities. The B-7 zone encourages these districts to acquire a distinctly urban form through dense development featuring a mix of uses such as housing, retail, offices, research and development, and artisan studios and that emphasizes a quality pedestrian experience, promotes public transit, and demonstrates exemplary urban design. Use of multi-modal transportation is strongly encouraged and is advanced by the installation of bicycle amenities, such as bicycle racks and storage areas. The zone promotes a wide range of uses in high quality structures and public open spaces to achieve 24-hour urban vitality and shared parking infrastructure. The B-7 zone promotes a mixed-use development pattern envisioned on Portland's peninsula.

TABLE 5-E: OFFICE ZONE PURPOSE STATEMENTS

O-P	To provide substantial areas for integrated development of offices in a park- or campus-like setting which are of the highest quality, are well-designed and maintained, and are compatible with their natural surroundings.
R-P	To provide appropriate location for the development and operation of low-intensity business uses, including offices on or near major arterials, that are compatible in scale, density and use with surrounding and adjacent residential neighborhoods; or to serve as a transition or buffer zone between residential and more intensive nonresidential zones.



TABLE 5-F: INDUSTRIAL AND AIRPORT ZONE PURPOSE STATEMENTS

I-L & I-Lb	To provide areas in which low-impact industrial uses, and limited other uses serving employees and residents of the surrounding neighborhood, will be compatible with adjacent residential uses, will provide a buffer between residential neighborhoods and higher impact industrial zones, or will stand alone as a smaller scale industrial district. The I-L zone is located adjacent to residential neighborhoods, business uses and other industrial uses where the low-intensity nature of the uses, as well as their strict performance standards, will ensure the compatibility of the uses with other adjacent industrial and nonindustrial uses. Performance standards for uses in the I-L zone are designed to maintain compatibility between low impact industrial uses and neighboring nonindustrial and industrial uses.
I-M, I-Ma, & I-Mb	To provide zones in areas of the city in which low- and moderate-impact industries and transportation-related uses will coexist. I-M and I-Ma zones are located on arterials or collectors. The I-Mb zone is similarly located on the peninsula. These locations provide for direct access onto arterials, thereby protecting residential neighborhoods from drive-through traffic. The purpose of the I-M, I-Ma and I-Mb industrial zones is also to provide for larger industrial buildings and for the limited or controlled use of areas outside of structures for storage of materials and machinery. These facilities often require large volumes of imported materials and products which result in large volumes of shipping and receiving. Often uses may be highway-oriented and transportation-related, thus relying on citywide and regional transportation infrastructure. Industrial uses in these moderate-impact industrial zones may require separation from higher-impact uses.
I-H & I-Hb	To provide areas suitable for higher impact industrial uses than are permitted in other industrial zones and other uses that are capable of demonstrating, through design, layout and topography, their compatibility with, or non-intrusion on, existing or future higher impact industrial uses on adjacent or neighboring I-H zoned properties. Due to the intensity of use, the I-H zones are intended for uses which may require extensive outdoor storage and usage and may utilize heavy equipment. Processes may require separation from residential or sensitive environmental areas. The I-H zones are separated from other nonindustrial uses as well as natural or constructed features. High-impact industrial uses will be of a higher intensity, with a greater lot coverage, than the other zones.
A-B	To provide an area for the development of airport-related enterprises. Appropriate uses permitted in this zone are those customarily associated with the operation of the airport terminal and individual airlines and accessory uses to provide for the comfort and convenience of the airport's patrons and employees.

TABLE 5-G: OPEN SPACE ZONE PURPOSE STATEMENT

R-OS	To preserve and protect open space as a limited and valuable resource; to permit the reasonable use of open space, while simultaneously preserving and protecting its inherent open space characteristics to assure its continued availability for public use as scenic, recreation, and conservation or natural resource area, and for the containment and structuring of urban development; to provide a suitable location for large-scale regional sports and athletic facilities; and to develop an open space system throughout the city, which provides the highest quality parks, plazas, and pedestrian environment. The R-OS zone may include parcels of public property and private property legally restricted from intensive use or development through deed, covenant, or otherwise.

6 USE STANDARDS

6.1 APPLICABILITY

The use of buildings, structures, and land are governed by this article, except when superseded by other applicable laws or ordinances. It is the intent that, when in doubt, this article should be interpreted to accommodate the goals of the City's Comprehensive Plan and other plans.

6.2 DETERMINATION OF USE

6.2.1 Use tables

Tables 6-A to 6-F shall determine if a use is permitted (●), conditional (◐), or not permitted ( ), as a principal use within a zone. Unless otherwise noted, where a use is listed in terms of square footage, square footage figures shall correspond to the total floor area of the use.

6.2.2 Unlisted uses

A. Uses not expressly listed as permitted or conditional in Tables 6-A to 6-F are prohibited as principal uses except that a use may be permitted subject to meeting the following performance-based standards:
   1. The proposed use is consistent with the purposes of the zone.
   2. The proposed use is closely related to a permitted or conditional use in terms of character, scale, and external impacts.
   3. The buildings and structures associated with the proposed use are designed and operated so that it will prevent undue adverse environmental impacts, substantial diminution of the value or utility of neighboring structures, or significant hazards to the health or safety of neighboring residents by controlling noise levels, emissions, traffic, lighting, odor, and any other potential negative impacts.

B. The review authority shall determine whether the uses not listed as permitted or conditional uses meet the above standards. If it is determined that the use does not meet the above criteria, it shall not be permitted.

C. The review authority may impose reasonable conditions of approval on the proposed use to ensure that it is similar in character and impact to a permitted or conditional use.

6.2.3 Multiple uses

A site may contain more than one principal use, so long as each principal use is allowed within the zone.

6.3 CHANGE OF USE

A change of use from one use in these tables to another is governed by the requirements of the new use. The use of any part of any building, structure, or property shall not be changed to any other use, whether principal or accessory and whether alterations in the building, structure, or property are involved or not, until a permit and certificate of occupancy authorizing such change of use has first been secured from the Building Authority in accordance with Chapter 6 of the City of Portland Code of Ordinances.

TABLE 6-A: PERMITTED AND CONDITIONAL USES IN RESIDENTIAL ZONES

		R-1	R-2	R-3	R-4	R-5/R-5a	R-6/R-6a	Use Standards
Residential	Single-family dwellings	●	●	●	●	●	●	
	Two-family dwellings				●	●	●	6.4.2
	Multi-family dwellings			◐		◐[1]/●[2]	●	6.4.2, 6.5.6(G)
	Congregate care facilities					●[2]		
	Handicapped family units	●	●	●	●	●	●	
	Planned Residential Unit Developments			●[4]		●[4]		
	Special needs independent dwelling units				●	●[1]	●	
	Lodging houses					◐[1,3]	●	6.4.10
	Sheltered care group homes	◐	◐	◐	◐	◐	◐	6.5.6(K)
Institutional	Elementary, middle, and secondary schools	◐	◐	◐	◐	◐[1]	◐	6.5.6(F)
	Governmental uses	●	●	●	●	●	●	
	Hospitals			◐		◐[1]	◐	
	Intermediate care facilities	◐	◐	◐		◐[1]/●[2]	◐	
	Long-term and extended care facilities	◐	◐	◐		◐[1]/●[2]	◐	6.5.6(F)
	Places of assembly (<10,000 SF)	◐	◐	◐	◐	◐	◐	
	Places of assembly (>10,000 SF)	◐	◐	◐	◐	◐	◐	
	Preschool facilities	◐	◐	◐	◐	◐	◐	6.5.6(I)
	Post-secondary schools		◐			◐[1]	◐	6.5.6(F)
Comm.	Bed and breakfasts						●/◐[5]	6.4.5
	General offices (<5,000 SF)						◐	6.5.6(C)
	Hostels						●/◐[6]	6.4.9
Other	Agriculture	●	●					
	Cemeteries	◐	◐		●		●	
	Off-street parking			◐	◐	◐[1]	◐	6.5.6(H)
	Parks and open spaces	●	●	●	●	●	●	
	Raising of domesticated animals	◐						6.5.6(J)
	Solar energy system (minor)	●	●	●	●	●	●	6.4.16
	Utility substations	◐	◐	◐	◐	◐	◐	6.5.6(L)

[1] In the R-5 zone only.
[2] In the R-5a zone only.
[3] Conversions of existing two-family structures into lodging houses are permitted as a conditional use, provided that the lodging house shall not be located within 500 ft. of another as measured along street lines.
[4] Must consist of horizontally or vertically attached dwelling units, or a series of such dwelling units, with all land owned and used in common. PRUDs shall be subject to review and approval by the Planning Board under Article 15.
[5] Permitted if a conversion of a structure existing as of 3/3/97 to up to four guest rooms and conditional if a conversion of the same to five to nine rooms.
[6] Permitted if for no more than 10 overnight transient guests and conditional if for between 11 and 20 overnight transient guests. An owner, manager, or operator shall be a permanent resident of the building.

TABLE 6-B: PERMITTED AND CONDITIONAL USES IN ISLAND ZONES

		IR-1	IR-2	IR-3[1]	I-B	Use Standards
Residential	Single-family dwellings	●	●	●[2]	●	
	Two-family dwellings				◐	6.4.2,
	Multi-family dwellings				◐	6.5.6(G)
	Handicapped family unit	●	●	●	●	
	Planned Residential Unit Developments	●	●			
	Lodging houses		◐[3]	●[3]	●[3]	
Institutional	Elementary, middle, and secondary schools	◐	◐	●	◐	
	Educational facilities (including seasonal camps)	◐	◐			
	Governmental uses	◐	◐	●	◐	6.5.6(F)[6]
	Places of assembly (<10,000 SF)	◐	◐	●	◐	
	Places of assembly (>10,000 SF)	◐	◐		◐	
	Preschool facilities	◐	◐	●	◐	6.5.6(I)
Commercial/Service	Auto service stations				◐	6.5.6(A)
	Bed and breakfasts				●[4]	
	General services (<5,000 SF)				●	
	Hotels			●[5]	◐[5]	
	Restaurants			●	●	
	Retail (<10,000 SF)			●	●	
Other	Studios for artists and craftspeople				●	
	Agriculture	●				
	Boathouses and storehouses for fishing equipment	●	●	●	●	
	Campgrounds	◐		●		6.4.6
	Cemeteries	◐	◐			
	Marinas and yacht clubs			●	●	
	Off-street parking				●	
	Parks and open spaces	●	●	●	●	
	Raising of domesticated animals	◐				6.5.6(J)
	Solar energy system (minor)	●	●	●	●	6.4.16
	Utility substations	◐	◐	●		6.5.6(L)
	Wharves, piers, docks, and landing ramps	◐	◐	●	●	

[1] All uses within the IR-3 permitted only within a PUD with a minimum total area of 20 acres of contiguous land subject to the standards of Subsection 6.4.14.
[2] Single-family attached permitted provided that new construction shall be limited to no more than six attached dwellings per building.
[3] With greater than two but no more than nine rooming units.
[4] Permitted on Peaks Island only.
[5] Maximum 50 rooms.
[6] The standards of Subsection 6.5.6(F) shall not apply to institutional uses within the I-B zone. In the IR-1 and IR-2 ones, institutional uses are subject to the standards of Subsection 6.5.6(F) only if the total land area of the use is two acres or more.

TABLE 6-C: PERMITTED AND CONDITIONAL USES IN MIXED-USE ZONES

		B-1/B-1b	B-2/B-2b/ B-2c	B-3/B-3b/ B-3c[11]	B-4	B-5/ B-5b	B-6	B-7	Use Standards
Residential	Single-family dwellings	●	●	●		●	●	●	
	Two-family dwellings	●	●	●		●	●	●	
	Multi-family dwellings	●[1]	●	●		●	●	●	
	Congregate care facilities			●					
	Handicapped family units			●		●	●	●	
	Combined living/working spaces	●	●	●		●	●	●	
	Lodging houses	●[2]	●	●	●	●		●	6.4.10
Institutional	Clinics	●[2]	●	●		●		●	
	Cultural facilities			●		●	●	●	
	Elementary, middle, and secondary schools	●[2]	●	●		●	●	●	
	Emergency shelters			◐	◐	◐			6.5.6(B)
	Governmental uses	●[2]	●	●	●	●		●	
	Intermediate care facilities		●	●					
	Long-term and extended care facilities		●						
	Places of assembly (< 10,000 SF)	●[2]	●	●	●	●	●	●	
	Places of assembly (> 10,000 SF)		●	●	●	●	●	●	
	Preschool facilities	●[2]	●	●	●	●	●	●	
	Post-secondary schools		●	●	●	●	●	●	
Commercial /Service	Adult business establishments		●[3]	●[3]					6.4.3
	Auto, boat, and related dealerships		◐		●				6.5.6(A)
	Auto service stations		◐[4]		●	●			6.5.6(A)
	Bars		●[5]	●[5]	●	●	●	●	6.4.4
	Bed and breakfasts	●	●	●				●	6.4.5
	Exhibition, meeting, and convention halls			●		●	◐	●	
	Funeral homes		●		●				
	General offices (<5,000 SF)	●[2]	●	●	●	●	●	●	6.4.7
	General offices (>5,000 SF)		●	●	●	●	●	●	
	General services (<5,000 SF)	●[2]	●	●	●	●	●	●	6.4.7
	General services (>5,000 SF)		●	●	●	●	●	●	
	Hostels	●		●		●		●	6.4.7, 6.4.9
	Hotels		●	●	●	●	●[13]	●	
	Marijuana retail store		●/◐[6]	●	●			●	6.4.11
	Recreation and amusement centers				●	●		●	
	Registered marijuana dispensary		●/◐[6]	●	●			●	6.4.11
	Restaurants	●[2]	●	●	●	●	●	●	6.4.4, 6.4.7
	Retail (< 5,000 SF)	●[2]	●	●	●	●	●	●	6.4.7, 6.4.15
	Retail (5,000 – 25,000 SF)		●	●	●	●	●	●	6.4.15

TABLE 6-C (CONT.): PERMITTED AND CONDITIONAL USES IN MIXED USE ZONES

		B-1/B-1b	B-2/B-2b/ B-2c	B-3/B-3b/ B-3c[11]	B-4	B-5/ B-5b	B-6	B-7	Use Standards
Industrial	Retail (>25,000 SF)		●	●	●	●	●	●	6.4.15
	Small-scale marijuana caregiver		●	●	●			●	6.4.11
	Theaters and performance halls		●	●	●	●	●	●	
	Veterinary services		●		●			●	
	Communication studios		●	●	●	●	●	●	
	Dairies		●[7]		●				
	High-tech manufacturing							◐	6.5.6(D)
	Intermodal transportation facilities					●	●	●	
	Laboratory and research facilities		◐		●		◐	●	6.5.6(E)
	Low-impact industrial (<10,000 SF)		●[8]	◐	●	●	●	●[8]	6.5.6(E)
	Low-impact industrial (>10,000 SF)		●[8]		●	◐			
	Marijuana testing facilities				●				6.4.11
	Marijuana manufacturing facilities				●				
	Marijuana cultivation facilities (<7,000 SF plant canopy)				●				
	Printing and publishing		◐[9]	●	●	●	●	◐	
	Repair services		●	●	●	●	●	●	
	Studios for artists and craftspeople	●[2]	●	●	●	●	●	●	
	Tow lots				●				6.4.17
	Warehousing, storage, and distribution		◐[10]	◐[10]	●	●[10]	◐[10, 14]	◐[10, 14]	6.5.6(E)
Other	Marine uses					●	●		6.4.12
	Correctional pre-release facilities				●				6.4.8
	Off-street parking			●/◐[12]		●	◐	◐	6.5.6(H)
	Parks and open spaces	●	●	●	●	●	●	●	
	Solar energy system (minor)	●	●	●	●	●	●	●	6.4.16
	Solar energy system (major)				◐				
	Utility substations	●	●	◐	●	●	●	◐	6.5.6(L)
	Wind energy system (minor)		◐	◐	◐	◐	◐	◐	6.4.18

[1] Permitted if permitted in the adjacent or nearest residential zone. In other cases, permitted if located above first floor commercial, or on first floor where a minimum depth of 25 ft. along the principal frontage is maintained for commercial use.
[2] Permitted on the ground floor only in the B-1b zone.
[3] Permitted in the B-2 and B-3 zones only.
[4] Permitted as a conditional use in the B-2 only. Expansion of auto service stations in existence as of 11/15/99 permitted as a conditional use in the B-2b and B-2c zones.
[5] Not permitted in the B-2c and B-3c zones.
[6] Permitted in the B-2 zone. Conditional in the B-2b and B-2c.
[7] Permitted only if an expansion of an existing dairy.
[8] Permitted with a retail component only. Low-impact industrial uses greater than 10,000 SF are permitted in the B-2 only.
[9] Printing and publishing of 10,000 SF or less, or expansion of printing and publishing establishments greater than 10,000 SF in existence as of 4/4/88, shall be treated as a conditional use.
[10] Permitted in the B-2/B-2b/B-2c as a conditional use if 10,000 SF or less. Self-storage permitted in the B-4 zone. Self-storage permitted as a conditional use in the B-5 zone (on-peninsula locations only) in buildings existing as of 12/16/15. Self-storage permitted as a conditional use in the B-3 zone in buildings existing as of 1/1/1995; the area of the building dedicated to self-storage shall not exceed 30% of the total building area and may not be located directly adjacent to or facing a public right-of-way. Self-storage not permitted in the B-2/B-2b/B-2c, B-6, and B-7 zones.
[11] See PAD Overlay for additional use regulations.
[12] Structured parking shall be permitted. Surface parking shall be treated as a conditional use.
[13] Hotels shall be limited to no more than 150 rooms.
[14] Wholesale is allowed as conditional use, providing the wholesale operation is associated with an onsite retail establishment and occupies less than 15,000 SF.

TABLE 6-D: PERMITTED AND CONDITIONAL USES IN OFFICE PARK & RESIDENCE PROFESSIONAL ZONES

		OP[1]	R-P[2]	Use Standards
	Any residential use permitted in the nearest residential zone		●	
	Preschool facilities	●	◐	6.5.6(I)
	Funeral homes		●	
	General offices	●	●	
Industrial	High tech manufacturing	◐		6.5.6(D)
Industrial	Laboratory and research facilities	●		
Industrial	Printing and publishing	●		
Industrial	Studios for artists and craftspeople		●	
Other	Parks and open space	●	●	
Other	Solar energy system (minor)	●	●	6.4.16
Other	Utility substations		●	
Other	Wind energy system (minor)	◐		6.4.18

[1] All permitted and conditional uses in the O-P zone, with the exception of parks and open spaces, solar energy systems, and wind energy systems, shall be allowed only within an office park of at least three acres of contiguous land subject to the standards of Subsection 6.4.13.

[2] Any conditional use that is permitted as a conditional use in the nearest residential zone shall be permitted as a conditional use in the R-P zone. All conditional use standards of the residential zone shall apply.

TABLE 6-E: PERMITTED AND CONDITIONAL USES IN INDUSTRIAL & AIRPORT ZONES

		I-L/I-Lb	I-M/I-Mb	I-H/I-Hb	A-B[7]	Use Standards
Institutional	Airports				●[8]	
	Preschool facilities	●	●			
	Emergency shelters	◐	◐	◐		6.5.6(B)
	Intermediate care facilities		●[4]			
	Places of assembly (<10,000 SF)	●				
Commercial/Services	Bars				●	
	General offices (<5,000 SF)	●[1]	●			
	General offices (>5,000 SF)	●[1]	●			
	General services (<5,000 SF)				●	
	General services (>5,000 SF)				●	
	Hotels				●	
	Recreation and amusement centers	●	●			
	Repair services	●	●	●		
	Restaurants				●	
Industrial	Animal-related services	●[2]				
	Construction & engineering services	●	●	●		
	Dairies	●	●	●		
	Fish waste processing			●		
	Food & seafood processing, packing, and distribution		●	●		
	High-impact industrial uses			●		
	Intermodal transportation facilities	●	●	●		
	Laboratory and research facilities	●	●	●		
	Low-impact industrial	●	●	●		
	Lumber yards	●	●	●		
	Marijuana cultivation facility (<2,000 SF plant canopy)	●	●	●		6.4.11
	Marijuana cultivation facility (2,000-7,000 SF plant canopy)		●	●		
	Marijuana cultivation facility (>7,000 SF plant canopy)			●		
	Marijuana manufacturing facility	●	●	●		
	Marijuana testing facility	●	●	●		
	Printing and publishing	●	●	●		
	Recycling and solid waste disposal facilities		●[5]	●[5]		
	Studios for artists and craftspeople	●	●			
	Telecommunication towers (ground-mounted)		●	●		
	Tow lots		●	●		6.4.17
	Warehousing, storage, and distribution facilities	●[3]	●	●		

TABLE 6-E (CONT.): PERMITTED AND CONDITIONAL USES IN INDUSTRIAL & AIRPORT ZONES

		I-L/I-Lb	I-M/I-Mb	I-H/I-Hb	A-B[7]	Use Standards
	Correctional pre-release facilities		●[6]	●[6]		6.4.8
	Marinas	●				
Other	Off-street parking				●	
	Solar energy system (minor)	●	●	●	●	6.4.16
	Solar energy system (major)		●	●	◐	
	Utility substations	●	●	●		
	Wind energy system (minor)	◐	●	●	●	6.4.18
	Wind energy system (major)		●	●	◐	

[1] Only back office uses permitted.
[2] Not including kennel or boarding facilities.
[3] Must be less than 10,000 SF in floor area. No outdoor storage permitted. Self-storage not permitted in the I-L/I-Lb zone.
[4] Permitted in existing structures not designed for industrial, amusement, warehouse or manufacturing uses as of 9/15/14 or later. Such structures may be reused or expanded to establish a facility of no more than 30 persons plus staff.
[5] Permitted within an enclosed structure only.
[6] Not permitted in the I-Ma, I-Mb, or I-Hb zones.
[7] Permitted uses on lots within airport restricted access areas shall be limited to those which do not require or encourage access or visits by the public and which provide technical administrative or other support to airport operations.
[8] Including airport administration, terminals, carrier operations, concessions, reservations and ticket sales, freight, repair and storage, fueling services, flying schools, car rental operations, and other associated uses.



TABLE 6-F: PERMITTED AND CONDITIONAL USES IN RECREATION OPEN SPACE ZONE

	R-OS[1]	Use Standards
Cemeteries	●	
Marinas	●	
Parks and open space	●[2]	
Solar energy system (minor)	◐	6.4.16, 6.5.7(A)
Solar energy system (major)	◐	
Utility substations	●/◐[3]	6.5.6.L, 6.5.7(A)
Wharves, piers, docks, and landing ramps	●	
Wind energy system (minor)	◐	6.4.18, 6.5.7(A)
Wind energy system (major)	◐	

[1] Accessory uses within structures of 2,500 SF or more shall be treated as a conditional use under Subsection 6.5.7(A).
[2] Including active recreational uses, such as playgrounds, golf courses, fields, pools, courts, community gardens, marinas, and sports complexes and passive uses, such as arboretums and picnic areas.
[3] Sewage pumping and treatment facilities shall be permitted. Water pumping stations shall be treated as a conditional use under Subsection 6.5.7.

6.4 SUPPLEMENTAL USE STANDARDS

The following standards shall apply to the following uses as indicated in Tables 6-A to 6-F, whether permitted or conditional.

6.4.1 In general

A. No building intended for use as a habitation shall be erected on a lot which has its only street frontage on a street less than 35 feet wide. No building shall be erected on a lot, except on the islands in Casco Bay, which does not abut a street meeting the minimum requirements for street improvements set forth in this subsection. For purposes of this subsection, street shall be as defined in Article 3, except that a dedicated street which may no longer be accepted due to lapse of time and an accepted street which may have been discontinued by abandonment shall also be deemed to be streets, provided that an applicant for a building permit respecting any lot abutting such street shall, without compensation or claim for damages, and at his or her own cost and expense, first submit to the Building Authority:

1. A deed from the owner of such lot conveying to the City all his or her right, title, and interest in and to such street or any portion thereof.
2. An agreement by such owner forever releasing the City from any and all claims for damages for the laying out and taking of such street and indemnifying the City against any and all other such claims, both such instruments to be executed and in recordable form acceptable to the Corporation Counsel and to encumber and run with the land.

B. For a lot abutting any portion of a street which is unimproved or improved but not permanently paved, that portion which abuts the lot, and any like portion between such

portion and the nearest permanently paved street or portion which is the principal access to such lot, shall be improved, including sewers, storm drains, pavement, curbs and, if located on a designated school walking route, sidewalks, in accordance with the City of Portland *Technical Manual*. Where the nearest permanently paved street does not have granite curbing, the Public Works Authority may waive the requirement of curbing under this subsection, if it determines that an acceptable alternative drainage plan will be provided. Prior to the issuance of a building permit for erection of a building on a lot abutting any portion of a street which is unimproved or improved but not permanently paved, the following shall occur:

1. A plan of the street improvements required by this subsection shall be submitted to the Public Works Authority.
2. Upon determination by the Public Works Authority that the plan meets the street improvement requirements established by this subsection, a performance guarantee and inspection fee for said improvements shall be submitted to the City as set forth under Articles 14 and 15. Also as set forth in Articles 14 and 15, a one-year defect bond shall be tendered to the City prior to release of the performance guarantee required hereby. The provisions of this paragraph (2) shall not apply to the erection of any single-family dwelling on any lot where the owner of the lot establishes that he or she was the owner of that same lot on November 19, 1984, and at all times thereafter, and states his or her intention under oath to make the structure his or her personal residence.

C. The requirements of this subsection shall not apply to the following city streets upon their construction by the Public Works Authority to such standards as are determined by the authority to be the most feasible:
   1. Dingley Court.
   2. Morgan Court.

6.4.2 Additional residential use permissions

A. *In island zones:* Up to three units are permitted on any lawfully conforming lot. Such units shall comply with all dimensional requirements of the underlying zone except lot coverage and lot area per dwelling unit requirements. This exception shall not allow a lot to exceed 60% lot coverage unless permitted by the underlying zone.

B. *In mainland zones where residential is a permitted or conditional use:* Up to four units are permitted on any lawfully conforming lot. Such units shall comply with all dimensional requirements of the underlying zone except lot coverage and lot area per dwelling unit requirements. This exception shall not allow a lot to exceed 60% lot coverage unless permitted by the underlying zone.

C. Units created under this section 6.4.2 shall not be considered accessory dwelling units under Section 6.6.2(A).

6.4.3 Adult business establishments

A. Adult business establishments shall be located at least 1,000 feet from any other adult business establishment, and at least 500 feet from any residential zone, as measured in a

straight line, without regard to intervening structures or objects.

B. No sexually explicit materials, entertainment, or activity shall be visible from the exterior of the premises.

6.4.4 Bars and restaurants in the B-6 zone

A. No bars located east of Waterville Street shall be permitted within 50 feet of Fore Street.

B. Restaurants located east of Waterville Street within 50 feet of Fore Street shall be limited in hours of operation to between 5 a.m. and 11 p.m. each day and food service and consumption shall be the primary function of the restaurant.

6.4.5 Bed and breakfasts

A. In the R-6 and R-6a zones, the minimum gross floor area for bed and breakfasts shall be 2,000 square feet for the first three guest rooms and 500 square feet for each additional guest room.

B. In all mixed-use zones except the B-1/B-1b zones, bed and breakfasts may include a meeting facility limited to use for private parties, business meetings, weddings, receptions, seminars, or business and educational conferences, provided that:

1. *In the B-2/B-2b/B-2c zones.* The meeting facility must be less than 4,000 square feet.
2. *In the B-3/B-3b/B-3c zones.* The building in which the bed and breakfast and meeting facility will be located must have existed on March 3, 1997 and have been greater than 4,000 square feet in floor area on that date.

6.4.6 Campgrounds

A. Campgrounds shall not include recreational vehicles.

B. Campgrounds shall be licensed by the State of Maine Department of Human Services.

C. No tent shall be located within 75 feet of the perimeter of site.

D. The land area of the campground shall not be less than the equivalent of 5,000 square feet of land area per tent site exclusive of the roadway network.

6.4.7 Commercial uses in the B-1/B-1b zones

A. Commercial uses shall be permitted provided that such uses generate less than 100 peak hour vehicle trips per 2,000 square feet of floor area and less than 100 peak hour vehicle trips in total.

B. Retail and restaurant uses shall not operate between the hours of 11 p.m. and 6 a.m., and shall not accept deliveries or services between the hours of 10 p.m. and 7 a.m. For restaurants, food service and consumption shall be the primary function.

C. No beverage container redemption centers shall be permitted. Beverage dealers shall be permitted as a retail use provided that the maximum total floor area for redemptions as an accessory use, including the storage of spent containers, shall be no greater than 500 square feet or 10% of the total floor area of the facility, whichever is less.

6.4.8 Correctional pre-release facilities

A. No correctional prerelease facility shall be located within 1,000 feet of another, as measured in a radius from the center of the lot.

B. If a facility requires state or federal licensing, staffing of the facility shall be as required by such license. If a facility does not require state or federal licenses, there shall be a minimum of one staff person for every 10 residents or fraction thereof. The facility shall provide 24-hour supervision of program participants.

6.4.9 Hostels

An operations plan must be submitted demonstrating that:

A. No unaccompanied minors under the age of 18 shall be permitted in the facility.

B. The length of stay for transient guess shall not exceed 15 days within any 60-day period.

C. In the R-6 zone, for hostels greater than 10 guests, a minimum of 250 square feet of land area shall be required per hostel guest.

D. In the B-1/B-1b zones, no more than 20 overnight transient guests shall be permitted.

6.4.10 Lodging houses

A. Lodging houses, except for lodging houses located in the IR-2, IR-3, and I-B zones, shall contain common areas for use by all residents, including a kitchen. A kitchen need not be available as a part of the common areas where all meals are provided on a daily basis.

B. Lodging houses shall provide a minimum of 200 square feet of combined rooming unit and common area per rooming unit.

C. Each individual rooming unit shall be a minimum of 70 square feet.

6.4.11 Marijuana-related uses

A. The following standards apply to the following marijuana-related uses:

1. Marijuana cultivation facilities.
2. Marijuana manufacturing facilities.
3. Marijuana products.
4. Marijuana retail stores.
5. Marijuana testing facilities.
6. Small-scale marijuana caregivers.
7. Registered dispensaries.

B. Location criteria

1. No marijuana cultivation facility, marijuana manufacturing facility, marijuana testing facility, small-scale marijuana caregiver, marijuana store, or registered dispensary may be located within 500 feet of a pre-existing public school, private school, or a public preschool program, as defined by 20-A M.R.S. § 1. Distance shall be measured from nearest property line of the respective marijuana-related use and the property line of the lot containing the public school, private school, or public preschool program.
2. No marijuana cultivation facility, marijuana manufacturing facility, or marijuana testing facility may be located within 300 feet of the following residential zones: R-1, R-2, R-3, R-4, R-5/R-5A, R-6/R-6A, or R-7. Distance shall be measured from the nearest outer wall of the building housing the marijuana cultivation, manufacturing, or testing facility to the nearest applicable residential zone boundary. If the marijuana-related facility leases a room or suite of rooms within a building, including, without limitation, individual units within a shopping plaza or shopping mall, the

nearest outer wall of the room or suite of rooms within which the facility is located shall constitute the nearest outer wall of the building housing that facility.

C. Supplemental standards
   1. Marijuana-related uses may only be permitted within a fully enclosed building.
   2. No outside storage of marijuana, marijuana products, or related supplies is permitted.
   3. No drive-through service is permitted for marijuana-related uses.
   4. No marijuana or marijuana product shall be smoked, eaten, or otherwise consumed or ingested on the premises where sold.
   5. An operating plan for marijuana cultivation facilities and marijuana manufacturing facilities shall be provided that, at a minimum, addresses wastewater, disposal of waste, and security at the premises.
   6. A ventilation plan shall be included for marijuana cultivation facilities, marijuana manufacturing facilities, and small-scale marijuana caregivers that provides for adequate ventilation so as to prevent pesticides, insecticides, or other chemicals used in the cultivation or processing of marijuana or marijuana-related products from being dispersed or released outside the premises. The plan shall further provide for resulting smoke, vapor, fumes, gases, and particulate matter from marijuana or its processing or cultivation to be effectively confined to the premises.
   7. Marijuana-related uses shall provide odor control measures so that odor generated on site is mitigated at the property line of the lot containing the marijuana-related use. Applications must demonstrate appropriate measures, such as carbon filtration, ventilation and exhaust systems, facility plans, or other additional practices adequate to mitigate odors for the scale of operations for the uses proposed.

D. For purposes of this ordinance, any approval issued for a marijuana cultivation facility, marijuana manufacturing facility, or marijuana testing facility operated pursuant to 22 M.R.S. § 2421 et seq. shall be deemed to constitute approval for the same corresponding marijuana cultivating, manufacturing, or testing facility use operating under 28 M.R.S. § 101 et seq. Notwithstanding the above, no marijuana cultivation facility, marijuana manufacturing facility, or marijuana testing facility may operate without the applicable state and City license.

6.4.12 Marine uses

A. In the B-5/B-5b and B-6 zones, marine uses shall include marine products wholesaling and retailing and harbor and marine supplies and services.

B. In the B-5/B-5b zones, marine uses shall include marine repair services and machine shops; shipbuilding and facilities for the construction, maintenance, and repair of vessels; marine museums and aquariums; boat repair yards; boat storage; and seafood processing, packing, and distribution for human consumption.

C. In the B-6 zone, marine uses shall include underground marine fuel storage provided that such storage shall be used solely for the purpose of fueling vessels.

6.4.13 Office parks in the O-P zone

An office park shall be approved only if the development meets the following development standards:

A. Office parks shall have a minimum gross area of three acres of contiguous land, consisting of either an Office Park Planned Unit Development (OPPUD) on one lot with one or more buildings and with driveways and open areas to be owned and maintained in common, or an office park subdivision (OPS) on one parcel with two or more lots intended for separate ownership.

B. Development proposals shall include a master plan of the office park. The master plan shall include the following:

1. *For an OPPUD proposal.* The location of the building(s) on the site; infrastructure of the site; identification of common areas; traffic circulation, architectural character and treatment of the building(s); proposed building envelopes; phasing and timing of the development; private development restrictions; and such other information necessary and sufficient to ensure compliance with the standards in this subsection.
2. *For an OPS proposal.* Delineation of the subdivision of land; infrastructure of the site; identification of common areas, if any; traffic circulation; desired architectural character, including private development restrictions to ensure compatibility of architectural character of future buildings with each other; phasing and timing of the development; private development restrictions; and such other information as necessary and sufficient to ensure compliance with the standards in this subsection.

C. Development proposals shall demonstrate a reasonably unified design of the site, including the architecture, the layout of the buildings, pedestrian and vehicular circulation plan, open space, drainage, and the topography, soil conditions, vegetation and other natural features of the site. Integration of open spaces and natural features shall be achieved by incorporation of outdoor amenities for the benefit of users of the site, such as jogging and walking trails, gardens, and benches.

D. Development proposals shall include a landscape program. All land areas not covered by structures, parking areas, or circulation facilities shall be landscaped and maintained. In order to soften the visual impact of large expanses of pavement in parking lots, vegetation shall be planted or retained in islands or planting strips where required by the site plan or subdivision ordinance.

E. Parking may not be located in the required front setback. If parking is provided in the area between the building and minimum setback line, the parking area must be adequately screened with landscaping materials and permanently maintained.

F. Development proposals shall include internal sidewalks, illustrating the manner in which the developer will provide this amenity to take advantage of the topography and natural features of the site.

G. Development proposals shall include buffering yard areas abutting a residential zone or residential use and to screen parking lots and driveways from public view, identifying the location, composition, and maintenance of the

buffer. The buffer and screening shall be of a dense and continuous nature and shall incorporate trees, shrubs, fencing, berms, and related elements deemed necessary.

H. Development proposals shall identify the extent to which the developer shall preserve natural features including, but not limited to, existing vegetation, flood plains, rock outcroppings, surface water bodies, drainage swales and courses, and wetlands; provided any such program shall consider and be sensitive to the need to preserve such natural features.

I. Development proposals shall identify all proposed traffic controls, parking areas, interior traffic circulation, and demonstrate that additional traffic generated by the project itself can be reasonably accommodated on existing public streets.

J. All buildings shall be designed or approved by a registered architect in the State of Maine and shall be in conformance with the proposed master plan. The scale, texture, color and massing of the buildings shall be coordinated. The full range of high quality, permanent, and traditional or contemporary building materials and technology may be incorporated in a manner so that the development as a whole embodies distinguishing attributes that achieve the developer's desired degree of excellence and are in conformance with the architectural guidelines provided in the private development restrictions. Particular emphasis shall be placed on the appearance of building facades from public streets, from driveway and parking areas, and from other nearby buildings. Building elevation drawings shall be submitted which indicate architectural style, exterior finishes and color, building height and scale, and location and scale of window and door openings. Samples of exterior building materials shall also be submitted.

K. Development proposals shall identify the location and style of lighting to be used in the development. All light fixtures shall be hooded or shielded so that the light shines downward.

L. Development proposals shall identify all proposed signage. Signs shall be designed in proportion and character with the building facades. All signs shall be constructed of permanent materials and shall be coordinated with the building and landscaping design through the use of appropriate materials and finishes.

6.4.14 Planned unit development in the IR-3 zone

In addition to other applicable reviews, no development shall occur nor shall any new use be established in the IR-3 zone unless the Planning Board finds that the final development plan for the site is in compliance with the following standards:

A. The development shall demonstrate a reasonably unified response to the design possibilities of the site, by virtue of such elements as the design and layout of buildings and lots, circulation plan, open space, drainage, and orientation to achieve energy conservation or solar access, to form a functionally integrated whole.

B. The design and layout of the development and buildings shall be reasonably compatible with the surrounding neighborhood by virtue of such features as architectural style, exterior finish, scale, circulation, open space, landscaping, and preservation of natural site amenities.

C. All open spaces on the site shall be functionally integrated into the development plan by virtue of such features as accessibility to residents, recreation, conservation of existing public rights of access to shoreland areas and scenic natural areas, orientation to achieve energy conservation or solar access, preservation of natural site amenities, and use as a buffer between the development and the surrounding neighborhood.

D. The development shall be designed primarily with a pedestrian orientation to minimize the use of and dependency on private motor vehicles. Appropriate areas on the site shall be designated, as necessary, for parking of common service vehicles, golf carts or bicycles to serve the transportation needs of residents and visitors. The internal circulation plan shall also be coordinated with the existing island street network to ensure adequate access for emergency and service vehicles.

E. A project construction plan shall be developed indicating the anticipated number and types of vehicles such as construction equipment, supply delivery and service vehicles needed for undertaking the construction of the project. Documentation shall be provided as to the proposed transportation route such as roads, piers, beaches, sand bars and the impact of construction related activities on the routes.

F. The development shall not have a substantial adverse impact on the capacity of existing island docking facilities. The developer shall demonstrate that an adequate water transportation system, including docking facilities, exists or will be provided.

G. Adequate provision for off island solid waste disposal shall be demonstrated such that the impact on municipal solid waste disposal is minimized. A development shall incorporate methods such as the following to reduce the amount of solid waste generated by the project: compaction and reduction in waste volume, recycling, incineration or baler system, and private collection and transfer to an off-island location. It shall be demonstrated that there will be no significant environmental impacts from the solid waste disposal system.

H. All sanitary waste from the development shall be disposed of by a public sewer, private community sewer system providing at least secondary treatment, or subsurface sewerage system, in compliance with federal, state and local regulations. The developer shall demonstrate that the project will comply with all applicable federal, state and local water quality and groundwater standards.

I. The proposed development shall have sufficient water for the reasonably foreseeable needs of the development and shall not cause an unreasonable burden on existing water supply nor adversely affect groundwater resources. Unless the development is to be served entirely by public water and secondary treatment sewer systems, the determination of compliance with this provision shall be based upon one or more comprehensive groundwater analyses and reports prepared by qualified professionals and including assessment of current groundwater aquifer conditions, the impact of the proposed development on the groundwater aquifer, and recommendations for mitigation of potential impacts caused by the development.

J. The development shall preserve the natural features of the shoreland area by minimizing



the disturbance of existing vegetation and slopes, avoiding development in areas subject to erosion and sedimentation, and conserving scenic views and vistas to and from the site.

K. The development plan shall preserve significant resources of the site by integrating open space into the development plan and by conserving such features as scenic vistas, historic man made or natural features, existing vegetation, wetland areas, shoreland areas, ground water, natural wildlife habitat, and recommended or registered State of Maine Critical Land Areas, as well as other environmentally sensitive areas.

L. All open spaces on the site shall be functionally integrated into the development plan by virtue of such features as passive and active recreational opportunities, accessibility to residents, preservation of natural site amenities and resources, orientation to achieve energy conservation or solar access, use as a buffer between housing clusters and to screen the development from surrounding areas.

M. The applicant shall demonstrate sufficient financial and technical capability for undertaking the proposed project. Financial capability shall include a cost estimate of the proposed improvements, proposed construction and permanent financing, and terms of sale or lease of dwellings and commercial space. Technical capacity shall include the experience and expertise of the developer in implementing projects of similar scope.

N. The applicant shall develop an environmental impact analysis including an inventory of existing environmental conditions at the project site and in the surrounding area with an assessment of the development's probable impact upon the environment. The inventory shall include such resources as air, water quality, water supply, surface water and shoreline, geology, soils, topography, wildlife, botanical and aquatic, including rare and endangered species, historic, archeological and aesthetic. The analysis shall include the direct and cumulative adverse impacts of the project on these resources. The analysis shall also include what steps the applicant proposes to take to identify and minimize adverse environmental impacts during construction, management and use of the property and whether there are alternatives for the project which would decrease the impact of the development.

O. If the project is to be completed in phases, the applicant shall indicate the schedule for completing and implementing infrastructure improvements as well as other improvements, agreements or services required for compliance with the development standards of this subsection, planned unit development standards, and site plan and subdivision review requirements.

P. The development shall not place an unreasonable burden on the ability of the City to provide police, fire, and other emergency services.

6.4.15 Retail in the B-3/B-3b/B-3c and B-5/B-5b zones

Retail shall not include wholesale and bulk purchase lumber and construction supply sales.

6.4.16 Solar energy systems

A. All solar energy systems shall meet the technical, safety, and maintenance standards in the City of Portland *Technical Manual*.

B. Solar panel placement should minimize or negate any solar glare impacting nearby properties or roadways, without unduly impacting the functionality or efficiency of the solar energy system.

C. All applicants are encouraged to ensure the maximum solar energy generation from their system by obtaining solar access easements. Solar access easements may be filed consistent with Maine state law.

D. Solar energy systems shall be located away from and screened from public ways and nearby residential/institutional uses to the extent possible and shall be designed so as to minimize impacts on significant scenic views.

E. Layout and fencing shall be integrated with existing landscape and minimize removal of vegetation to the extent possible.

F. Where any part of the proposed solar energy system (including associated facilities) is within a historic district, such development shall be reviewed and approved by the Planning Authority in accordance with Article 17. Where any part of the proposed solar energy system (including support structures and associated facilities) is within 100 feet of any designated landmark, historic district, or historic landscape district, such development shall meet the standards of Article 14 regarding compatibility with the landmark or historic district.

G. Solar energy systems shall minimize impacts resulting from construction and maintenance of the solar energy system, including lighting, security measures, traffic, and grid connections.

H. Where permitted in residential zones, and in the B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, B-7 and waterfront zones, all solar energy systems shall be co-located with other land uses.

I. Major solar energy systems shall be located on areas already paved or built upon, or where other development is documented to be unlikely due to local conditions.

6.4.17 Tow lots

Tow lots must be at least 300 feet from any residential zone or conforming residential use.

6.4.18 Wind energy systems

A. All wind energy generation equipment shall be approved under a certification program approved by the U.S. Department of Energy such as the Underwriters Laboratories, Germanishcer Lloyd Wind Energies, or other similar certifying organizations. Experimental, homebuilt, and prototype models shall not be permitted.

B. Wind energy systems and associated facilities, including foundations and support structures, electrical connections and control equipment, associated site improvements, and construction techniques, shall be designed, engineered, and installed to comply with all applicable local, state, and federal construction and electrical regulations and Federal Aviation Administration regulations. Applicable state and local approvals shall be obtained prior to installation of any wind energy system.

C. The support structure (e.g. tower, pole) for freestanding wind generating systems shall not be climbable for a minimum height of 12 feet above the surrounding ground level or accessible surface. All ground-mounted

electrical and control equipment shall be labeled and secured to prevent unauthorized access.

D. All moving components of a wind energy system shall be a minimum of 12 feet from ground level or accessible surface.

E. All on-site electrical wiring associated with the proposed wind energy system shall be located within the tower/pole/supporting structure and underground. Above ground on-site connections near substations or to the electric grid shall be allowed.

F. The use of guy wires is discouraged. If required, they shall be located away from pedestrian routes/access points and marked with visible, reflective, colored objects, such as flags, reflectors, or tape, which shall be placed on the anchor points of guy wires and along the guy wires up to a height of ten feet from the ground.

G. No wind energy system shall be located within 250 feet of any significant wildlife habitat, as defined by Maine Department of Environmental Protection/Maine Department of Inland Fisheries and Wildlife under provisions of the Natural Resources Protection Act (38 M.R.S. § 480 et seq.) including wildlife habitat for species appearing on the official state and federal list of endangered or threatened animal species.

H. For all wind energy systems over 45 feet in height above the ground or over 100kW, evidence shall be provided that the Environmental Coordinator of the Maine Department of Inland Fisheries and Wildlife and the Maine Natural Area Program have been notified of the location, height, and design of the proposed wind energy system at least three weeks prior to any final determination under this subsection. Any comments received therefrom shall be addressed to the satisfaction of these state authorities prior to any final determination under this provision.

I. Wind energy systems shall be designed to avoid electromagnetic interference with the transmission or reception of radio, telephone, television, microwave, navigational, or similar signals to neighboring areas.

J. Wind energy systems and associated facilities shall use non-reflective materials and neutral colors and textures that blend in with the surrounding environment. Ground-mounted systems and associated facilities shall be landscaped to integrate the proposed wind energy system into the existing landscape/streetscape.

K. No part of the system may be illuminated, except as required by the Federal Aviation Administration (FAA) or other authorities for safety and security purposes. Where lighting is required, it shall be at the lowest intensity allowable with fixtures shielded and directed to minimize glare and visibility from the ground.

L. There shall be no signs, advertisements, flags, or decorative items on a wind energy system or any associated facilities, except for the manufacturer's/installer's/owner's identification (not exceeding one square feet in size), appropriate warning signs, or lights if required by the FAA.

M. Wind energy systems shall be prohibited within any historic landscape district, any historic cemetery, any historic district, except the Congress Street Historic District where it coincides with the B-3 zone, or within 1,000 feet of any designated historic landmark, which

shall include Portland Observatory, Cathedral of Immaculate Conception, St. Dominic's Cathedral, St. Luke's Cathedral, State Street Church, and City Hall.

N. Wind energy systems within R-OS zones are allowed only where they are co-located within public industrial or utility facilities.

O. Systems shall be screened with a vegetated buffer from public areas and residential buildings.

6.5 CONDITIONAL USES

6.5.1 Conditional use review procedure

A. **Review authority.** The Zoning Board of Appeals shall review all conditional use applications, with the exception that the Planning Board shall review:

1. All conditional use applications in the B-3/B-3b/B-3c, B-5/B-5b, B-6, and B-7 zones.
2. All conditional use applications associated with projects that are otherwise before the Planning Board.
3. Conditional use applications for specific uses for which the Planning Board is identified as the review authority under Subsection 6.5.6.

B. **Application.** Applications for conditional use review shall be submitted to the Building Authority for all Zoning Board of Appeals reviews and the Planning Authority for all Planning Board reviews. A nonrefundable application fee, as established from time to time by the City Council to cover administrative costs and costs of a hearing, shall accompany each application. The application shall be in such form and shall contain such information and documentation as shall be prescribed from time to time by the review authority.

C. **Public hearing.** A public hearing shall be set, advertised, and conducted by the review authority in accordance with Article 2 of this Land Use Code.

D. **Action**. Within 30 days following the close of the public hearing, the review authority shall render its decision, in a manner and form specified by Article 2 of this chapter, approving the conditional use, approving the conditional use subject to conditions as specified in Subsection 6.5.3, or denying it. The failure of the review authority to act within 30 days shall be deemed an approval of the conditional use, unless such time period is mutually extended in writing by the applicant and the review authority. Within five days of such decision or the expiration of such period, the Building Authority or Planning Authority shall mail notice of such decision or failure to act to the applicant and, if a conditional use is authorized, list therein any and all conditions imposed by the review authority.

6.5.2 General conditional use standards

The review authority shall, after review of the application, approve a conditional use upon a finding that the proposed conditional use, at the size and intensity contemplated at the proposed location, will not have substantially greater negative impacts than would normally occur from surrounding uses or other allowable uses in the same zone. The review authority shall find that this standard is satisfied if it finds that:

A. The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone.

B. The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter.

C. The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.

D. The proposed use will meet any additional zone or use-specific standards identified in Tables 6-A to 6-F and Subsections 6.5.6 and 6.5.7.

6.5.3 Conditions on conditional use approvals

The review authority may impose such reasonable conditions upon the premises benefited by a conditional use as may be necessary to prevent or minimize adverse effects therefrom upon other property in the neighborhood. Such conditions shall be expressly set forth in the resolution authorizing the conditional use. Violation of such conditions shall be a violation of this article.

6.5.4 Effect of issuance of a conditional use approval

The approval of a conditional use shall not authorize the establishment or extension of any use nor the development, construction, reconstruction, alteration, or moving of any building or structure, but shall merely authorize the preparation, filing. and processing of applications for any permits or approvals which may be required by the City of Portland Code of Ordinances, including but not limited to a building permit, a certificate of occupancy, subdivision approval, and site plan approval.

6.5.5 Limitations on conditional use approvals

No conditional use approval shall be valid for a period longer than six months from the date of approval, or such other time, not to exceed two years, as may be fixed at the time granted, unless the conditional use has been commenced or a building permit is issued and construction has begun within that period and is thereafter diligently pursued to completion, provided, however, that one or more extensions of said time may be granted if the facts constituting the basis of the decision have not materially changed and the two year period is not exceeded thereby. A conditional use approval shall be deemed to authorize only the particular use for which it was issued and such approval shall automatically expire and cease to be of any force or effect if such use shall for any reason be discontinued for a period of 12 consecutive months or more.

6.5.6 Supplemental use-specific conditional use standards

In addition to the general conditional use standards, the following standards shall apply to specific conditional uses:

A. Automobile, boat, and related dealerships and auto service stations

1. The Planning Board shall be the review authority.
2. Signs shall not adversely affect visibility at intersections or access drives. Such signs shall be constructed, installed, and maintained so as to ensure the safety of the public. Such signs shall advertise only

services or goods available on the premises.

3. No ingress and egress driveways shall be located within 30 feet from an intersection. No entrance or exit for vehicles shall be in such proximity to a playground, school, church, other places of public assembly, or any residential zone that the nearness poses a threat or potential danger to the safety of the public.
4. A landscaped buffer, no less than five feet wide, shall be located along street frontages (excluding driveways). The, buffer shall consist of a variety of plantings in accordance with the City of Portland *Technical Manual*.
5. Car washes shall be designed to avoid the tracking of residual waters into the street.

B. Emergency shelters

1. The facility shall provide adequate space for conducting security searches and other assessments.
2. The facility shall be designed with a centralized shelter operations office on each level providing sight lines to sleeping areas.
3. A management plan adequately outlining the following areas shall be provided: management responsibilities; process for resolving neighborhood concerns; staffing; access restrictions; on-site surveillance; safety measures; controls for resident behavior and noise levels; and monitoring reports.
4. Adequate access to and from METRO service shall be provided. The facility shall be within a ¼ mile of a METRO line, or shall be within ½ mile of a METRO line and provide adequate indoor space to permit all shelter guests day shelter, as well as implement strategies to help residents utilize transit.
5. The facility shall provide on-site services to support residents, such as case management, life skills training, counseling, employment and educational services, housing assistance, or other programs.
6. Suitable laundry, kitchen, pantry, bicycle storage, and secure storage facilities for shelter stayers shall be provided on-site.
7. An outdoor area for guest use shall be provided on-site with adequate screening to protect privacy of guests.

C. General office in the R-6 & R-6a zones

1. Offices shall serve a member of a recognized profession and be maintained for the conduct of that profession. Professional office uses do not include veterinary offices.
2. For the use of any building designed or constructed for residential use, which was in use as a residence on April 18, 1984, or thereafter:
   a. A professional office shall not be located within 500 feet of another as measured along the street line to the respective property lines.
   b. A building with one or more professional offices shall have at least 50% of the total floor area of the building devoted to residential uses.
   c. The total number of individuals working in a building of professional offices shall not exceed the equivalent of four full time employees.

d. Any additions or exterior alterations shall be compatible with the architecture of the building and maintain the residential appearance of the building. Construction of a new building shall be compatible with the architectural character of the surrounding area.

3. The scale and surface area of parking, driveways, and paved areas shall be arranged and landscaped to be compatible in size and scale with neighboring properties in the area and to properly screen vehicles from adjacent properties and streets.

D. High-tech manufacturing

1. A minimum of 1/3 of the total square footage devoted to manufacturing shall be conducted in a laboratory environment, in a controlled environment with specialized air handling systems that exceed levels for pressurization and filtration found in office environments and traditional manufacturing facilities.
2. Rooftop equipment shall be integrated into the overall building design and shall be screened as necessary.
3. In the B-7 zone, accessory warehousing is permitted. Where warehousing cannot be located on the same lot because the land area is too small to accommodate the warehousing on the same lot, one remote warehouse may be located within 600 feet of the principal use referenced above.
4. In the O-P zone, truck traffic serving a single manufacturing business or institution shall not exceed, on a regular basis, more than two tractor-trailer truck deliveries per week. No deliveries shall be accepted between 7:00 p.m. and 7:00 a.m.

E. Industrial uses

1. *In the B-2/B-2b/B-2c zones*
   a. The Planning Board shall be the review authority.
   b. The site shall have an adequate traffic circulation pattern designed to avoid hazards to vehicular circulation on adjoining streets. All stacking of motor vehicles shall be on site, and loading facilities shall be located to the rear of the building and shall not be visible from the street.
   c. The exterior design of the structures, including architectural style, facade materials, roof pitch, building form, established setbacks, and height shall be of a commercial rather than industrial character. The site shall contain screening and landscaping which shall meet the requirements of Article 14 for screening between land uses and the City of Portland *Technical Manual*.
2. *In the B-3/B-3b/B-3c zones*
   a. The floor area devoted to industrial use shall not exceed 10,000 square feet. For a building in existence on March 11, 1991, the floor area shall not exceed 10,000 square feet or 50 percent of the total floor area, whichever is greater.
   b. The associated vehicular loading, unloading, parking, circulation, and traffic volumes on the site and on adjacent public streets shall not have a

more intensive impact than any use on the site within the last five years.

c. Any buildings located in a PAD Overlay Zone shall be subject to the requirements of Section 8.7 in addition to the requirements of this subsection.

d. For buildings that either were not in existence on March 11, 1991, or were in existence on that date but were either in use for any permitted use in the B-3 zone or were designed or constructed for any such use:

i. No tractor trailer trucks or longer vehicles shall be associated with the proposal.

ii. The proposal shall exclude warehousing and storage as a principal use.

iii. The use shall not generate more than six delivery or service trips per day between 7:00 a.m. and 7:00 p.m.

3. *In the B-5/B-5b zones*

a. Truck loading and access and vehicle parking shall be located in the rear or side yard of the site where possible.

b. Street frontage shall be designed for pedestrian scale or interest.

c. Shared infrastructure to the extent practicable, including, but not limited to, service alleys, parking areas, stormwater treatment, public transportation facilities, and driveways, shall be utilized.

4. *In the B-6 zone.* No brew pubs or microbreweries east of Waterville Street shall be permitted within 50 feet of Fore Street.

F. Institutional uses (excluding preschools)

1. The Planning Board shall be the review authority.

2. In the case of expansion of existing institutional uses onto land other than the lot on which the principal use is located, it shall be demonstrated that the proposed use cannot reasonably be accommodated on the existing site through more efficient utilization of land or buildings, and will not cause significant physical encroachment into established residential areas.

3. The proposed use shall not cause significant displacement or conversion of residential uses existing as of June 1, 1983, or July 15, 1985 in the IR-1 and IR-2 zones, or thereafter.

4. In the case of a use or use expansion which constitutes a combination of the conditional institutional uses with capacity for concurrent operations, the applicable minimum lot sizes shall be cumulative.

5. In the case of community halls:

a. The structure shall have been in existence as of January 4, 2010.

b. The structure shall have been built for institutional or other non-residential uses.

c. The structure shall be operated by, or operated subject to the control of, a not-for-profit entity in accordance with its not-for-profit purposes.

d. A parking management plan shall be submitted for review and approval by the Planning Board.

6. In the case of private club or fraternal organizations, any such establishment serving alcoholic beverages or in possession of a license for serving alcoholic beverages shall meet the minimum lot size requirement for places of assembly greater than 10,000 square feet.
7. Post-secondary schools in the R-2 zone shall only be permitted on a collector or arterial road.
8. In the case of a post-secondary school within the R-5 zone and not including the USM Overlay Zone, such school may build principal structures to a height of 55 feet if the following standards can be met:
    a. Minimum lot size: 10 acres which may include adjacent land owned by the institution on both sides of a public street.
    b. Minimum setback between buildings on-site: 20 feet.
    c. Minimum setback from external property boundary: 30 feet, except that parking garages over 35 feet in height must be located 50 feet from external property boundaries when adjacent to an adjoining residential use.
    d. The area between the structure and adjoining residential uses must be adequately screened with appropriate landscaping or other features to buffer the building and effects thereof (i.e. noise, light, etc.) from abutting properties.

G. Multi-family

1. *In the R-3 and R-5 zones.* Alteration of a structure existing and not in residential use as of January 1, 1984 to three or more dwelling units shall be permitted as a conditional use provided that:
    a. No open outside stairways or fire escapes above the ground floor shall be constructed or have been constructed in the immediately preceding five years.
    b. 3,000 square feet of land area per dwelling unit shall be required.
    c. A lower level dwelling unit shall have a minimum of one-half of its floor-to-ceiling height above the average adjoining ground level.
    d. Any addition or exterior alteration, such as change in façade materials, building form, or roof pitch, shall be designed to be compatible with the architectural style of the structure.
    e. In the R-3 zone, any addition or exterior alteration shall be limited to a gross floor area equal to or less than 25% of the total existing floor area as of June 13, 2018.
    f. Paved areas shall be designed to be compatible in size and scale with neighboring properties in the area and properly screened from adjacent streets.
2. *In the I-B zone*
    a. Multi-family buildings shall have a maximum of four units.
    b. No open outside stairways or fire escapes above ground floor shall be constructed or have been constructed in the immediately preceding five years.

c. A below grade dwelling unit shall be permitted only if access is provided directly to the outside of the building.
d. Density shall be determined by the most restrictive abutting residential zone, except for those lots which are served by public water and sewer, where density shall be determined by the least restrictive abutting residential zone. If no residential zone is abutting, density shall be determined by the nearest residential zone. Residential uses shall meet the requirements of such abutting or nearest residential zone.
e. Any additions or exterior alterations shall be compatible with the original architecture of the building. The exterior design of new construction, including the architectural style, facade materials, roof pitch, building form, and height shall be compatible with neighboring properties.
f. No existing dwelling unit shall be decreased to less than 1,000 square feet of floor area.
g. No additional dwelling unit shall have less than 600 square feet of floor area, exclusive of common hallways and storage in basement and attic.
h. All sanitary waste shall be disposed of by a public sewer, subsurface sewerage system, or other method in compliance with all applicable federal, state and local regulations.
i. There shall be sufficient water for the needs of the dwellings such that the use does not cause an unreasonable burden on an existing water supply nor adversely affect groundwater resources.

H. Off-street parking

1. *In the R-3, R-4, and R-5 zones*
   a. Off-street parking must be designed to satisfy the parking requirement of a use located in and conforming with the provisions of a nearby mixed-use or industrial zone.
   b. The lot on which the parking is proposed must be located wholly within 300 feet, measured along lines of public access, from the use which requires the off-street parking.
   c. The lot where the off-street parking is proposed shall be under the control of the owner of the use which requires the off-street parking. Evidence of such control by deed or lease shall be required before the certificate of occupancy is issued. If such control should be abrogated, the parking use thus allowed shall automatically revert to a nonconforming use in violation of this article and shall be terminated forthwith.
   d. Conditions may be imposed to insure development compatible with that of the immediate neighborhood notwithstanding the provisions of any other section of this Land Use Code. Such conditions may include limits on the period of such use.
2. *In the R-6 zone.* Off-street parking shall be for passenger cars for uses permitted in the R-6 zone.

3. *Structured parking in the B-6 and B-7 zones*
    a. Parking garages shall incorporate first floor retail space or other non-parking and active use along all street frontages.
    b. The Planning Board may waive the requirement for first floor mixed-use upon demonstration that the project meets one or more of the following criteria:
        i. The applicant demonstrates that steepness of grade or the character of the adjacent street will not support retail or first-floor mixed use in the foreseeable future.
        ii. The first floor of the garage is set back a minimum of 35 feet from the street right-of-way and its design does not provide an impediment for development of such space for mixed-use in the future. Such space (between the garage and the street) shall, in the interim, not be used for surface parking.
        iii. The applicant can demonstrate to the satisfaction of the Planning Board that a market for first floor mixed uses currently does not exist, provided that the structure of the garage is designed to accommodate retail and or mixed-uses in the future. In these cases, the Planning Board will need to find that, on the street-level deck of a proposed parking garage, a minimum of 20 feet horizontal distance of depth from the street and nine feet finished floor-to-finished ceiling clearance could house future retail and or mixed use. The applicant will further need to demonstrate that the garage design anticipates the future development of utilities and circulation necessary for non-parking uses. Where a parking garage fronts on more than one public street and where there is an existing change in grade elevation of over 5% across the footprint of the garage, the nine-foot floor-to-ceiling requirement only applies to the street with higher traffic volumes.
    c. Where the Board allows a waiver of first floor mixed use, garages shall display architecture that enhances the pedestrian experience and disguises the parking use to the extent possible. Use of traditional storefront design concepts and traditional building materials is encouraged.
4. *Surface parking in the B-3, B-6, and B-7 zones*
    a. Surface lots shall be laid out in a manner conducive to development of future buildings, and/or structured parking.
    b. Surface parking, including parking aisles, shall be located at least 35 feet from a street. The 35-foot setback shall not apply to driveways

perpendicular to the street providing access to the site.

c. In the B-7 zone, surface parking that does not meet the 35-foot parking setback may be permitted as a conditional use, provided that:
   i. All or a portion of the 35-foot setback area had a gravel surface on September 29, 2015.
   ii. The total gravel surface area on the lot and any contiguous lots did not exceed 15,000 square feet on September 29, 2015.
   iii. The parking spaces provide parking to a principal building on a contiguous lot.
   iv. One of the buildings described in (iii) above meets the minimum height requirements of the Bayside Height Overlay Map and/or a building on the site has a floor area of 25,000 square feet or greater.
   v. The total number of spaces within 35-foot setback in combination with other spaces on the lot does not exceed the minimum parking spaces required.
   vi. The proposed parking spaces meet the landscape and buffer requirements of Subsection 6.8.8.
   vii. Parking spaces within the 35-foot setback shall provide stormwater quality treatment if required by the City of Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Standards. If not required, an alternative low impact development treatment system approved by the Planning Board shall be provided.

I. **Preschool facilities**
   1. *In all zones*
      a. Outdoor play areas shall be screened and buffered from surrounding residences with landscaping and/or fencing to minimize visual and noise impacts.
      b. Solid waste shall be stored in covered containers. Such containers shall be screened on all sides.
   2. *In the R-P zone*. Facilities for more than 12 children shall meet the following additional standards:
      a. The facility shall provide a minimum of 75 square feet of outdoor play area per child.
      b. The play area shall be located in the side and rear yards only and shall not be located in front yards.
      c. Outside play areas shall be separated from abutting properties by a fence at least 48 inches in height.
      d. A 10-foot-wide landscaped buffer shall be required outside of the fenced play area, and shall be established in accordance with the landscaping standards of the City's *Technical Manual*.
   3. *In residential and island zones*
      a. The facility shall be located in a structure in which there is one or more occupied residential units or in

an existing accessory structure, unless the facility is located in a principal structure that has not been used as a residence in whole or in part within the five years immediately preceding the application for a preschool use, or in a nonresidential structure accessory to the principal nonresidential use.

b. There shall be no maximum limit on the number of children in a facility located in a principal structure that has not been used as a residence in whole or in part within the five years immediately preceding the application for a preschool use, or in a nonresidential structure accessory thereto.

c. The maximum capacity shall be 12 children for facilities located in residential or existing structures accessory thereto, unless the additional standards in paragraph (d) below are met.

d. Preschool facilities located either in structures that have been in residential use within the past five years or in existing accessory structures and that serve between 13 and 24 children shall meet the following additional standards:

   i. The facility shall provide a minimum of 75 square feet of outdoor play area per child.

   ii. The play area shall be located in the side and rear yards only and shall not be located in front yards.

   iii. Outside play areas shall be separated from abutting properties by a fence at least 48 inches in height.

   iv. A 10-foot-wide landscaped buffer shall be required outside of the fenced play area, and shall be established in accordance with the landscaping standards of the City's *Technical Manual*.

   v. The minimum lot size for a preschool located in a residential or existing accessory structure and serving more than 12 children shall be 20,000 square feet.

   vi. The maximum number of children in a preschool facility located in a residential or existing accessory structure shall be 24.

   vii. Any additions or exterior alterations such as facade materials, building form, roof pitch, and exterior doors shall be designed to be compatible with the architectural style of the building and preserve the residential appearance of the building.

J. Raising of domesticated animals for non-commercial purposes

1. No animals shall be kept on any lot less than three acres or closer than 100 feet to any street or lot line, except domesticated chickens as regulated in Chapter 5 of the City of Portland Code of Ordinances.
2. This use shall not create any odor, noise, health, or safety hazards, or other nuisance to neighboring properties.
3. Raising of pigs or reptiles is not permitted.

K. Sheltered care group homes

1. A sheltered care group home shall not be located within 500 feet of another, as measured along street lines to the respective property lines.
2. The facility shall make provision for adequate on-site staffing and supervision in accordance with applicable state licensing requirements. If a facility is not licensed by the state, there shall be a minimum of one staff person for every 10 residents or fraction thereof.
3. The Board of Appeals or Planning Board may impose conditions upon a conditional use permit concerning the creation or operation of a sheltered care group home including but not limited to the following: site and building maintenance; lighting, fencing, and other appropriate security measures; screening and buffering of parking areas; compatibility of any additions or alterations with the existing residential structure; compatibility of new structures with the architectural character of the surrounding area; and limitation on the duration of a sheltered care group home permit.

L. Utility substations

1. Utility substations shall be as small in size as practicable.
2. Substations shall be suitably screened and landscaped so as to ensure compatibility with the surrounding neighborhood. The remainder of the lot not consumed by the utility substation and its related access shall be designed and designated for future development.
3. If greater than 100 square feet in the B-7 zone, the structure shall be set back at least 35 feet from the street right-of-way except in the case of a lot having frontage on Marginal Way and I-295, provided the minimum 35-foot setback is met along Marginal Way.
4. In the B-7 zone, the substation equipment shall be fully enclosed within a structure.

6.5.7 Supplemental zone-specific conditional use standards

In addition to the general conditional use standards and supplemental use-specific conditional use standards, the following standards shall apply to conditional uses within certain zones:

A. R-OS Zone

1. The use shall be in conformity with or satisfy a deficiency identified in a federal, state, regional, or city recreation and open space plan, including but not limited to the state *Comprehensive Outdoor Recreation Plan*, as such plans may from time to time be created or revised.
2. Buildings and structures shall not obstruct significant scenic views presently enjoyed by nearby residents, passersby, or users of the site.
3. Indoor recreation or nonrecreational uses shall serve a significant public purpose that cannot reasonably be accommodated outside of the recreation and open space zone.

6.6 ACCESSORY USES

6.6.1 In general

A. Accessory uses shall be permitted in conjunction with permitted or conditional principal uses. Accessory uses must be:
   1. Customarily found in association with the principal uses.
   2. Generally consistent with the impacts of the primary use.
   3. Secondary in nature, clearly incidental and subordinate to the principal uses in terms of area and function.
   4. Located on the same lot as the principal use unless otherwise permitted.
   5. Consistent with the intent of the zone.

B. No accessory use or uses within a building shall occupy more than a combined total of 25% of the floor area of the principal building, with the exception of required off-street parking, unless otherwise provided in Subsection 6.6.2 below.

C. No accessory use or uses not within a building shall occupy more than a combined total of 25% of the unbuilt lot area, or of the required rear yard area, with the exception of off-street parking or as otherwise provided in Subsection 6.6.2.

6.6.2 Standards for specific accessory uses

A. Accessory Dwelling Units (ADUs)
   1. Accessory Dwelling Units (ADUs) shall be permitted on all lawfully conforming and nonconforming lots with legal residential uses. ADUs shall comply with all dimensional standards of the underlying zone unless otherwise provided below.
   2. Up to two ADUs shall be permitted per qualifying property.
   3. At the time of an ADU's initial construction or legal creation, the owner(s) of the property on which the accessory dwelling unit is created must occupy at least one of the dwelling units, with the exception of legally nonconforming lots on Peaks Island.
   4. When an ADU is significantly visible from public ways, the building design shall:
      a. Be clearly subordinate to the principal structure(s) in scale and position in relationship with the street and principal structure(s).
      b. Not include outside stairways or fire escapes above the ground floor.
   5. Under circumstances where an existing nonconforming structure is converted to an ADU, the design of the ADU shall take into consideration to the extent practicable the privacy of adjacent properties.
   6. The developer of an ADU shall record a deed restriction requiring that the ADU and at least one other non-accessory unit on-site remain under common ownership.
   7. ADUs shall comply with all dimensional requirements of the underlying zone except lot coverage and lot area per dwelling unit requirements.
   8. An ADU shall be limited to a gross floor area of 2/3 of the gross floor area of the principal unit(s). In no circumstance shall the height of detached ADUs on a lot exceed the height of the primary structure. Additionally, the aggregate square footage of detached ADUs on a lot shall not exceed the gross floor area of the primary structure.

B. **Amusement devices.** Except where the principal use consists of the sale of alcoholic beverages for consumption on premises or where the principal structure is an airline terminal, pinball machines or amusement devices shall not be considered to be accessory uses whenever there are more than a total of two such machines or devices on the premises.

C. **Antennas, discs, transmitting and receiving equipment.** Building-mounted antennas, discs, and other transmitting and receiving equipment shall be:
   1. No taller than 15 feet above the highest structural steel of the building roof.
   2. Setback no less than 15 feet from the building perimeter.
   3. Integrated into the architecture of the building in placement, form, color, and material so as to screen or camouflage such equipment from public view.

D. **Drive-throughs.** Drive-throughs shall be permitted as an accessory use in the B-4 zone. Drive-throughs shall be reviewed as conditional accessory uses in the B-2/B-2b/B-2c zones, B-3/B-3b/B-3c zones, B-6 zone, and B-7 zone. In all other zones, drive-throughs shall be prohibited. Where a conditional use, drive-throughs shall be subject to the provisions of Section 6.5 and the following additional review standards:
   1. *In general*
      a. The Planning Board shall be the review authority.
      b. Features such as windows, vacuum cleaners, menu/order boards, and stacking lanes must be placed, where practicable, to the side and rear of the principal building except where such placement will be detrimental to an adjacent residential zone or use, and shall be located no nearer than 40 feet from any adjoining property located in a residential zone. This distance shall be measured from the outermost edge of the outside drive-through feature to such property line. In addition, drive-through features shall not extend nearer than 25 feet from the right-of-way.
      c. The site must have adequate stacking capacity for vehicles waiting to use these service features without impeding vehicular circulation or creating hazards to vehicular circulation on adjoining streets.
      d. Any speakers, intercom systems, or other audible means of communication shall not play pre-recorded messages. Any speakers, intercom systems, audible signals, computer prompts, or other noises generated by the drive-through services or fixtures shall not exceed 55 dB or shall be undetectable above the ambient noise level as measured by a noise meter at the property line, whichever is greater.
      e. Site and vehicular light sources shall not unreasonably spill over or be directed onto adjacent residential properties and shall otherwise conform to the lighting standards set forth in the City of Portland *Technical Manual*.
      f. Where automobiles may queue, waiting for drive-through services, their impacts must be substantially

mitigated to protect adjacent residential properties from headlight glare, exhaust fumes, and noise. As deemed necessary by the review authority, mitigation measures shall consist of installation of solid fencing with landscaping along any residential property line which is exposed to the drive-through or the enclosure of the drive-through fixtures and lanes so as to buffer abutting residential properties and to further contain all associated impacts.

g. Drive-through lanes shall be designed and placed to minimize crossing principal pedestrian access-ways or otherwise impeding pedestrian access.

h. The board, as part of its review, may take into consideration the impact hours of operation may have on adjoining uses.

2. *In the B-2/B-2b/B-2c zones.* Drive-throughs shall only be permitted when accessory to a pharmacy or banking facility use. Drive-throughs shall not be permitted for restaurant, bakery, or other food or beverage service uses. Drive-throughs are only permitted in buildings of three or more stories where a majority of the upper stories is devoted to three or more dwelling units. The drive-through shall be screened as much as practical from the front of the building and shall be no closer than 40 feet from abutting residential zones and 25 feet from the street line.

3. *In the B-3/B-3b/B-3c zones.* Drive-throughs shall only be permitted when accessory to a bank. Drive-throughs shall be subject to the Downtown Urban Design Guidelines.

4. *In the B-6 zone.* Drive-throughs shall only be permitted when accessory to a bank and located in the interior of parking structures. Drive-through vehicle circulation shall not create an impediment for retail or mixed-use development for the first floor of the subject garages along any adjacent public streets.

5. *In the B-7 zone*

   a. The drive-through must be accessory to a bank occupying a minimum floor area of 4,000 square feet.

   b. The drive-through must be attached to or included within a building with a minimum floor area of 20,000 square feet, except that for lots of less than 20,000 square feet and in existence as of March 9, 2005, a drive-through may be included in a building of less than 20,000 square feet.

   c. The drive-through facility must be attached or included within a building and/or addition meeting the minimum height of four stores in the Bayside Height District A and three stories in the Bayside Height Districts B and C. For the purposes of this conditional use, the minimum height exceptions for the B-7 zone shall not apply.

   d. The first floor of the building must include banking or other retail storefront uses with storefront windows, entries, and interior public space oriented to and visible from the street, with front entry access facing

the street and directly accessible from the public sidewalk.

e. Drive-through vehicle circulation shall not be located between the building and any adjacent public streets.

f. The drive-through shall be limited to two vehicle drive-through lanes.

g. The location of any drive-through shall be limited to the geographic area between Somerset/Kennebec Streets/I-295/Franklin Street/Forest Avenue.

E. Heliports. Heliports shall meet the following minimum specifications:

1. *Roof heliport*
   a. Take-off area (min.): 200 feet x 250 feet
   b. Parking area (min.): 30 feet x 90 feet
2. *Ground heliport*
   a. Take-off area (min.): 300 feet x 700 feet
   b. Parking area and station building shall be located out of flight area.
3. *Elevation of operational area above street (max.):* 100 feet
4. *Clearance from lateral obstruction (min.):* 100 feet
5. *Width of approach and departure path (min.):* 500 feet at landing area, tapering outward 15 degrees on each side to a width of 1,000 feet
6. *Slope with emergency landing areas:* 1:8
7. *Slope without emergency landing areas:* 1:20
8. *Curved approach:* Minimum radius to turn, 650 feet
9. *Approach zone transition area slope:* 1:2

F. Home occupations

1. The purpose of home occupations is to allow the secondary and incidental use of a residence for the conduct of appropriate occupations whose external activity levels and impacts are so limited as to be compatible with the residential character of the neighborhood.
2. Home occupations must be conducted entirely within the dwelling unit by one or more persons residing within the dwelling unit.
3. In connection with the operation of a home occupation, the following requirements shall be met:
   a. A home occupation shall not occupy more than 500 square feet of floor area or more than 25% of the total floor area of such a dwelling unit, whichever is less, or in the case of licensed family day care homes or home babysitting services, to accommodate not more than six children plus two children after school and having no nonresidential employees.
   b. There shall be no outside storage of goods and materials nor shall there be exterior displays, or display of goods visible from the outside.
   c. Storage of materials related to the home occupation shall count as a part of the occupancy limitations above, but shall not constitute a dominant part of such occupancy, provided, however, storage of such materials or products in garages or other accessory structures is prohibited.

d. Exterior signs shall be limited to one non-illuminated sign not exceeding a total area of two square feet, affixed to the building and not projecting more than one foot beyond the building.
e. Any exterior alterations to the residence shall be compatible with the architecture of the building and maintain the residential appearance by virtue of exterior materials, lighting, and signs.
f. The home occupation shall not produce offensive noise, vibration, smoke, dust, or other particulate matter, odorous matter, heat, humidity, glare, or other objectionable effects.
g. There shall be no more than one nonresident employed in the home occupation, provided, however, family day care or home babysitting services shall have no nonresident employees.
h. No traffic shall be generated by the home occupation in greater volumes than would normally be expected in a residential neighborhood.
i. No motor vehicle exceeding a gross vehicle weight of 6,000 pounds shall be stored on the property in connection with the home occupation.

4. No residence shall be occupied, altered or used for any home occupation except the following:
   a. Accountants and auditors.
   b. Answering services (telephone).
   c. Architects.
   d. Artists and sculptors.
   e. Authors and composers.
   f. Computer programming.
   g. Custodial services.
   h. Custom furniture repair and upholstering.
   i. Dentists, doctors, therapists, and health care practitioners.
   j. Direct mail services.
   k. Dressmakers, seamstresses and tailors.
   l. Engineers.
   m. Family planning services.
   n. Hairstylists (limited to no more than two hair dryers).
   o. Home crafts, such as model making, rug weaving, lapidary work, cabinet making, weaving, ceramics.
   p. Interior designers.
   q. Lawyers, justices of the peace, and notary publics.
   r. Licensed family day care home or babysitting services.
   s. Musicians or music teachers, including group instruction not to exceed six students at any time but not including performances or band rehearsals, which shall meet the following additional requirements:
      i. Electronic amplification is prohibited.
      ii. The applicant shall demonstrate that noise attenuation is provided which minimizes perception of sound at property lines at all times during the use. Noise attenuation measures may include, but are not limited to,

insulation, double-pane windows, air conditioners, or any combination of these or similar noise attenuation measures.

iii. Hours of operation shall be limited to 8:30 a.m. to 9:30 p.m.

t. Office facility of a minister, rabbi, or priest.

u. Photographic studios.

v. Professional counseling and consulting services.

w. Professional research services.

x. Sales persons provided that no retail or wholesale transactions are made on the premises.

y. Small appliance repair.

z. Snow plowing provided that only one snow plow vehicle is stored on or generated from the site.

aa. Special tutoring or instruction (not to exceed three pupils at any given time).

bb. Clerical services.

cc. Small-scale marijuana caregiver, except that no more than one small-scale caregiver may operate out of any one dwelling unit.

5. A home occupation that is not listed in (4) above but is similar to and no more objectionable than those home occupations listed, shall be permitted as a conditional use subject to the requirements of Section 6.5 of this article. This provision shall not include veterinarians, kennels, animal raising, funeral homes, retail uses including antique shops, restaurants, dancing studios, towing services, repair and painting of automobiles as home occupations.

G. **Letting of rooms.** The letting of rooms within an existing dwelling unit in any residential zone shall be permitted as an accessory use provided that:

1. There shall be no more than two persons occupying such room or rooms.
2. There shall be not more than two rooms per dwelling unit occupied for such use.
3. There shall be no increase in the bathroom and/or kitchen facilities in the dwelling, and no such facility shall have been constructed in the immediately preceding two years.

H. **Makers' markets in the IL-b zone.** Makers' markets, including periodic or seasonal sale of handcrafted and limited production products for final consumption, which may include prepared or raw foods, shall be permitted as an accessory use in the IL-b zone, provided that:

1. Such sales are located within a lawfully conforming principal permitted use.
2. Such sales occupy an area no larger than 45% of the floor area devoted to the principal use.
3. Such sales by any single vendor or group of vendors shall occur for no more than a total of 28 hours a week collectively.
4. Such products are produced or permitted to be produced in the IL/IL-b zone.
5. Such products are sold by the producer of the product or their designee.

I. **Tasting rooms in industrial zones.** Tasting rooms shall be permitted as accessory uses on the premises of facilities where beer, wine, spirits, other alcoholic or non-alcoholic beverages, or food are produced, provided that:

1. Service of food in the facility is limited to that which does not constitute a full course meal.
2. No more than 10% of the beverage menu in tasting rooms accessory to beverage production or 10% of the food menu in tasting rooms accessory to food production is produced or manufactured off-site.

Tasting rooms shall not be subject to the limitations on the use of unbuilt lot or yard area in Subsection 6.6.1(C).

J. **Solar energy generation**. Roof-mounted, building-integrated, or small-scale ground-mounted solar energy systems shall be permitted as accessory uses within all zones except the Stream Protection Zone and within cemeteries. Accessory solar energy systems are only permitted within the Recreation and Open Space Zone where co-located with public industrial or utility infrastructure and are subject to historic preservation review when such systems are either located within or less than 100 feet from an identified historic district or historic landscape district. All accessory solar energy systems are subject to the following conditions:

1. Accessory solar energy systems shall comply with all general use standards for solar energy systems as stated under Subsection 6.4.16 of this article and with the dimensional requirements as stated under Article 7.
2. Small-scale ground-mounted solar arrays shall occupy less than 1,000 square feet of ground area.

K. **Wind energy generation.** Freestanding and roof-mounted wind energy systems shall be permitted as accessory uses within all zones except the Stream Protection Zone, within historic districts except where the Congress Street Historic District coincides with the B-3 zone, within historic cemeteries or historic landscape districts, or within 1,000 feet of any designated historic landmark (Portland Observatory, Cathedral of Immaculate Conception, St. Dominic's Cathedral, St. Luke's Cathedral, State Street Church, and City Hall), subject to the following conditions:

1. Accessory wind energy systems shall comply with all general use standards for wind energy systems as stated under Subsection 6.4.18 of this article.
2. Properties shall be limited to one free-standing wind energy system and/or three roof or building mounted wind energy systems.
3. Accessory wind energy systems shall either be located on the rear half of a building or structure, or within the rear yard and shall be sited to maximize existing vegetative or other screening from nearby residential buildings and public ways. The location shall minimize changes to existing topography and natural vegetation which would result from construction or maintenance of the system.

6.7 TEMPORARY USES

6.7.1 In general

Temporary uses may be permitted from time to time as determined by the Planning Authority. In addition to regulations pertaining to temporary uses contained elsewhere in the City of Portland Code of Ordinances, the following standards shall apply for specific temporary uses.

6.7.2 Standards for specific temporary uses

A. **Temporary parking.** Parking of vehicles may be permitted by a temporary certificate of occupancy for a limited period of time not to exceed one year in anticipation of future development.

B. **Temporary private tenting.** Temporary private tenting with one tent accessory to a principal residential use is permitted in the IR-1 and IR-2 zones provided that adequate water supplies and sanitation facilities are available in connection with the principal residential use.

C. **Temporary sales.** No "garage sale," "lawn sale," "attic sale," "rummage sale," or other similar casual sale of tangible personal property which is advertised by any means whatsoever whereby the public at large is or can be made aware of such sale, shall be deemed to be accessory or temporary if such sale occurs after sales have been conducted on the same premises for six or more days previously during the calendar year.

D. **Temporary stands**

1. No premises shall be used for business purposes consisting of temporary stands, booths, platforms, or vehicles intended for the sale of merchandise or other mercantile purposes if any part of such stand, booth, platform, or vehicle is proposed to be located nearer than 125 feet to any residential zone, except that a single stand with no more than 200 square feet of floor area for the sale of agricultural products produced on the premises shall be permitted as accessory to a permitted agricultural use.
2. A single produce stand shall be permitted on the premises of a community garden for the sale of flowers, vegetables, herbs, or fruit produced on the premises, provided that the stand is no more than 100 square feet in floor area or open table area and is located a minimum of five feet from any property line; that sales are limited to two days per week between the hours of 9:00 a.m. and 6:30 p.m. during the growing season from May 25 through October 31; and that the stand has received all necessary permits. The use of produce stands shall be seasonal and temporary. Any properly permitted structure may remain on the premises year-round. If the community garden is owned or operated by a non-profit organization, sales of flowers, vegetables, herbs, or fruit produced in other gardens or farms in Maine owned or operated by said organization shall be permitted within the same limitations listed above. For purposes of this subsection, community garden means a parcel of open land used for the cultivation of flowers, vegetables, herbs, or fruit by a group of city residents either jointly as a single plot or through individual garden plots or beds.
3. A single produce stand shall be permitted on the premises of a non-profit organization incorporated pursuant to the laws of the State of Maine with the permission of the owner and on the premise of public schools with the permission of the school department; provided that the stand is for the sale of local fruit, vegetables, flowers, seedlings, and plants produced by the seller; that the stand is no more than 100 square feet in

floor area or open table area and is located a minimum of five feet from any property line; that sales on the premises are limited to two days per week between the hours of 9:00 a.m. and 6:30 p.m. during the growing season from May 25 through October 31; and that the stand has received all necessary permits. The use of produce stands shall be seasonal and temporary. Any properly permitted structure may remain on the premises year-round.

4. In the IR-1 and IR-2 zones, a single stand with no more than 200 square feet of floor area for the sale of agricultural products produced on the premises or the sale of fish or shellfish caught by the occupant of the premises shall be permitted as a temporary use.

E. **Truck load sales.** Truck load sales shall not extend beyond three consecutive days nor occur more frequently than three times a calendar year.

6.8 PERFORMANCE STANDARDS

6.8.1 Design

A. In the B-3 zone, all development, all building and site alterations, and all provision of landscaping or other pedestrian amenities shall be consistent with the Downtown Urban Design Guidelines.

B. In the B-7 zone, all buildings shall have a minimum of one operable public pedestrian entrance facing the street frontage of the lot. Such building entrances shall comply with the B-7 design standards.

6.8.2 Development in the R-OS zone

All development in the Recreation and Open Space Zone shall comply with the following development standards:

A. All ground areas not used for parking, loading, vehicular, or pedestrian areas and not left in their natural state shall be suitably landscaped and designed with quality materials that are consistent with adopted City policy or master plans, and which provide a comfortable, durable, accessible, readily maintainable, and aesthetically pleasing environment.

B. Natural features, such as mature trees and natural surface drainageways, shall be preserved to the greatest possible extent consistent with the uses of the property.

C. Loading areas shall be screened and parking areas shall be screened and landscaped so as to avoid a large continuous expanse of paved area.

D. Buildings and structures shall be sited to avoid obstructing significant scenic views presently enjoyed by nearby residents, passersby, and users of the site.

E. Storage of commodities and equipment shall be completely enclosed within buildings or provided with screening by a fence, wall, or landscaping.

F. The outer perimeter of playfields, play lots, and other active recreational areas shall be screened, or shall be located a reasonable distance from any residential use.

6.8.3 Discharges

No discharge shall be permitted at any point into any private sewage disposal system, or stream, or into the ground, of any materials in such a way or of such nature or temperature as to contaminate any water supply, or otherwise cause the emission of

dangerous or objectionable elements, except in accordance with standards approved by the Public Health Authority or by the Public Works Authority. No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the Department of Public Works in accordance with Chapter 24 of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24.

6.8.4 Electromagnetic interference

In any industrial zone, there shall be no electromagnetic interference that adversely affects the operation of any equipment other than that belonging to the creator of such interference.

6.8.5 Exterior lighting

All exterior lighting shall be designed and installed with full cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties.

6.8.6 Heat, glare, radiation

Heat, glare, or radiation shall be imperceptible without instruments at lot boundaries and shall not present a safety hazard.

6.8.7 Historic resources

The exterior design of proposed or renovated structures located within historic districts shall be subject to the historic preservation provisions of Article 17. The exterior design of proposed or renovated structures located adjacent to historic districts or historic resources shall be subject to historic preservation requirements of Article 14.

6.8.8 Landscaping and screening

A. In all mixed-use zones, the O-P zone, the R-P zone, and the A-B zone outside of restricted access areas, sites shall be landscaped to screen parking and accessory site elements, including storage and solid waste receptacles, from the right-of-way, public open space, or abutting residential zones.

B. In the I-H and I-Hb zones, where a front yard abuts an arterial or a major collector street, it shall be landscaped. Rear yards, side yards, and the perimeter of any parking area for greater than 15 vehicles shall be landscaped if visible from a right-of-way, public open space, or residential zone.

6.8.9 Noise

A. The maximum permissible sound level of any continuous, regular, or frequent source of sound produced by an activity shall be as shown in Table 6-G.

B. For any noise generated by a use in the B-5/B-5b, B-6, B-7, I-L/I-Lb, I-M/I-Mb, and I-H zones, sound shall be measured at or within the boundaries of any residential zone. For any noise generated by a use in the B-1/B-1b, B-2/B-

2b/B-2c, I-B, R-P, O-P, A-B, and IS-FBC zones, sound shall be measured at lot boundaries. For any noise generated by a use in the B-3/B-3b/B-3c, sound shall be measured at lot boundaries or within publicly accessible pedestrian open space. For any noise generated by a use in the B-4 zone, sound shall be measured off premises at the source of complaint.

C. In addition to the sound level standards established in Table 6-G, all uses shall employ best practicable sound abatement techniques to prevent tonal sounds, or sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time, and impulse sounds, or sound events characterized by brief excursions of sound pressure, each with a duration of less than one second. If such tonal and impulse sounds cannot be prevented, uses shall employ best practicable sound abatement techniques to minimize the impact of such sounds in residential zones.

D. Sound levels shall be measured with a sound level meter with a frequency weighting network manufactured according to standards prescribed by the American National Standards Institute (ANSI) or its successor body. Measurements shall be made at all major lot lines of the site, at a height of at least four feet above the ground surface. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).

E. Wind energy systems

1. Where the underlying zone is residential and does not specify sound requirements, or where the system will be within 100 feet of a residential building, the audible sound levels generated by the wind energy system shall not exceed 45 decibels on the A scale between the hours of 9:00 p.m. and 7:00 a.m., and 50 decibels on the A scale between 7:00 a.m. and 9:00 p.m., as measured at the nearest property line in accordance with this provision and technical standards set out in the City of Portland *Technical Manual*.

TABLE 6-G: NOISE STANDARDS

Zone	Daytime/Evening (7 a.m.-9 p.m.)	Night (9 p.m.-7 a.m.)
I-B	60 dBA	55 dBA
R-P	55 dBA	55 dBA
O-P	60 dBA	60 dBA
B-1/B-1b	55 dBA	55 dBA
B-2/B-2b/B-2c	60 dBA	55 dBA
B-3/B-3b/B-3c	60 dBA	55 dBA
B-4	65 dBA	60 dBA
B-5/B-5b, B-6, B-7[1]	60 dBA	50 dBA
I-L/I-Lb[1]	60 dBA	50 dBA
I-M/I-Mb[1]	70 dBA	55 dBA
I-H/I-Hb[1]	75 dBA	55 dBA
A-B	60 dBA	60 dBA
IS-FBC	60 dBA	55 dBA

[1] Daytime/evening noise regulations shall extend until 10 pm, after which time nighttime noise regulations shall apply.

2. For any system over 45 feet in total height not in the Recreation and Open Space, Resource Protection, or Island Transfer Station Overlay Zones, the maximum sound levels allowed by this ordinance shall not be exceeded at the nearest property boundary and at the nearest point vertically above the property line that coincides with the maximum building height allowed in the abutting zone.
3. Any system located within the Recreation and Open Space, Resource Protection, or Island Transfer Station Overlay Zones and more than 100 feet from a residential building shall not exceed 55 decibels on the A scale as measured 50 feet from the base of the tower.
4. Audible sound levels of wind energy systems shall include sounds generated in all conditions including low and high winds (furling, yawing, and flutter) and power outages (freewheeling). If after installation, the system is determined to be operating at levels above these limits (as measured at the property lines in accordance with this provision and applicable technical standards, the owner shall take (at the owner's cost) remedial action to ensure compliance with these limits. Required action may include relocation or removal of the system.

F. Exemptions

1. Noises created by construction and maintenance activities between 7:00 a.m. and 10:00 p.m. are exempt from the maximum permissible sound levels set forth above. Construction activities on a site abutting any residential use between the hours of 10:00 p.m. and 7:00 a.m. shall not exceed 50 dBA.
2. The following uses and activities shall also be exempt from the requirements of Table 6-G:
   a. The noises of safety signals, warning devices, emergency pressure relief valves, and any other emergency devices.
   b. Traffic noise on public roads or noise created by aircraft and railroads.
   c. Noise created by refuse and solid waste collection, provided that the activity is conducted between 6:00 a.m. and 7:00 p.m.
   d. Emergency construction or repair work by public utilities, at any hour.
   e. Noise created by any recreational activities which are permitted by law and for which a license or permit has been granted by the City, including but not limited to concerts, parades, sporting events, and fireworks displays.

6.8.10 Odor

A. It shall be a violation of this article to create an odor nuisance.

1. An odor nuisance shall be considered to exist when 10 confirmed complaints occur in an area within two separate 24-hour periods. The 10 confirmed complaints must originate from 10 different households in an area zoned residential or from 10 different individuals in a commercial or industrial facility. The Building Authority shall only respond to a complainant who confirms that the odor is

detectable at the time of the actual complaint. In order to confirm a complaint, the Building Authority or its designee shall first determine that an odor is detectable in the area of the complaint. The Building Authority or its designee shall interview the complainant to verify that the detectable odor is in fact the odor that resulted in the complaint. If the complainant verifies the odor as the source of the complaint, then the Building Authority shall notify the owner or operator of the alleged odor source either in person or by telephone within one working day, with a written confirmation within seven working days of the complaint. In the event that the Building Authority is unable to contact the owner or operator of the alleged odor source in person or by telephone within one working day, then the Building Authority shall send written notice to the operator within seven working days of the complaint.

2. In the event that 10 complaints are confirmed as set forth in paragraph (1) above in two separate 24-hour periods within a 90-day period, the Building Authority shall cause a certified odor inspector to investigate any odor complaints received in the next 30 days following the receipt of the tenth confirmed complaint from the second 24 hour period. If the odors remain under the ambient intensity standard as established in this subsection for the next 30 days, then a new odor nuisance must be established after that time in accordance with the requirements of this subsection. The certified odor inspector shall do the following in response to a complaint under this subsection:
   a. Verify that an odor is detectable in the area of the complaint and confirm that it is the odor that resulted in the complaint.
   b. Quantify the intensity of the odor on the eight point in butanol intensity scale as defined in regulations promulgated by the Planning & Urban Development Director to establish training and technical standards to support this subsection.
   c. Track the odor to its source.

B. When the certified odor inspector determines that a violation has occurred because an odor has exceeded the maximum ambient odor levels set forth in this subsection, the Building Authority shall notify the owner or operator either by telephone or in person of the violation within one working day of the violation. The Building Authority shall confirm this notification in writing within seven working days of this initial notice. In the event that the Building Authority is unable to contact the owner or operator by telephone or in person within the required time period, then it will send written notification within seven working days of the violation.

C. Upon receipt of the written notice of violation, the owner or operator of the odor source shall do the following:
   1. Implement odor reduction procedures immediately upon notification by the Building Authority that the facility has violated this subsection wherever odor

reduction can be achieved by operational or procedural changes at the facility.

2. Submit to the Building Authority, within 30 days of the written notice of violation, an odor reduction plan which is designed to reduce ambient odors attributable to emissions from that source to the maximum allowable intensity for that zone. The plan shall include a detailed summary of the measures that the owner or operator will take to mitigate the community annoyance and estimated dates for completion of those measures. In the event that it will take longer than 30 days to develop the odor reduction plan, the owner or operator of the facility shall submit within the 30-day time period a schedule for the development of the odor reduction plan. The Building Authority shall review this plan to determine whether it will be adequate to resolve the odor nuisance in a reasonable time period.
3. Implement the plan in accordance with the schedule approved by the Building Authority.

D. The maximum ambient intensity standard for odors generated by uses located in the industrial zones shall not exceed the following levels when the odor is measured in the zone indicated:

1. 4.0 in any industrial or mixed-use zone for odors resulting from uses in industrial or mixed-use zones.
2. 3.0 in any residential zone for odors resulting from uses in industrial or mixed-use zones.

6.8.11 Outdoor effects

A. In all mixed-use, office, and industrial zones and the IS-FBC zone, uses shall be operated within a completely enclosed structure, except for those customarily operated in open air.

B. In the mixed-use and IS-FBC zones, open air activities shall be those licensed by the city.

C. There shall be no outdoor kennels.

D. No open exterior stairways or fire escapes shall be constructed above the ground floor, except that the Building Authority may permit the installation of an exterior egress stair or an upgrade of an existing exterior fire escape for a conforming or lawfully nonconforming dwelling unit existing as of January 5, 1998, if such egress is required to meet current fire or other life safety codes, provided that the owner demonstrates to the Building Authority that:

1. There is no practical and economically reasonable way to provide such egress within the interior of the building, as demonstrated by the submission of detailed floor plans showing the projected cost of and the impact on the existing dwelling from an interior stair.
2. The stairway and associated landings and other building fixtures are designed and will be constructed to have a minimal visual impact upon the building, especially as viewed from any public way or public open space, as demonstrated by photographs of the front and any other affected facades of the building and plans or drawings of the proposed egress stairs.

6.8.12 Outdoor storage

Outdoor storage shall comply with the requirements of Table 6-H.

6.8.13 Relocation of displaced residents

In the B-3, B-3b, and B-3c zones, any development which results in the displacement of residents of dwelling units currently located on the development site shall meet the requirements of Section 18.5.

6.8.14 Smoke

Smoke shall not be emitted at a density in excess of the opacity level designated in Table 6-I, as classified in Method 9 (Visible Emissions) of the Opacity Evaluation System of the U.S. Environmental Protection Agency.

TABLE 6-H: OUTDOOR STORAGE STANDARDS

B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, O-P, R-P, A-B[1], and IS-FBC	There shall be no exterior storage with the exception of fully enclosed receptacles for solid waste disposal.
B-4, B-5/B-5b, B-6, B-7, and Industrial	Outdoor storage of materials shall be done in such a manner as to prevent the breeding and harboring of insects or vermin, to prevent the transfer of such materials from the site by natural causes or forces and to contain fumes, dust, or other materials which constitute a fire hazard. This storage shall be accomplished within enclosed containers or by raising materials above ground, separating materials, preventing stagnant water, or by some other means. In the B-4, B-5/B-5b, B-6, and B-7 zones, no outdoor storage shall be permitted in the front setback, except for storage for plant and tree nurseries or lumber yards if listed as a permitted use. In the B-4, B-5/B-5b, B-6, and B-7 zones, any storage of new materials, finished products, or related equipment must be suitably screened from the public way and abutting properties by a landscaped buffer or solid fence at least five feet in height.
B-1/B-1b and B-2/B-2b/B-2c	Vehicles or truck trailers with or without wheels shall not be used for on-site storage. In the B-2/B-2b/B-2c zone, there shall be an exception where such storage is located in a designated loading zone identified on an approved site plan or such storage is not visible from the street or adjacent residences during winter.
B-5	Outdoor storage of rental and moving equipment shall be located on the site and not within a public right-of-way or sidewalk. A curb, guard rail or other barrier shall be provided to contain such equipment and storage on the site as well as out of landscape buffer areas. A landscape buffer shall be provided. Outdoor storage of rental and moving equipment must be accessory to a building in existence as of the date of this ordinance. Exterior lighting shall not exceed that which is necessary for security purposes.

[1] Does not apply to airports.

TABLE 6-I: SMOKE STANDARDS

Zone	Opacity Level
R-P	20%
O-P	
B-1/B-1b	
B-2/B-2b/B-2c	
B-3/B-3b/B-3c	
B-4	30%
B-5/B-5b	40%
B-6	
B-7	
Industrial and A-B zones	
IS-FBC	20%

6.8.15 Storage and repair of vehicles

A. In all residential zones, all island zones, the R-P zone, and the B-3 zone, only one unregistered motor vehicle may be stored outside for a period not exceeding 30 days.

B. In other mixed-use zones, storage of unregistered motor vehicles for more than 10 days and outdoor storage of used automobile tires shall be prohibited.

C. No building in any zone shall be erected, altered or used as a garage for the storage of more than three motor vehicles or for the business of repairing motor vehicles if any part of either old or new building when completed would be closer than five feet to any part of any church, public or private hospital, or school or if any part of either old or new building when completed would be less than 15 feet from the boundary line of any lot upon which any part of any church, public or private hospital, or school is located. No existing garage used for the storage of more than three motor vehicles or for the business of repairing motor vehicles shall be deemed to become a nonconforming use through the subsequent erection of such church, hospital, or school closer than the aforesaid distance to such a garage.

6.8.16 Traffic

Development in the I-M, I-Ma and I-Mb zones shall utilize streets classified as arterials by the Maine Department of Transportation to the greatest extent possible.

6.8.17 Waste disposal

A. All solid waste disposal, including materials which might cause fumes or dust, or constitute a fire hazard if stored out-of-doors, shall be only in fully enclosed, covered containers or receptacles. In all nonresidential zones with the exception of the industrial zones, such containers or receptacles shall be within designated, screened areas. In industrial zones and the B-4 zone, outdoor storage of refuse, debris, or previously used materials awaiting reuse shall either be in an appropriate container or located within a designated, screened area.

B. Containers or receptacles shall not leak or otherwise permit liquids or solids to escape from the container or be transferred beyond lot boundaries by natural causes or forces. Areas attracting large numbers of insects or vermin are prohibited.

C. Where food processing is permitted, all food processing waste shall be stored within a completely enclosed structure and if not refrigerated shall be removed from the site in an enclosed container within 48 hours of its generation. All enclosed and exterior food

processing waste storage areas shall be cleaned and sanitized on a regular basis.

6.8.18 Vibration

A. In any mixed-use zone, the O-P, and the R-P zones, vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile-supported pier.

B. In all industrial zones, any use creating earthshaking vibrations, with the exception of airports, shall be controlled in such a manner as to prevent transmission beyond lot lines of vibrations causing a displacement of .003 or greater on one inch, as measured by a vibrograph or similar instrument at the property boundaries.

7 DIMENSIONAL STANDARDS

7.1 APPLICABILITY

Construction, alterations, and additions to structures and buildings are governed by this article, except when superseded by other applicable laws or ordinances. It is the intent that, when in doubt, this article should be interpreted to accommodate the goals of the City's Comprehensive Plan and other plans.

7.2 RULES OF MEASUREMENT

Building footprint. The lot area contained within the outermost perimeter of the building envelope including cantilevered portions of the building, projections, and porches, decks, and similar attached structures integral to the building and contributing to its mass, but excluding roof overhangs.

Floor area. The total floor space enclosed by exterior or standard fire walls of a building, exclusive of vent shafts and courts.

Grade, pre-development. Average grade, existing on October 1, 2000, at the corners of the foundation of the proposed structure.

Height. The vertical measurement from grade, or the pre-development grade on the islands, to the highest point of a structure. For buildings, height shall be measured to the roof beams in flat roofs, to the highest point of the roof beams or the highest point on the deck of mansard roofs, to a level midway between the level of the eaves and highest point of pitched roofs or hip roofs, or to a level two-thirds of the distance from the level of the eaves to the highest point of gambrel roofs. For this purpose, the level of the eaves shall be taken to mean the highest level where the plane of the roof intersects the plane of the outside wall on a side containing the eaves.

Impervious surface ratio. The proportion of a site covered by impervious surfaces, calculated by dividing the total impervious surface area by the lot area. For the purposes of this measurement, impervious surface shall be as defined by the Maine Department of Environmental Protection.

Landscaped open space ratio. The proportion of lot area covered by landscaped open space, calculated by dividing the total landscaped open space area by the lot area. For the purposes of this measurement, landscaped open space shall not include rooftop gardens or structured or engineered surfaces.

Lot area. The area of a lot enclosed within the boundary lines of a lot.

Lot coverage. The proportion of lot area covered by building footprint and the footprint of accessory detached structures.

Lot width. The distance measured between side lot lines through that part of the principal building where the lot is narrowest.

Net land area. The land area arrived at by subtracting from lot area the square footage of the following: a) areas of special flood hazard; b) existing watercourses measured by the area between the top of the banks at the normal high-water mark; c) wetlands; and d) slopes of 25% or greater. Where a slope of 25% or greater was altered to less than 25%

within the two years immediately preceding a development proposal, such slope shall also be subtracted from the lot area.

Setback. A space on a lot which is required by this article to be maintained open, unoccupied, and unobstructed between lot lines and any structure, except as otherwise permitted in this code of ordinances. A setback shall be measured from a line parallel to the lot line drawn through the point of a structure nearest to such lot line. This measurement shall be taken at right angles from such parallel line. When measuring setbacks, setbacks shall be interpreted to include setbacks of structures from property lines and setbacks of principal structures from one another. No principal structure shall occupy the minimum setback of another principal structure. Setbacks shall not apply to fences, flagpoles, raised garden beds, and other similar structures. When setbacks are established in relationship to height, the height in stories or feet of that part of the principal structure adjoining a yard shall be used in determining the required setback.

Setback, front. A setback along the front lot line, extending between side lot lines, the depth of which shall be the shortest horizontal distance between the front lot line and any structure. In the case of lots with frontages on two or more streets, the orientation of the principal entry to the principal building shall prevail. In the case of lots without frontage on a street, the property line that parallels the nearest developed street shall be considered the front.

Setback, rear. A setback along the rear lot line, extending between side lot lines, the depth of which shall be the shortest horizontal distance between the rear lot line and any structure.

Setback, side. A setback along a side lot line extending from the front lot line to the rear lot line, the width of which shall be the shortest horizontal distance between the side lot line and any structure.

Stepback. A space on a lot which is required by this article to be maintained open, unoccupied, and unobstructed between lot lines and any structure that occurs at a prescribed height above the ground. Stepbacks shall apply to all attached accessory structures, including the minimum necessary housing of elevators, stairways, tanks fans, or other building operating equipment not intended for human occupancy.

Story. That portion of a building included between the surface of any floor and the surface of the floor, or the roof, next above. A half story is a story situated under a sloping roof, the area which at a height four feet above the floor does not exceed two-thirds of the floor area of the story immediately below it. A story which exceeds 18 feet in height shall be counted as two stories. A basement shall be counted as a story for the purpose of height measurement where more than one-half of its height is above the average level of the adjoining ground.

Street frontage. The distance for which a lot line adjoins a public street, from one lot line intersecting said street to the furthest distant lot line intersecting the same street.

7.3 DIMENSIONAL STANDARDS

Tables 7-A to 7-H shall establish the dimensional standards for each zone.

TABLE 7-A: RESIDENTIAL ZONE DIMENSIONAL STANDARDS

			R-1	R-2	R-3[2]	R-4	R-5[2,3]	R-5a[4]	R-6[6,7]	R-6a[13]
Lot area (min.)		**Governmental**	15,000 SF	10,000 SF	6,500 SF	6,000 SF	6,000 SF			
		Hospital			10 ac.		5 ac.		2 ac.	
		Intermediate or long-term, extended care facility	3 ac.	3 ac.	2 ac.		2 ac.	1.5 ac.	1 ac.[8]	
		Lodging house					9,000 SF		2,000 SF	
	Place of assembly	**<10,000 SF**	1 ac.	1 ac.	1 ac.	15,000 SF	.5 ac.	.5 ac.	10,000 SF	
		>10,000 SF	2 ac.	2 ac.	2 ac.	30,000 SF	1 ac.	1 ac.	15,000 SF	
		Post-secondary school		2 ac.			2 ac.		2,000 SF	
		Elementary, middle, and secondary school	2 ac.	2 ac.	2 ac.	30,000 SF	30,000 SF		30,000 SF	
		Raising of animals	3 ac.							
		Residential	15,000 SF	10,000 SF	6,500 SF	6,000 SF	6,000 SF[3]	6,000 SF /2 ac. max[5]	2,000 SF	4 ac.
		All other uses	15,000 SF	10,000 SF	6,500 SF	6,000 SF	6,000 SF		2,000 SF	
Lot area per dwelling unit (min.)			15,000 SF	10,000 SF	6,500 SF	3,000 SF	3,000 SF	1,600 SF	725 SF	
Lot area per rooming unit (min.)							1,000 SF		250 SF[9]	
Lot area per SNIDU[1] (min.)						2,400 SF	3,600 SF			
Street frontage (min.)			75 ft.	50 ft.	50 ft.	50 ft.	50 ft.	50 ft.	20 ft.	
Lot width (min.)			100 ft.	80 ft.	65 ft.	60 ft.	60 ft.	60 ft.	20 ft.	
Front setback (min.)			25 ft.	25 ft.	25 ft.	25 ft.	20 ft.	25 ft.	5 ft.	
			Or average depth of adjacent front yards							
Rear setback (min.)			25 ft.	25 ft.	25 ft.	25 ft.	20 ft.	25 ft.	10 ft.	
	Detached accessory (< 250 SF footprint)		5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	
Side setback (min.)		**<1.5 stories to 1.5 stories**	12 ft.	12 ft.	8 ft.	10 ft.	8 ft.	10 ft.	5 ft.[10]	<45 ft. in height: 10 ft.
		2 stories	14 ft.	14 ft.	14 ft.	14 ft.	12 ft.	14 ft.		
		2.5 stories	16 ft.	16 ft.	16 ft.	16 ft.	14 ft.	16 ft.		>45 ft. in height: 15 ft.
	Detached accessory (< 250 SF footprint)		5 ft.	5 ft.	5 ft.	5 ft.	5 ft.	5 ft.		
		On side street (min.)	20 ft.	20 ft.	20 ft.	20 ft.	15 ft.	20 ft.	None	
			Or depth of front yard directly abutting the lot.							

TABLE 7-A (CONT.): RESIDENTIAL ZONE DIMENSIONAL STANDARDS

		R-1	R-2	R-3[2]	R-4	R-5[2, 3]	R-5a[4]	R-6[6, 7]	R-6a[13]
Stepbacks (above 35 ft. when property line abuts a residential zone)(min.)								10 ft. from side property line and 15 ft. from rear property line[11]	
Structure height (max.)		35 ft.	35 ft.	35 ft.	35 ft.	35 ft.	35 ft.	45 ft.[12]	65 ft.
	Detached accessory	18 ft.	18 ft.	18 ft.	18 ft.	18 ft.	18 ft.	18 ft.	
Lot coverage (max.)		20%	20%	35%	30%	40%	30%	60%	
Landscaped open space ratio (min.)								20%	
Width of garage opening on front façade (max.)								9 ft. or 40% of the front facade, whichever is greater, and in no case more than 20 ft.	

[1] Special needs independent dwelling unit.
[2] See Table 7-B for PRUD standards.
[3] Single-family homes may be built on small lots in the R-5 under small residential lot dimensional requirements under certain conditions. See Table 7-C for R-5 Small Residential Lot dimensional requirements.
[4] For R-5a, PRUD standards shall apply to PRUDs, multi-family development of 4 or more units, congregate care, and intermediate, extended, or long-term care facilities, unless noted otherwise in the table above. See Table 7-B for additional standards that apply to these uses.
[5] Applies to 1-, 2-, and 3-family dwellings only.
[6] Alterations to single-family, two-family, and multi-family dwellings in existence as of 6/15/15 shall not result in the creation of any additional dwelling unit of less than 600 square feet of floor area, exclusive of common hallways and storage in basement and attic; and shall not result in any existing dwelling unit being reduced in size to less than 1,000 square feet of floor area, exclusive of common areas and storage in basement and attic.
[7] Subdivisions consisting of horizontally attached dwellings on individual lots are not required to have side yards between such dwellings where a party wall condition will exist. Horizontally attached dwellings located within a single lot shall be required to meet the applicable side setback requirements at the external lot boundaries of the subdivision and internal lot boundaries between such dwellings that are not attached to each other. No minimum lot size or width shall be required for individual lots underlying townhouse (horizontally attached) dwelling types. The applicable minimum lot area per dwelling shall apply to each lot.
[8] Except for long-term and extended care facilities: 10,000 SF for the first 9 residents plus 750 SF for each additional resident, up to a total of 2 ac.
[9] A minimum lot area per intermediate care resident of 250 SF also applies.
[10] Except that a side setback in the R-6 zone may be reduced to zero, provided that the cumulative side yards are not less than 10 ft. A permanent maintenance easement a minimum of 5 ft. in width shall be provided on the parcel adjacent to the lot line with the reduced side setback.
[11] Does not apply on side streets.
[12] Except as provided under the Fort Sumner Park Height Overlay and the Bayside Height Overlay.
[13] All R-6 dimensional standards apply in the R-6a unless otherwise indicated.

TABLE 7-B: PRUD DIMENSIONAL STANDARDS

	R-3	R-5	R-5a[3]
Lot area[1] (min.)	3 ac.	2 ac.	2 ac.[4]
Net land area per dwelling unit (min.)	6,500 SF	3,000 SF	1,600 SF[4, 5]
Units per building (max.)	PRUD < 5 ac.: 2 PRUD > 5 ac.: 6	12	
Average number of units per building (max.)	PRUD > 5 ac.: 5		
Structure height (max.)	35 ft.	35 ft.	55 ft.
Building length (max.)	Without garages: 100 ft. With integral garages: 140 ft.	140 ft.	
Length of accessory garage structure (max.)		60 ft.	
Building setback from external subdivision property lines (min.)	3 or fewer D.U. in building: 25 ft.	Bldg. Length 100 ft. or less: 25 ft.	Bldg. Length 100 ft. or less: 25 ft.
	4 or more D.U. in building: 35 ft.	Bldg. Length >100 ft.: 35 ft.	Bldg. Length >100 ft.: 35 ft.
Distance between detached PRUD dwelling units (min.)	16 ft.		
Common recreation open space area[2] (min.)	300 SF/D.U.	300 SF/D.U	200 SF/D.U.[4]
Habitable space elevation	No habitable space in a PRUD shall be below grade, except basements that are a part of and below above-ground units.		

[1] Areas of special flood hazard as defined in Article 12 shall be excluded from lot area calculations.
[2] Common open space shall be designated on the site. The primary purposes of such open space areas shall be for passive or active recreation. Such spaces may include natural, landscaped or hardscaped elements. At a minimum, a contiguous area of 6,000 SF shall be provided.
[3] In the R-5a zone, PRUD standards shall apply to PRUDs, multi-family development of 4 or more units, congregate care, and intermediate, extended, or long-term care facilities unless otherwise noted.
[4] Does not apply to intermediate, extended, or long-term care facilities but does apply to PRUDs, congregate care, and multi-family development of 4 or more units.
[5] Minimum land area per intermediate care facility resident: 8,000 SF lot area for first 35 residents, plus 350 SF for each additional resident.
[6] For PRUD standards in island zones, see Table 7-D.

TABLE 7-C: R-5 SMALL RESIDENTIAL LOT DEVELOPMENT DIMENSIONAL STANDARDS[1]

	Lot area (min.)	5,000 SF
Side setback (min.)		7 ft.[2]
	Detached accessory (< 250 SF footprint)	5 ft.
	Side yard on side street	10 ft.
	Lot width (min.)	40 ft.
	Street frontage (min.)	40 ft.
	Lot coverage (max.)	50%

[1] Single-family homes may be built on small lots in the R-5 under small residential lot development dimensional requirements if the lot is: vacant; or used exclusively for parking; or contains structure(s) not used for residential purposes; or is created from a single lot division of a developed lot and results in a lot meeting the small residential lot dimensional requirements with the remaining developed portion meeting the standard dimensional requirements of the R-5 zone.
[2] The width of one side setback may be reduced 1 ft. for every foot that the other side yard is correspondingly increased, but no side yard shall be less than 4 ft. in width.

TABLE 7-D: ISLAND ZONE DIMENSIONAL STANDARDS

			IR-1	IR-2	IR-3	I-B[10]	
						Served by Public Water & Sewer	*Not Served by Public Water & Sewer*
Lot area (min.)[11]	Bed and breakfast					5,000 SF for 3 guest rooms plus 5,000 SF/ additional room	10,000 SF/ guest room
	Campground		10 ac.		5,000 SF/ campsite, but not less than 10 ac.		
	Hotel				10,000 SF/ guest room	5,000 SF for 3 guest rooms plus 5,000 SF/ additional room	10,000 SF/ guest room
	Lodging house			10,000 SF/ rooming unit	10,000 SF/ rooming unit	5,000 SF for 3 rooming units, plus 5,000 SF/ additional rooming unit	10,000 SF/ rooming unit
	Place of assembly	>10,000 SF	30,000 SF	30,000 SF	35,000 SF	20,000 SF	
		<10,000 SF	15,000 SF	15,000 SF			
	PRUD/PUD		5 ac.[1]	5 ac.[1]	20 ac.		
	Raising of animals		3 ac.				
	Residential		40,000 SF[2,3]	20,000 SF[3]	42,500 SF[6]	20,000 SF	
	Restaurant				35,000 SF	10,000 SF	20,000 SF
	Retail				35,000	None	20,000 SF
	Seasonal camp		10 ac.		35,000 SF		
	School/educational facility		40,000 SF	20,000 SF	35,000	20,000 SF	
	All other uses				35,000 SF	20,000 SF	
Lot area per dwelling unit (min.)			40,000 SF[4]	20,000 SF[4]	42,500 SF[7]		
Street frontage (min.)			100 ft.[5]	70 ft.[5]	70 ft.[8]	40 ft.	
Lot width (min.)			100 ft.[5]	80 ft.[5]	80 ft.	40 ft.	
Front setback (min.)			30 ft.[5]	25 ft. or the average of adjacent front yards[5]	25 ft.[9]	20 ft. or avg. depth of adjacent front yards	
Rear setback (min.)			30 ft.[5]	25 ft.[5]	25 ft.[9]	10 ft.	
	Detached accessory (< 250 SF footprint)		10 ft.[5]	10 ft.[5]	10 ft.[9]		

TABLE 7-D (CONT.): ISLAND ZONE DIMENSIONAL STANDARDS

		IR-1	IR-2	IR-3	I-B[10] *Served by Public Water & Sewer*	I-B[10] *Not Served by Public Water & Sewer*
Side setback (min.)		20 ft.[5]	20 ft.[5]	20 ft. [9]	10 ft.	
	Detached accessory (< 250 SF footprint)	15 ft.[5]	15 ft. [5]	15 ft. [9]	10 ft.	
	On side street	20 ft.[5]	20 ft.[5]	20 ft. [9]	10 ft.	
Structure height (max.)		35 ft.	35 ft. For Little Diamond Island: 27 ft.	35 ft.	35 ft.	
	Accessory detached	18 ft.	18 ft.	18 ft.	18 ft.	
	Lot coverage (max.)	20%	20%	20%	50%	

[1] PRUDs shall consist of detached dwellings.
[2] 60,000 SF if not served by public water.
[3] For PRUDs, minimum lot area shall be reduced up to 50% provided there is an equivalent corresponding increase in common or public open space that is usable for passive or active recreational opportunities or that serves as a buffer between buildings or between the development and the surrounding neighborhood.
[4] In the case of PRUDs, lot area per dwelling unit shall be calculated based on net land area..
[5] For PRUDS, standard shall be reduced up to 50%. For accessory structures in the IR-1, IR-2, and I-B zones, side setbacks from principal structures shall be 5 feet.
[6] Except that the minimum lot size per dwelling unit shall be reduced by the amounts specified below, to a minimum lot size of 35,000 SF per dwelling unit, provided that the Planning Board finds that the development meets the following criteria: a. The minimum lot size per dwelling unit shall be reduced by 5,000 SF if a public off-island water source provides 75% of the water needs of the development. b. The minimum lot size per dwelling unit shall be reduced by 2,500 SF if the development provides appropriate permanent restrictions or other agreements precluding the use, maintenance and parking of all private motor vehicles exclusive of construction and common service vehicles.
[7] The maximum density for a PUD shall be based on the applicable minimum lot size for each use as measured in terms of net area. For purposes of calculating density, if separately described lots exceed the applicable minimum lot size, the excess area shall not be credited toward the minimum lot size for any other use.
[8] Except where the Planning Board finds that the development has an adequate street network to permit access for pedestrians and emergency service vehicles.
[9] When adjoining any external property boundary.
[10] All I-B standards apply for lots served by public water and sewer and lots not served by public water and sewer unless otherwise indicated.
[11] In the IR-3, the minimum lot area for buildings containing both residential and nonresidential uses shall be cumulative. Where there are two or more residential uses contained in a building, the minimum lot area shall be the larger of the applicable minimum lot sizes.

TABLE 7-E: MIXED-USE ZONE DIMENSIONAL STANDARDS

		B-1/B-1b	B-2/B-2b/B-2c	B-3/B-3b/B-3c	B-4	B-5/B-5b	B-6	B-7
Lot area (min.)	**School**	20,000 SF			10,000 SF			
	Place of assembly	10,000 SF						
Lot area per dwelling unit (min.)	**On-peninsula**	435 SF	435 SF					
	Off-peninsula	1,000 SF	1,000 SF, except 435 SF if active street frontage[3]					
Lot area per rooming unit (min.)	**On-peninsula**	150 SF	150 SF					
	Off-peninsula	350 SF	350 SF					
Street frontage (min.)		20 ft.	20 ft.	15 ft.	60 ft.			
Front setback (from all street frontages) (max.)		10 ft., or the average front yard depth of nearest developed lots if < 10 ft.	10 ft.	5 ft.	20 ft.	None, except 10 ft. in B-5b	10 ft.[7]	10 ft.
Rear setback (min.)	**Principal**	None, except 10 ft. if abutting a residential zone	10 ft.		20 ft.			
	Accessory	None, except 5 ft. if abutting a residential zone	5 ft.		7 ft.			
Side setback (min.)	**Principal**	None, except 5 ft. if abutting residential zone	None		10 ft.			
	Accessory		5 ft.		5 ft.			
Stepbacks (above 35 ft. when property line abuts a residential zone) (min.)		Side: 10 ft.	Side: 5 ft.					
		Rear: 15 ft.	Rear: 15 ft.					
Length of building wall at maximum setback (min.)							70% of street frontage or 25% of building perimeter[8]	75% of street frontage or 25% of building perimeter[9]
Length of undifferentiated blank wall along publicly accessible way (max.)				30 ft., except 15 ft. within PAD Overlay				
Floor area (max.)		Non-residential uses on first floor: 10,000 SF total[1]	Laboratory and research facilities, warehousing, 10,000 SF	None, except 15,000 SF for each floor above 125 ft.			Laboratory and research facilities and warehousing: 15,000 SF	
		Restaurants (public area): 2,000 SF					Exhibition and meeting halls: 20,000 SF	
		Clinics: 3,000 SF						

TABLE 7-E (CONT.): MIXED-USE ZONE DIMENSIONAL STANDARDS

	B-1/B-1b	B-2/B-2b/B-2c	B-3/B-3b/B-3c	B-4	B-5/B-5b	B-6	B-7
Structure height (max.)	On-Peninsula: 45 ft., except 50 ft. along Congress Street if commercial first floor and residential above[2] Off-Peninsula: 35 ft.	45 ft., except 50 ft. if first floor is in commercial use, 65 ft. in B-2 and B-2c on lots >5 ac. if required side and rear setbacks are increased by 1 foot for each foot of height over 45 ft., or as otherwise governed by the Bayside Height Overlay Map	See Downtown and Bayside Height Overlay Maps	65 ft.	65 ft., except in B-5b along W. Commercial St. south of Danforth St.[5] and 120 ft. on Thompson's Point[6]	65 ft. or as otherwise governed by the B-6 Building Height Overlay Map	See Bayside Height Overlay Map
Lot coverage (max.)			25% of lot area for portions of structures exceeding 125 ft. in height[4]				
Impervious surface ratio (max.)	90%	Residential: None Other uses in B-2 and B-2c: 80% Other uses in B-2b: 90%		80%			

[1] Uses in structures which existed prior to the date of enactment of the B-1/B-1b zones are exempt.
[2] The commercial first floor uses shall utilize at least 75 % of the first-floor frontage along Congress Street and shall have an average depth of at least 20 ft.
[3] A building will be determined to have an active street frontage upon meeting the following guidelines to the greatest extent practicable: the primary building façade shall be within 10 ft. feet of the front lot line; there shall be no parking on the lot within 35 ft. of the front lot line; no more than 25% of the first floor primary façade shall consist of access to garages, unutilized space, service entrances, storage or mechanicals and the remaining minimum 75% shall have an average depth of a minimum of 20 ft. for residential or commercial uses; and all primary ground floor entries to multi-family buildings must orient to street, not to interior blocks or parking lots.
[4] Except that no floor area shall be required to be less than 10,500 SF, gross.
[5] For parcels of land in the B-5b zone located along W. Commercial St. south of Danforth St.: West of the projection of the centerline of the Fletcher St. right-of-way, the maximum building height shall be 45 ft.; and, east of the projection of the centerline of the Fletcher St. right-of-way and west of the projection of the centerline of the Emery St. right-of-way, the maximum building height shall be 55 ft. A projection of the centerline of a street is defined by extending the centerline of the referenced street right-of-way along its most southerly block to the centerline of W. Commercial St. Furthermore, notwithstanding Subsection 7.5.1, no rooftop structure located between the projections of the centerlines of Emery St. and Fletcher St., as described above. shall exceed a height of 62 ft as measured from average grade of the building at its foundation.
[6] Applies only to parcels subject to an approved master development plan. Thompson's Point is defined as the contiguous parcels of upland occupying the peninsula bounded on the east by Route 295, on the north by the Mountain Division Rail right-of-way, and on the south and west by the Fore River and its associated wetlands. Nearby lands accessed from Hobart and Osgood Streets are not included.
[7] Does not apply to parking garages and public transportation facilities. Notwithstanding required setbacks, new structures located in the blocks located south of Fore Street and north of Commercial Street and its extension shall build to the key building envelopes shown on the B6 Building Height Overlay & Building Envelopes map. Buildings located in the area east of the Fore Street Connector shall not have a maximum front setback and shall not be required to build to the key building envelope perimeter. Parking structures and the buildings for public transportation facilities may, however, be set back beyond the key building envelopes (toward the interior of blocks), but may not occupy the land between the key building envelope and the street right-of-way.
[8] For buildings fronting on two or more streets, the minimum building wall on one street may be decreased so long as the frontage is proportionally increased on other streets in so far that the building wall on the secondary street is not reduced to less than 25 ft. Buildings in the area east of the Fore Street Connector shall not be subject to this requirement.
[9] Does not apply to additions to or relocations of designated historic structures or structures determined to be eligible by the Historic Preservation Board.

TABLE 7-F: OFFICE PARK & RESIDENCE PROFESSIONAL ZONE DIMENSIONAL STANDARDS

		O-P	R-P[1]
Lot area (min.)		1.5 ac.	6,000 SF
Street frontage (min.)		100 ft.	60 ft.
Lot width (min.)		150 ft.	60 ft.
Front setback (min.)		50 ft.	20 ft., or avg. depth of adjacent front yards[2]
Rear setback (min.)	**Principal**	50 ft	20 ft.
	Accessory		7 ft.
Side setback (min.)	**Principal**	25 ft., except 40 ft. where side yard abuts residential zone or use	1 story: 10 ft.
			2 stories: 12 ft.
			3+ stories: 14 ft.
	Accessory		7 ft.
	On side street		1-2 stories: 15 ft.
			3+ stories: 18 ft.
Structure height (max.)		55 ft., except 75 ft., including rooftop appurtenances, on lots within office park subdivisions which are > 50 ac. if each minimum setback is increased by 1 ft. for each 1 ft. of height above 55 ft.	45 ft.
Floor area (max)		High-tech manufacturing: 20,000 SF	
Impervious surface ratio (max.)		60%	70%
Pavement setback (min.)		15 ft.	

[1] Residential uses shall meet the dimensional requirements of the nearest residential zone.
[2] The front yard of a lot existing as of April 4, 1988, which lot is less than 100 ft. deep, need not be deeper than 10% of the depth of the lot.

TABLE 7-G: INDUSTRIAL & AIRPORT ZONE DIMENSIONAL STANDARDS

	I-L/I-Lb		I-M/I-Ma/I-Mb		I-H/I-Hb		A-B
Lot area (min.)							20,000 SF
Street frontage (min.)	60 ft.		60 ft.		60 ft.		50 ft.[2]
Lot width (min.)							50 ft.
Front setback (min.)	I-L	25 ft.	I-M/I-Ma	1 ft. for each ft. of building height	I-H	25 ft.	None, except 20 ft. if property has frontage on Westbrook St.
	I-Lb	None	I-Mb	None	I-Hb	None	
Rear setback (min.)	I-L	25 ft., except 40 ft. when abutting residential zone	I-M/I-Ma	1 ft. for each ft. of building height up to 25 ft., except 35 ft. when abutting residential zone	I-H	35 ft.	None., except 50 ft. if abutting residential zone or use[3]
	I-Lb	None, except 25 ft. when abutting residential zone	I-Mb	None, except 25 ft. when abutting residential zone	I-Hb		
Side setback (min.)	I-L	25 ft., except 40 ft. when abutting residential zone	I-M/I-Ma	1 ft. for each ft. of building height up to 25 ft., except 35 ft. when abutting residential zone	I-H	35 ft.	None, except 25 ft. if abutting residential zone or use[3]
	I-Lb	None, except 25 ft. when abutting residential zone	I-Mb	None, except 25 ft. when abutting residential zone	I-Hb		
Structure height (max.)	45 ft.		I-M/I-Mb	75 ft.	75 ft.		75 ft., except 45 ft. within 100 ft. of a residential zone
			I-Ma	45 ft.			
Impervious surface ratio (max.)	I-L	65%	I-M/I-Ma	75%	I-H	85%	70%[2]
	I-Lb	100%	I-Mb	100%	I-Hb	100%	
Pavement setback (min.)[1]	15 ft.		10 ft.		10 ft.		

[1] Shall not apply to entrance drives.
[2] Except for lots in airport restricted access areas, which shall not be subject to this provision.
[3] No structure may extend beyond the building line established for any runway or taxiway. If provided, rear and side yards must not be less than 5 ft. in width.

TABLE 7-H: RECREATION OPEN SPACE ZONE DIMENSIONAL STANDARDS

		R-OS[1]
Front setback (min.)		25 ft.
Rear setback (min.)		25 ft.
Side setback (min.)	**Principal**	12 ft.
	Accessory	
	On side street	
Structure height (max.)	**Principal**	35 ft., except 45 ft. if more than 1,000 ft. from a shoreland zone.
	Accessory	
Floor area ratio (max.)		.5
Impervious surface ratio (max.)		25%[2]

[1] Public open spaces less than 2 ac. and on the peninsula are not required to meet the R-OS dimensional standards.
[2] Except 75% for sports complexes and 100% for sewage treatment facilities.

7.4 SUPPLEMENTAL DIMENSIONAL STANDARDS

7.4.1 Corner clearance

No shrub, wall, fence, sign, or pile of material higher than 3 1/2 feet above the lowest elevation at the curbline shall be permitted on a corner lot within the area of a triangle formed by a line connecting the curblines of the intersecting streets at points 25 feet from the corner, unless said obstruction is reviewed by the Public Works Authority and found not to be a traffic or public safety hazard.

7.4.2 Fences

In residential zones, no wall or fence within 15 feet of the street shall be more than four feet in height, unless said fence is located in the side or rear yard.

7.4.3 Solar energy systems

A. Setbacks

1. Solar energy systems shall be located in side or rear yards wherever possible.
2. Minor solar energy systems shall be setback 50 feet from residential, R-P, B-1/B-1b, and B-2/B-2b/B-2c zones.
3. Major solar energy systems shall be setback 75 feet from residential, RP, B-1/B-1b, and B-2/B-2b/B-2c zones.

B. Height

1. *Ground-mounted solar energy systems.* Where the total height of the support structure plus the solar energy system is equal to or below the zone-based height maximum, the absolute height of the solar energy system shall be 20 feet above the ground as measured from the base of the support.
2. *Roof-mounted solar energy systems.* Where the total height of the support structure/building plus the solar energy system is equal to or below the zone-based height maximum, the absolute height of the solar energy system shall be:
   a. In all residential and R-P zones: 5 feet above the roof and set back from the edge of the roof by one foot for every one foot of solar energy system height.

b. In B-4 and industrial zones: No limit
c. In all other zones: 8 feet above the roof and set back from the edge of the roof by one foot for every one foot of solar energy system height.

7.4.4 Swimming pools

Outdoor swimming pools as accessory uses shall be subject to the following dimensional standards:

A. No swimming pool shall be sited in the front yard.

B. No part of any swimming pool shall be located closer than 10 feet from the principal structure, nor closer than 10 feet from side or rear lot lines.

7.4.5 Wind energy systems

A. Setbacks

1. Wind energy systems and associated facilities shall meet all setbacks for principal structures for the zone in which the system is located. Where setbacks vary, the largest setback shall apply. All parts of the wind energy system, including associated facilities and guy wires, shall be at least 10 feet from the property line (except where connecting to the grid), any utility line (in any direction), or other easement/right-of-way. The setback from utility lines, easements, and right-of-way lines may be reduced where the owner/benefitted party provides written permission.
2. Roof-mounted wind energy systems shall be set back from property boundaries and street right-of-way lines by a distance equal to or greater than four times the height of the system as measured from the roof surface at the point of attachment. For systems in and adjacent to waterfront zones, mixed-use zones (except B-1/B-1b and I-B), OP zone, industrial zones, the Island Transfer Station Overlay zone, and the R-OS zone, the setback from property boundaries and street right-of-way lines may be reduced to a minimum distance of 1.0 times the height of the system, where the system is incorporated into the architecture of the building and a certified engineer confirms that it would not present and public safety risk. The setback shall be measured to the center of the wind generator base.
3. Freestanding wind energy systems with a total height of less than 85 feet shall be set back from property boundaries and street right-of-way lines by a distance equal to or greater than 1.1 times the total height of the system, and from residential buildings and hospitals on other properties by a distance equal to or greater than twice the total height of the system. The setback distance shall be measured to the center of wind generator base.
4. Freestanding wind energy systems with a total height of greater than 85 feet shall be set back away from property boundaries and street right-of-way lines by a distance equal to or greater than twice the total height of the system, and from residential buildings and hospitals on other properties by a distance equal to or greater than four

times the total height of the system.

5. For freestanding wind energy systems in and adjacent to waterfront zones, mixed-use zones (except B-1/B-1b and I-B), the O-P zone, industrial zones, the Island Transfer Station Overlay Zone, and the R-OS zone, the setback from property boundaries and street right-of-way lines may be reduced to a minimum distance of 1.0 times the total height of the system where determined that the minimum required setback would be contrary to the public interest.
6. In residential zones, the B-1/B-1b zones, the I-B zone, and the R-P zone, where the lot is less than 0.5 acres, any vertical element of the wind energy system (tower/pole) shall be located in the rear yard or on the rear half of the existing building. Wind energy systems and associated facilities shall be sited to maximize existing vegetative or other screening from nearby residential buildings and public ways. The location shall minimize changes to existing topography and existing natural vegetation which would result from construction or maintenance of the system.

B. Height

1. Heights of wind energy systems, permitted as either freestanding or roof-mounted structures, shall be as shown in Table 7-I.
2. Roof-mounted wind energy systems shall measure no higher than 10 feet above the highest part of the roof.

TABLE 7-I: WIND ENERGY SYSTEM HEIGHT

Zone	Height (max.)
RPZ	10 ft.
Residential Zones[1], R-P, B-1/B-1b, and I-B	25 ft.
Historic Districts[2] and within 1,000 ft. of designated landmarks	45 ft.
EWPZ, WPDZ, WCZ, B-2/B-2b/B-2c, B-5, and B-6	65 ft.
B-3, B-4, B-7, and O-P	85 ft.
ROS, I-M, I-Mb, I-H, and A-B	160 ft.

[1] Permitted up to 65 ft within USM Overlay Zone or on other sites with institutional uses measuring over 5 acres.
[2] Permitted up to 85 ft in B-3 part of Downtown Historic District.

7.5 SPACE AND BULK EXCEPTIONS

7.5.1 Height

A. In the B-3/B-3b/B-3c zones. Minimum height provisions as depicted on the Downtown Height Overlay Map shall not apply to:

1. Accessory building components and structures such as truck loading docks covered parking, mechanical equipment enclosures and refrigeration units.
2. Information kiosks and ticketing booths.
3. Public transportation facilities of less than 10,000 square feet, or additions of less than 5000 square feet to existing public transportation facilities provided that the cumulative additions as of June 4, 2007 do not exceed 10,000 SF.
4. Additions to buildings existing as of June 4, 2007 provided that the cumulative additions since June 4, 2007 do not exceed 10% of the building footprint on June 4, 2007, except building additions on those portions of the lot located closer to the street line than the building footprint

existing as of June 4, 2007 shall not be included in this 10% limitation.

5. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations, telephone electronic equipment enclosures, and other similar structures.
6. Additions to and/or relocation of designated historic structures or structures determined by the Historic Preservation Board to be eligible for such designation.
7. Parking attendant booths or bank remote teller facilities.
8. Structures accessory to parks and plazas.
9. Buildings or building additions of less than 2,500 square feet footprint, on lots or available building sites of less than 3,000 square feet.

B. **In the B-6 zone.** Minimum height provisions as depicted on the B-6 Building Height Overlay and Building Envelopes map shall not apply to:

1. Buildings located in the area east of the Fore Street Connector.
2. Parking attendant booths.
3. Information kiosks and ticketing booths.
4. Parking garages.
5. Public transportation facilities.
6. Additions to buildings existing as of December 8, 2004 provided that the cumulative additions since December 8, 2004 do not exceed 25% of the building footprint on December 8, 2004, except that such restriction shall not apply to those portions of the building addition that are constructed closer to the street line than the building footprint existing as of December 8, 2004.
7. Buildings or building additions of less than 2,000 square feet footprint on lots or available building sites of less than 2,000 square feet.
8. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations, telephone electronic equipment enclosures and other similar structures.
9. Additions to and/or relocations of designated historic structures.

C. **In the B-7 zone.** Minimum floor provisions as depicted on the Bayside Height Overlay Map shall not apply to:

1. Accessory building components such as truck loading docks, mechanical equipment enclosures and refrigeration units.
2. Information kiosks and ticketing booths.
3. Parking garages.
4. Public transportation facilities.
5. Additions to buildings existing as of March 9, 2005 provided that the cumulative additions since March 9, 2005 do not exceed 50% of the ground floor building footprint on March 9, 2005, except that such restriction shall not apply to those portions of the building addition(s) that are constructed closer to the street line than the building footprint existing as of March 9, 2005.
6. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations,

telephone electronic equipment enclosures, and other similar structures.

7. Additions to and/or relocation of designated historic structures or structures determined by the Historic Preservation Board to be eligible for such designation.
8. Portions of buildings more than 50 feet from the street line.

D. In the Bayside Gateway Urban Height District

A. Buildings in the Bayside Gateway Urban Height District A as depicted on the Bayside Height Overlay Map may be greater than 125 feet but no more than 165 feet in height provided that:

1. Such buildings shall be reviewed by the Planning Board as conditional uses under Section 6.5 of this Land Use Code.
2. Such buildings shall be sited to minimize encroachment into designated view corridors and visual landmarks to and from the downtown or that do not substantially further obstruct such corridors blocked by existing development as referenced in the Bayside Height Study Map and the B-7 design standards.
3. Portions of such buildings higher than 125 feet shall be stepped back at upper levels to provide light and air to adjacent streets, trails, and open spaces, with a ratio of no less than the ratio of building height to width of adjacent streets, trails and open spaces equivalent to 1.5 to 1. The Planning Board may modify this requirement for master development plans or major site plans provided that the following conditions are met:
   a. Each building exceeding 125 feet shall contain at least 20 dwelling units per building.
   b. Building wall stepback requirement along public street frontage for buildings with frontage on one street: Minimum 10-foot stepback between third and fifth stories and a minimum 10-foot stepback between the 125 and 145 foot level.
   c. Building wall stepback requirement along public street frontage for buildings with frontage on multiple streets: Above paragraph (b) requirement along longest building façade street wall, and of the remaining street walls the same requirement as paragraph (b) or a 15 foot wide streetscape improvement area containing a public sidewalk, landscaping, and other streetscape improvements within the abutting street right-of-way and/or private property along the remaining street frontage. A building with frontage on four streets shall meet the above requirement except that two of the streets shall have the stepback requirement.
   d. The Planning Board shall have the authority to waive one or more of the required stepbacks provided that one of the following conditions is met:

i. The depth of the building lot precludes a building having an average minimum lot depth dimension of 170 feet.

ii. The proposed building has an architecturally significant design that is articulated to avoid a monolithic appearance and emphasizes slender, vertically-oriented proportions while employing a variety of scales, materials, fenestration, and massing to assure a rich, visually interesting experience as viewed within the context of the downtown skyline and provide visual interest and human scale at the pedestrian level.

e. In the event such a waiver is granted, the Planning Board may require the applicant to mitigate the impacts of the waiver by requiring the following:

i. Along all public street frontages and public open spaces, all buildings (regardless of height) shall maintain a pedestrian scale through the use of building elements at the street level as listed in this standard along no less than 60% of the building's horizontal length.

ii. Along all public street frontages and public open space for the building(s) over 125 feet, a canopy, awning, or similar permanent architectural feature to provide pedestrian protection and wind mitigation shall be provided within the first 35 feet of height.

iii. In order to preserve view corridors and to maintain a varied skyline, all buildings above 125 feet within a single development site should be separated to avoid the appearance of a tall, solid block massing. In accordance with this policy, on development sites of 500 feet or greater as measured parallel to Marginal Way, the aggregate building façade widths above 85 feet shall not exceed 50% of the total development site distance parallel to Marginal Way. Buildings over 125 feet in height that are being reviewed as separate phases of a master development plan shall be entitled to meet the 50% building requirement in aggregate for all such buildings over 125 feet in height in the master development plan, provided that view corridors are retained as each phase is built.

iv. The applicant shall demonstrate building design elements and location will reasonably mitigate downdraft effects of the proposed building or buildings.

4. Such buildings provide publicly accessible and usable open space, meeting the B-7 design standards, of at least 10% of the building lot area.

5. If located on lots including or adjacent to planned or proposed street or pedestrian way connections, land dedication to such street or connection shall be credited toward the 10% open space requirement. Buildings over 125 feet in height that are being reviewed as separate phases of a master development plan shall be entitled to meet the 10% percent open space requirement in aggregate for all such buildings over 125 feet in height, provided that the open space shall not fall below 10% percent at any built phase or combination of built phases.
6. Such development shall comply with all other requirements and design standards as required by this article.

E. Roof-mounted solar energy systems. Photovoltaic panels and thermal water heating panels, whether parallel or angled to a pitched or gable roof, may be erected above the height limitation for principal or accessory buildings as follows:

1. *In all residential zones.* Up to three feet above the maximum height allowed in the underlying zone. In the case of flat roofs, the solar energy system may be up to five feet above the maximum height allowed in the underlying zone. All roof-mounted solar energy systems shall be set back from the edge of the roof by one foot for every one foot of solar energy system height.
2. *In B-4 and industrial zones.* Up to four feet above the maximum height allowed in the underlying zone. In the case of flat roofs, there are no height limits.
3. *In all other zones.* Up to three feet above the maximum height allowed in the underlying zone. In the case of flat roofs, the solar energy system may be up to eight feet above the maximum height allowed in the underlying zone. All roof-mounted solar energy systems shall be set back from the edge of the roof by one foot for every one foot of solar energy system height.

F. Public art. Except in residential zones, public art that has been individually accepted by the City Council for inclusion within the public art collection pursuant to Article 21 shall not be subject to the height limitations within the underlying zone.

G. Rooftop appurtenances. Unless otherwise noted, rooftop appurtenances for the housing of elevators, stairways, tanks, fans, or other building operating equipment not intended for human occupancy, deck railings, skylights, steeples, flag poles, chimneys, smokestacks, radio or television masts, water tanks, or silos may be erected above the height limitations herein prescribed.

H. Telecommunication towers. Where permitted, ground-mounted telecommunication towers may be erected above the height limitations within the underlying zone.

7.5.2 Length of building wall at maximum setback

A. In the B-6 zone. Buildings located area east of the Fore Street Connector shall not be subject to the building wall requirement.

B. **In the B-7 zone.** Additions to and relocations of designated historic structures or structures determined to be eligible under Article 17 shall be exempt from the building wall requirement.

7.5.3 Lot area

A. **Institutional uses in residential zones.** No minimum lot area shall be required for institutional uses in residential zones in the following cases:
   1. Uses existing as of June 1, 1983.
   2. Expansion on to land abutting the lot on which the principal use is located.
   3. Expansion onto land other than the lot on which the principal use is located to the extent that such expansion consists of the reuse of surface parking area or nonresidential structures existing and in nonresidential use as of June 1, 1983, provided that such reuse is contained within the lot of such structure or parking area as of June 1, 1983.
   4. Expansion onto land other than the lot on which the principal use is located of no more than 15% of the total contiguous land area of the existing use, or one acre, whichever is less, within any five-year period.

B. **Residential lots not served by public sewers.** A lot in an unsewered residential district shall meet the provisions of the state Minimum Lot Size Law, 12 M.R.S. § 4807 et seq., or the applicable minimum lot area, whichever is larger, except that the minimum lot size may be reduced on the islands in Casco Bay as provided in (C) below.

C. **In island zones.** In issuing any permit for new development in island zones:
   1. The Building or Planning Authority shall require that any lot located in the IR-1 zone shall be at least 40,000 square feet in area and in the IR-2, IR-3, and I-B zones be at least 20,000 square feet in area when the lot is to be serviced by a subsurface wastewater disposal system, except those lots which are located in a subdivision approved by the Planning Board after June 8, 1968 and excluding Peaks Island.
   2. Excluding Peaks Island from this paragraph (2), any property owner whose lot does not meet the minimum lot size requirements outlined in (1) above may, for purposes of this subsection only, merge two or more separate lots on the same island in order to meet these requirements. Where the lots so merged are not contiguous, the property owner shall grant to the city as holder a conservation easement upon the lot or lots which will not contain the principal structure. The conservation easement shall contain both an existing legal description and a city assessor's chart, block, and lot description. The Planning Authority shall be authorized to accept such conservation easements on behalf of the city. Said easement shall be recorded by the applicant in the registry of deeds. A copy of the recorded easement and copies of the deeds for both lots shall be submitted to the Planning Authority prior to issuance of a building permit. The property over which the conservation easement has been

granted shall be used for passive recreational and conservation purposes only, and shall be subject to the following restrictions:

a. No structure shall be permitted on this property.
b. No parking or storage of vehicles or machinery shall be permitted on this property at any time.
c. No area of this property shall be paved.
d. No exterior storage for commercial use shall be permitted on this property.
e. The easement deed shall reference the lot which is benefited by this conservation easement. No conservation easement shall be used to benefit more than one lot.

3. Conservation easements shall only be granted over lots which conform either to the provisions of Subsection 4.3.1 or to the minimum lot sizes set forth in Table 7-D. Conservation easements shall not be granted over any lot which is encumbered by any other easement which prohibits all construction on that lot. A conservation easement may also name as a holder or grant a third-party right of enforcement to a nonprofit corporation or charitable trust, the purposes or powers of which include retaining or protecting the natural, scenic, or open space values of real property; assuring the availability of real property for agricultural, forest, recreational, or open space use; protecting natural resources; or maintaining or enhancing air or water quality of real property. Nothing in this subsection shall be construed to allow an owner of a currently existing and developed lot to convey or permit a portion of that lot to be used to fulfill the requirements of this subsection if such conveyance would render the existing lot nonconforming under the terms of this Land Use Code. The lot upon which a building is to be constructed shall meet the minimum lot size requirements of Subsection 4.3.1.
4. Where an existing subsurface wastewater disposal system serving an existing structure requires replacement, the replacement system shall meet the applicable state requirements. The land area requirements in paragraph (1) above shall not apply to such a replacement system.
5. For purposes of this subsection, the mean high tide mark shall be considered to be the shoreline lot line.

7.5.4 Lot coverage

A. **Lot surrounded by streets or alleys.** Where a lot containing ten thousand 10,000 square feet or less is completely surrounded by streets or alleys, the lot coverage may be increased 20%.

7.5.5 Setbacks

A. **Setbacks in residential and R-P zones.** In any residential zone and the R-P zone, the width of one side setback may be reduced one foot for every foot that the other side setback is

correspondingly increased, but no side setback shall be less than the minimum required for a one-story building.

B. **Setbacks in the O-P zone.** The Planning Board may reduce by up to 50% the minimum setback if another yard within the lot is correspondingly increased so that the combined minimum yards on all four sides equal 150 feet. If two or more buildings are located on one lot, only the requirements of the front, rear or side setbacks that adjoin any external property boundary must be met, provided a sufficient fire line is provided.

C. **Projections in required setback areas.** Any setback may be occupied by a one-story entrance porch not enclosed, with or without a roof, if the area of the porch does not exceed 50 square feet nor the projection from the building exceed six feet. A basement bulkhead of similar size, but not more than 24 inches in height, is also permitted. A cornice eave, sill, canopy, chimney, bay window, balcony, or other similar architectural feature may project into any required setback a distance of not more than two feet.

D. **Pavement setbacks.** Pavement setbacks shall not apply to entrance drives.

E. **Corner lot setbacks.** In case a principal residential structure has its front yard upon the long side of a corner lot, the rear setback may be reduced to a depth not less than the required side setback on the lot, provided that the aggregate of the widths of both sides and depths of front and rear yards is not less than the similar aggregate of required dimensions of all setbacks if the front yard were faced on the short side of the lot.

F. **Maximum front setbacks**

1. Maximum front setbacks shall not apply to utility substations and secondary building components.
2. *In the B-1/B-1b zone.* Building additions are encouraged but not required to meet front setbacks.
3. *In the B-2/B-2b/B-2c zones*
   a. Building additions do not have to meet maximum front setback requirements.
   b. The Planning Board or Planning Authority may approve a different front setback for irregularly shaped lots or lots with frontage greater than 40 feet in width provided the front setback is met to the maximum extent practicable.
   c. If a lot has less than 40 feet of frontage and is more than 100 feet deep, then no maximum setback is required.
   d. If existing structures are within 20 feet of the street or meet the front setback maximum and the remainder of the lot has less than 40 feet of frontage, then no maximum setback is required.
   e. The Planning Board or Planning Authority may waive the maximum front setback for utility substations and alternative energy installations.
   f. Where setbacks exceed 10 feet, a continuous, attractive, and pedestrian-scaled edge treatment shall be constructed along the street,

consisting of street trees spaced at no more than 15 feet on center, approved by the City arborist, and a combination of landscaping no less than four feet deep, ornamental brick or stone walls, or ornamental fencing.

4. *In the B-3/B-3b/B-3c zones.* The Planning Board may require or approve an additional setback to comply with the design standards of Article 14 and the City of Portland *Design Manual*.
5. *In the B-6 zone.* For lots fronting on more than one street in the B-6 zone, the front setback can be increased more than 10 feet if all of the following conditions are met:
    a. The increased setback occurs at the intersection of the streets.
    b. The increased setback area is the primary pedestrian entrance to the building.
    c. 75% of the total building wall length facing the abutting streets shall be setback no greater than 10 feet. All building wall segments which make up the increased setback shall be included in the calculation of the total building wall length.
    d. For new construction on a lot abutting three or more streets, the maximum setback shall apply only to the two streets with the highest traffic volume.
6. *In the B-7 zone*
    a. Parking structures, public transportation facilities, utility substations, secondary building components such as truck loading docks, mechanical equipment enclosures, and refrigeration units are not subject to the maximum front setbacks.
    b. The maximum front setback may be increased to more than 10 feet if all of the following conditions are met:
        i. 75% of the total building wall length of an individual building facing the abutting streets is setback no greater than 10 feet.
        ii. The increased setback area shall include a functional and accessible public pedestrian entrance into the building that faces the street, unless a public pedestrian entrance already exists along the same street.
        iii. The increased setback shall not be used for surface parking.
    c. For a corner lot having frontage on two streets, the maximum setback shall apply to both streets. In the case of a lot having frontage on two or more street corners, newly constructed buildings shall be sited at street corners and meet the maximum setback requirement prior to other freestanding buildings being constructed on the lot which shall also meet the maximum street setback. In the case of a corner lot having frontage on a third street (but not a corner) the maximum setback need not apply to the third street.

d. In the case of a lot having frontage on two streets but not on a corner, the maximum setback shall apply to all streets but in the case of a lot having frontage on three streets but not on a corner, the maximum setback shall apply to only two streets. For purposes of this subsection only, the first building on a lot shall meet the maximum setback on at least one street with future buildings required to meet the maximum setback on the remaining street(s).

e. In the case of a lot in which a minimum 75% of the total lot frontage has a building within ten feet of the street, other buildings may be located on the lot more than 10 feet from the street. In the case of a lot having frontage on Marginal Way and I-295, the property edge along I-295 shall not be considered street frontage.

f. The maximum building setback shall not apply to vertical building expansions in the following cases:
   i. The upper floors of a building in which the lower floors meet the maximum setback and the minimum height requirement.
   ii. The building existed as of March 9, 2005 and meets the minimum height requirement.
   iii. A building not meeting the maximum street setback and the minimum height requirement may vertically expand a total of one floor from March 9, 2005.
   iv. In the case of a building in which at least 50% of the building wall(s) abutting street(s) is within 20 feet of the street.
   v. Additions to parking garages existing as of March 9, 2005.

g. Additions to buildings existing as of March 9, 2005 that are nonconforming as to the maximum setback need not conform to the maximum street setback provided the cumulative building footprint since March 9, 2005 does not exceed 50% of the existing building footprint. Such restriction shall not apply to those portions of the building addition that are constructed closer to the street line than the building footprint existing as of March 9, 2005 and to vertical expansions as provided for in (f) above.

h. Lots having frontage on streets in which the curve of the street frontage precludes a rectangular-shaped building along the street line, for purposes of calculating the setback, the average setback of the building from the street line may be used, but in no event shall the average setback along the length of the building edge exceed an average setback of 15 feet nor shall the maximum setback exceed 20 feet. The increased setback shall not be used for surface parking, vehicular loading or vehicular circulation.

i. Additions to and relocations of designated historic structures or structures determined to be eligible by the Historic Preservation Board shall be exempt from the maximum setback requirement.

G. Minimum setback exceptions for lots of record

1. In the case of a lot of record existing as of June 5, 1957 in the R-1, R-2, R-3, R-4, R-5, R-5a, and R-6 zones and less than 100 feet deep, the front setback need not be deeper than 20% of the depth of the lot.
2. In the case of a lot of record existing as of June 5, 1957 in a residential zone, the required side setback for principal structures may be reduced in order to provide a buildable width of up to 24 feet, but in no case shall the resulting side yards be less than the following:
   a. R-1, R-2: 12 ft.
   b. R-3, R-5: 8 ft.
   c. R-4, R-5a: 10 ft.

7.5.6 Stepbacks

A cornice eave, sill, canopy, chimney, bay window, balcony, or other similar architectural feature may project into any required stepback a distance of not more than two feet.

7.5.7 Street frontage

In the IR-1 and IR-2 zones, a lot of record that is buildable pursuant to Subsection 4.3.1 and lots created after July 15, 1985, which are not part of a subdivision need not provide street frontage if access is available by means of a permanent easement or right-of-way which existed as of July 15, 1985. Such easement or right-of-way shall have a minimum width of 16 feet and a minimum travel width of eight feet except that an easement or right-of-way providing access for three or more lots or providing the only means of access to a parcel or parcels of three acres or more, shall meet the construction requirements of Chapter 25, Article III of the City of Portland Code of Ordinances. In the IR-1 zone, such easement or right-of-way shall conform to the requirements contained within the City of Portland *Technical Manual*. In the IR-2 zone, such easement or right-of-way shall be a minimum of 32 feet wide. Such easement or right-of-way shall be sufficient to permit municipal service delivery.

8 OVERLAY ZONES

8.1 COMPACT URBAN RESIDENTIAL OVERLAY (R-7)

8.1.1 Purpose

The purpose of the R-7 Compact Urban Residential Overlay Zone is to encourage and accommodate compact residential development on appropriate locations on the Portland peninsula, pursuant to the *New Vision for Bayside* and housing plans of the City of Portland. Suitable sites should be within walking distance of downtown or other work places, shopping and community facilities, and have access to public or private off-site parking or transit service. The intent of this zone is to foster increased opportunities for compact living for owners and renters representing a variety of income levels and household types.

Locations for siting the R-7 zone are intended to be located on the peninsula of Portland, in the area encompassed in the *New Vision for Bayside* plan, other peninsula R-6 locations characterized by moderate- to high- density multi-family housing in a form and density exceeding that allowed in the R-6 zone and where infill development opportunities exist, and areas on the peninsula with mixed business and residential zoning and uses which can accommodate higher density infill residential development without negatively impacting the existing neighborhood or adjacent properties. It may be appropriate in some cases to apply the R-7 Overlay Zone through conditional or contract zoning to ensure that the new development is architecturally appropriate and compatible with the surrounding neighborhood.

TABLE 8-A: R-7 DIMENSIONAL STANDARDS

Lot area (min.)		None
Street frontage (min.)		None
Setbacks (min.)	**Front**	None
	Rear and side	5 ft.
	Side yard on side street	None
Lot coverage (max.)		100%
Lot area per dwelling unit (min.)		435 SF
Structure height (max.)		50 ft.
Dwelling unit size (min.)		400 SF

8.1.2 Permitted Uses

Permitted uses in the R-7 Compact Urban Residential Overlay Zone shall be the uses permitted in the R-6 zone.

8.1.3 Dimensional standards

Residential uses shall comply with the dimensional requirements in Table 8-A. All other uses in the R-7 zone shall observe the dimensional requirements of the R-6 zone.

8.1.4 Design standards

Residential development shall be reviewed by the Planning Board under Article 14. Such development shall also comply with the following development standards. The general intent of these development standards is to achieve an attractive and comfortable city neighborhood environment. Varied and human-scaled building facades are key to making a place "pedestrian-oriented." Building designs should provide a high level of visual interest, without creating a chaotic image. Residences should include design elements that enhance the streetscape and address the street.

A. Porches and bays should face the street.
B. Primary ground floor residential entries to multi-family buildings must orient to street, not to interior blocks or parking lots. Secondary and upper-floor entries from the interior of a block are acceptable. The front door to single-family homes, duplexes, and townhouses must be visible from the street.
C. The design approach shall provide an architecture that will be a visible and permanent expression of the character of the neighborhood.
D. The facade shall be varied and articulated to provide visual interest to pedestrians.
E. The design shall reinforce the public realm of the public open space, sidewalks, and streets through appropriately scaled entries, porches, fenestration, landscaping, and architectural details.
F. The design shall provide visual and acoustical privacy between units.
G. The design shall maximize natural light and ventilation within units.

8.2 DOWNTOWN ENTERTAINMENT OVERLAY

8.2.1 Purpose

The purpose of the Downtown Entertainment Overlay Zone is to regulate the location of businesses with entertainment licenses in order to maintain and improve public safety and the quality of life of Portland residents by preventing an over-concentration of businesses with entertainment licenses, particularly those which also have liquor licenses, and the public safety problems that have and will be experienced when too many of these businesses are located too close to each other. These problems include large late-night crowds within which fights and assaults, disorderly conduct and other breaches of the peace occur and that are difficult to effectively police and that expose not only innocent bystanders but also police officers to danger and personal injury.

8.2.2 Applicability

For the purposes of this section, the Downtown Entertainment Overlay Zone includes and is defined by the boundaries of the following zones as shown on the Downtown Entertainment Overlay Zone map: the B-3, B-3c, and WCZ zones. Any property that lies partly within the Downtown Entertainment Overlay Zone shall be subject to the regulations of the overlay.

8.2.3 Dispersal requirement

A business with an entertainment license as required or authorized by Chapter 4, Section 4-51(a) of the City of Portland Code of Ordinances within the Downtown Entertainment Overlay Zone may not be located within 100 feet of another business with an entertainment license, as measured along or across public ways from the main entrance or entrances of each.

8.2.4 Exemption

A. A business with an entertainment license located in the Downtown Entertainment Overlay Zone on or before January 3, 2006 shall not have to comply with the requirements of this section and if located within 100 feet of another licensee shall be considered a nonconforming use controlled by Article 4. Such a business is considered an entertainment business for the purpose of calculating dispersion requirements under Subsection 8.2.3 for a new or relocating entertainment business in the Downtown Entertainment Overlay Zone.

B. A business with an entertainment license that does not allow amplified entertainment shall not have to comply with the dispersal requirement of Subsection 8.2.3.

8.2.5 Separate business entities

Where two or more entertainment businesses operate on one site, and where each business entity requires or has a separate business license, or displays in a manner visible from public property separate business trademarks, logos, service marks, or other mutually identifying names or symbols, each business entity shall be counted as a separate entertainment business for the purpose of this section.

8.2.6 Conditions

Following a hearing held pursuant to Chapter 15, Section 15-10 of the City of Portland Code of Ordinances, the City Clerk may impose conditions to maintain or improve public safety on the food service license of any business in the Downtown Entertainment Overlay Zone that operates between 1:00 a.m. and 4:00 a.m., following a written recommendation from the Portland Police Department that such conditions are necessary. The City Clerk's decision may be appealed to the City Manager pursuant to Chapter 15, Section 15-9 of the City of Portland Code of Ordinances. Nothing in this section shall be construed to limit the City Clerk's authority in Chapter 15 to deny, suspend, or revoke any license pursuant to the standards and process in that chapter.

8.3 FORT SUMNER PARK HEIGHT OVERLAY

8.3.1 Applicability

The Fort Sumner Park Height Overlay is established to protect the public interest by limiting the impact of development on the quintessential views of natural resources and the changing Portland skyline from Fort Sumner Park. There is established a key apex point in Fort Sumner Park at 43° 40' 2.3359" N. 70° 15' 4.3687" W. The Fort Sumner Park Height Overlay includes all land within 200 feet, or the R-6 zone boundary, whichever is closer, of this key apex point that is located closer to the middle line of Sheridan Street than said apex point.

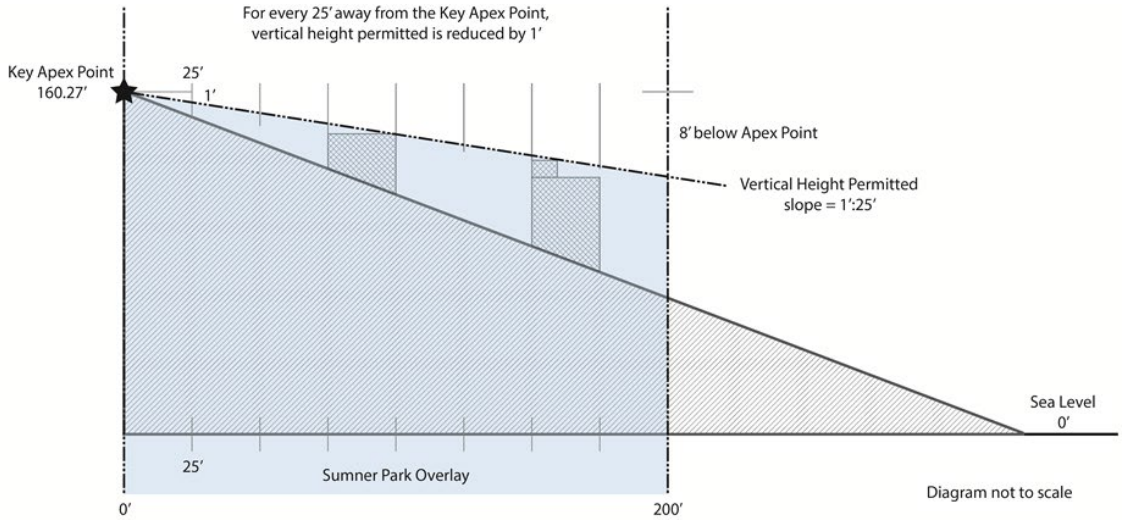


FIGURE 8-A: FORT SUMNER PARK OVERLAY PERMISSIBLE HEIGHT

8.3.2 Standards

Notwithstanding any other section of this Land Use Code, development in the Fort Sumner Park Height Overlay shall be subject to the following additional provisions:

A. The top of structures, including rooftop appurtenances, within the overlay shall not exceed the baseline vertical height of the apex point (160.27' City of Portland Datum (Mean Tide)). For each 25' radially away from the apex point, the vertical height permitted in the overlay is reduced by 1 foot. (See Figure 8-A.)

B. The minimum building setback from the park property shall be 15 feet.

8.3.3 Review process

Any project within the Fort Sumner Park Overlay shall go before the Parks Commission for a recommendation to the Planning Board regarding potential impacts on Fort Sumner Park.

8.4 HELISTOP OVERLAY

8.4.1 Purpose

The intent of the Helistop Overlay is to allow for helicopter landing areas on individual sites in addition to those uses permitted in the underlying zone. The purpose of this zone is to protect the public health and safety by allowing helicopters serving medical needs to land in certain areas, while protecting surrounding areas from any negative effects associated with such a use.

8.4.2 Helistop standards

A. High volume helistops (more than five landings per month)

1. All take-off, landing, and parking areas shall be surfaced with grass or with a dust-proof material.
2. Each landing pad shall be set back at least 200 feet from any residence, school or church. Each landing pad shall be set back at least 50 feet from any commercial or industrial structure. All setbacks shall be measured from the edge of the landing pad.
3. The area in which a landing pad is located shall be enclosed by a fence or other barrier of not less than three feet in height or shall be secured by a locked gate, as approved by the Fire Department.
4. All high-volume helistops shall be subject to review under Article 14.

B. Low-volume helistops (five or fewer landings per month)

1. All low volume helistops shall be subject to approval by the Building Authority and the Fire Department.

8.5 INSTITUTIONAL OVERLAY (IOZ)

8.5.1 Purpose

The Institutional Overlay Zone (IOZ) designation provides a regulatory mechanism available to the city's five major medical and higher education campuses where an improved regulatory structure is needed to facilitate a consistent, predictable, and clear growth management process. The purposes of the Institutional Overlay Zone are to:

A. Acknowledge that the city's major academic and medical institutions play a prominent role in the health and well-being of the local and regional community, and in order to sustain that role, these institutions need flexibility to change and grow.

B. Encourage proactive planning for institutional change and growth which identifies and addresses likely long-term institutional needs

and cumulative impacts while leveraging potential benefits at the neighborhood, city, and regional level.

C. Ensure that institutional change and growth both complements and, as appropriate, integrates adjacent or surrounding neighborhoods through carefully planned transitions.

D. Support the formation and continuation of mutually beneficial public-private cooperation.

E. Support an ongoing public engagement process that benefits both the institutions and nearby neighborhoods.

F. Reflect Comprehensive Plan and other policy objectives.

G. Provide a consistent regulatory approach to all major institutions which allows unique regulatory requirements that balance the particular needs of institutions with the needs of the surrounding neighborhood and wider community.

8.5.2 Location and applicability

The city's five major medical and higher education institutions are eligible to apply for designation as Institutional Overlay Zones. The eligible institutions are the two major hospital institutions of Maine Medical Center and Mercy Hospital and the three major academic institutions of University of Southern Maine and University of New England, and The Roux Institute at Northeastern University, their successors and assigns. Designation as an IOZ is the preferred mechanism where the eligible institution's proposed development is inconsistent with the existing zoning.

8.5.3 Establishment

A. **Application for an Institutional Overlay Zone.** Where the eligible institution seeks designation as an IOZ, they shall submit a zone change application consisting of two components:

1. An Institutional Development Plan (IDP) in accordance with Subsection 8.5.4.
2. A regulatory framework in accordance with Subsection 8.5.5 that would, when and if adopted, be the text and map amendment to the City's Land Use Code and zoning map.

B. **Required public involvement**. At least two neighborhood meetings shall be required. The first shall be held prior to the formal submission of a zone change application for an Institutional Overlay Zone and the second shall be held during the City's review. Meetings shall identify the concerns, if any, of affected residents and property owners, and inform the development of the Institutional Development Plan (IDP) and regulatory framework. Meetings shall be held in a convenient location proximate to the institution. The applicant shall provide written notification to property owners of record within 500 feet of the proposed IOZ boundary at least ten days prior to the meeting dates and maintain written records of the meetings.

C. **Required scoping meeting.** The eligible institution shall meet with the Planning Authority after the first required neighborhood meeting and prior to submission of the zone change application to confirm the focus of the Institutional Development Plan (IDP) and regulatory framework, including associated study areas that may be outside of the proposed IOZ boundary. The IDP and

regulatory framework will vary in detail and focus depending on the eligible institution and its particular context. The content requirements in Subsections 8.5.4 and 8.5.5 and the comments from neighborhood meeting(s) shall provide direction for the content of the IDP. The Planning Authority or Planning Board may require additional information or modify content requirements as is relevant to the eligible institution.

D. **Reviewing authority.** The Planning Board shall review the zone change application, including the IDP and regulatory framework. At least one public workshop and a public hearing before the Planning Board are required. Upon recommendation of the Planning Board, the City Council shall review and consider adoption of the Institutional Overlay Zone and the accompanying regulatory framework as an amendment to the City's Code of Ordinances.

E. **Future institutional development.** All new development by the eligible institution within the boundary of the IOZ shall be compliant with the IOZ and accompanying regulatory framework, consistent with the IDP, consistent with the Comprehensive Plan, and meet applicable site plan standards, unless such standards are superseded by the regulatory framework. Any use/development proposed by the eligible institution outside the IOZ boundary that complies with the zoning for permitted uses in that location shall be reviewed under the standards of that zone. Any use/development proposed by an eligible institution outside of the IOZ boundary that is proposed in a residential zone and is functionally related to the operations within the IOZ shall be addressed by the IDP and require an amendment to the IDP.

8.5.4 Institutional Development Plan (IDP)

A. **Purpose.** Any use conducted by an eligible institution and any construction by an eligible institution in an Institutional Overlay Zone shall be consistent with an Institutional Development Plan (IDP) approved by the Planning Board in accordance with this ordinance. The purpose of the IDP is to establish baseline data about institutional land uses, facilities, and services and measure, analyze, and address the anticipated or potential impacts of planned institutional growth and change. The IDP shall serve as a background document that supports the proposed regulatory framework and frames subsequent site plan review(s).

B. **Planning horizon.** An IDP shall provide the City and abutting neighborhoods with a clear outline of the anticipated or potential growth and change of the eligible institution for the short- to medium-term (e.g. 1-5 and 5-10 years respectively), as well as a conceptual growth plan for the long-term (e.g. 10 years or more). however, the specific planning horizons for each institution will be determined as part of the IDP approval process.

C. **Content.** The IDP submission shall address the following elements unless specifically modified by the Planning Authority or Planning Board, with the scope and level of detail to be clarified at the required scoping meeting:

1. Context information, including:
    a. The institution's adopted mission, vision, or purpose statement.
    b. A summary of relevant baseline data on the institution, including:

i. A neighborhood context plan.
ii. An inventory of current programs and services.
iii. A current census of the number of people using the institution (e.g., employees, enrollment, patients), with an indication of maximums and minimums over time.
iv. An inventory and/or plan of all existing property holdings within the main campus and within the City of Portland, including an indication of functional land use links between off-campus properties and the main campus (e.g. remote parking).
v. An inventory and/or plan of existing facilities, including data on use, floor area, and any existing functional connections between facilities.

c. A summary of the baseline characteristics of the existing campus and context of the institution, based on identified study areas, including:
i. A summary of existing resources, such as historic, open space, and natural resources.
ii. A summary of the existing transportation system, including vehicular, pedestrian, transit, bicycle, and parking supply, demand, and utilization.
iii. A summary of existing public infrastructure supporting the institution, including demand, utilization and any capacity issues.
iv. Relevant municipal plans, projects, and studies that may influence the IDP study area and opportunities for integrating institutional growth.

d. A summary of public involvement in the development of the IDP, including major areas of public concern.

2. Assessment of future institutional growth and change, including:
a. A description of institutional needs and areas of future institutional growth and change, with:
i. A projected census of users (e.g., enrollment /employment/patient/ visitor figures and anticipated variations over time).
ii. Institutional objectives for property both within and outside the IOZ boundary (e.g. acquisition and/or disposition), including an indication of any functional land use connection for sites outside the IOZ boundary to the main campus.
iii. A development plan addressing anticipated or potential institutional needs and physical improvements, including the proposed boundary of the IOZ and any phasing of the development.

b. Analysis and associated plans that address the following elements in terms of anticipated growth or potential impacts within the identified study area, and support the

development parameters as set out in the regulatory framework, including:

i. Transportation and access, with:
   a) An analysis of the projected changes in parking demand, supply, and impacts to the off-street and on-street parking capacity, including an explanation of the proposed parking plan.
   b) An analysis of the projected changes in vehicular, pedestrian, transit, and bicycle access routes and facilities, their capacity, and safety.
   c) A transportation, access, and circulation plan, representing the synthesis of the analysis, and including a program of potential improvements or set of guidelines to address access deficiencies to and within the IOZ. The plan should outline proposed mechanisms and potential strategies to meet transportation objectives, including transportation demand management, phasing, and when a Traffic Movement Permit (TMP) may be required.

ii. Environment, with:
   a) An analysis of potential cumulative impacts on natural resources and open spaces.
   b) An analysis of projected energy consumption, hazardous materials generation, noise generation, and similar issues as relevant.
   c) An environmental plan, representing the synthesis of the analysis and including a proposed program or set of guidelines for future preservation, enhancement, conservation, and/or mitigation.

iii. Infrastructure, with:
   a) An analysis of projected public utility demand and the capacity of associated infrastructure.
   b) An analysis of projected public safety needs and projected impacts to the capacity of these services.
   c) An infrastructure plan, representing the synthesis of the analysis and including a proposed program or set of guidelines to support sustainable growth.

iv. Design, with:
   a) An analysis of projected impacts to neighboring properties and public spaces, including potential shadow, wind, and lighting impacts, impacts of height

and massing, and impacts to historic resources.

b) An analysis of transition areas between the institution and adjoining neighborhoods, including identification of key character defining components of the surrounding context.

c) An analysis of existing Crime Prevention Through Environmental Design issues and identification of how these principles would be addressed as part of the proposed campus development.

d) A conceptual built environment/public realm plan, representing the synthesis of the analysis and including a set of guidelines for urban design, landscape, open space, and streetscape treatments, with particular attention to the treatment of edges (both within and abutting the IOZ boundary) to achieve compatible transitions.

v. Neighborhood engagement, with:

a) A plan for ongoing community engagement that represents best practices, promotes collaborative problem solving around community concerns, fosters transparency, and identifies mechanisms for neighborhood feedback and institutional accountability.

b) A property management framework that identifies the institution's process for handling operational property issues with neighbors.

c) Strategies for assuring communication pertaining to property acquisition and disposition in surrounding neighborhoods.

d) A set of construction management principles to apply to all institutional construction, that represent best practice, aim to minimize short- and long-term construction impacts on surrounding residents and businesses, and ensure a clear communication strategy is in place in advance of construction.

D. Standards of review. The IDP shall:

1. Address all content requirements, unless explicitly modified by the Planning Authority or Planning Board.
2. Reflect the issues/topics identified in the required public process.

3. Demonstrate consistency with the City's Comprehensive Plan and the purpose of this ordinance.
4. Demonstrate how the property ownership, proposed growth, and requested regulatory framework relate to the institution's mission.
5. Demonstrate that traffic and parking impacts have been anticipated and that the proposed parking provision is justified as based on an assessment of options for reducing traffic and parking demands.
6. Outline an approach to open space, natural, and historic resources that supports preservation and enhancement.
7. Demonstrate that potential cumulative environmental impacts have been anticipated and can be minimized or satisfactorily mitigated.
8. Demonstrate that utility impacts have been anticipated and can be minimized or satisfactorily mitigated.
9. Reflect a comprehensive design approach that ensures appropriate transitions with the existing or future scale and character of the neighboring urban fabric.
10. Promote compatibility with existing or future uses in adjacent neighborhoods, maintain housing, and support local amenities.
11. Anticipate future off-site improvements that would support the integration of the institution into the community and city-wide infrastructure.
12. Conform with the standards of Article 17 for designated landmarks or for properties within designated historic districts or designated historic landscapes, if applicable. When proposed adjacent to or within 100 feet of designated landmarks, historic districts, or historic landscapes, the IDP shall be generally compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity.
13. Incorporate strategies to support clear communication and ongoing public engagement between institutions and nearby neighbors.

E. Approval. Upon finding that an eligible institution's IDP meets the standards of review, the Planning Board shall approve, approve with conditions, or deny an IDP.

F. Monitoring. The IDP shall establish a schedule for reporting on IDP implementation at regular intervals of not more than ten years from the date of approval of the initial or amended IDP, and identify thresholds for IDP amendments.

G. Amendments. An approved IDP shall guide campus development unless and until amended. If at any time the eligible institutions request minor amendments to an approved IDP, the Planning Authority may approve such minor amendments, provided that they do not constitute a substantial alteration of the IDP and do not affect any condition or requirement of the Planning Board. The applicant shall apply with a written statement of the proposed amendment and proposed amended IDP to the Planning Authority, whose decision as to whether the amendment is minor shall be final. Major amendments shall be reviewed by the Planning Board. When the IDP is amended, the baseline data in the IDP shall be updated as appropriate.

8.5.5 Regulatory framework

A. **Purpose.** The regulatory framework translates the IDP into a set of clear and specific zoning requirements for the IOZ that constitute the text and map amendments to the City's Land Use Code and zoning map. The zoning requirements are anticipated to include parameters that guide the growth and change of the institution as well as broad strategies to address potential impacts, with plans and details to be developed under site plan review.

B. **Applicability.** The regulatory framework shall apply only to properties that are within the IOZ boundary and to which the eligible institution holds right, title, or interest. For these properties, the Institutional Overlay Zone shall supersede the underlying zoning, and all new institutional development shall be conducted in compliance with the regulatory framework and the approved Institutional Development Plan. Properties located within the Institutional Overlay Zone not subject to right, title, or interest of the eligible institution shall continue to be governed by the regulations of the underlying zoning designation.

C. **Uses.** Institutional uses, including hospitals and higher education facilities, shall be permitted, as shall uses that are functionally integrated with, ancillary to, and/or substantively related to supporting the primary institutional use, consistent with the applicable approved IDP.

D. **Content.** The regulatory framework shall reflect the information and analysis of the IDP. The content shall be tailored to address the particular issues associated with the institution and its neighborhoods. The regulatory framework should be succinct and use tables and graphics as possible to address the following, if applicable:

1. *Zoning boundary of the IOZ.* The area to which the regulations apply, as shown on the zoning map, subject to other provisions of this ordinance (i.e. the map amendment to the City's zoning map).
2. *Phasing and schedules.* Requirements that relate to particular proposed phases; a chart showing the schedule or thresholds for submitting an amended IDP (or elements of an IDP, such as a Transportation Demand Management (TDM) Plan).
3. *Uses.* Clarification, as necessary, on permitted uses.
4. *Dimensional requirements.* Graphics, sketches, or standards, including details for transition zones within the IOZ boundary.
5. *Transportation.* Elements such as Transportation Demand Management Plan (TDM) trip reduction targets or contribution to area-wide TDM measures; broad parameters for ensuring pedestrian, vehicular, bicycle and transit access and safety; parking ratios and management strategies; thresholds for access improvements.
6. *Environment.* The approach to the inclusion of open space and preservation of environmentally-sensitive areas.
7. *Mitigation measures.* The broad approach to identified mitigation measures, which would be addressed in greater detail in the site plan review process; thresholds for addressing deficiencies; goals for preservation/protection.

8. *Design.* Graphics and standards to clarify building placement and envelope (height and massing); guidelines for integration of site features; required treatments for transition zones and treatment for all edges (both within and abutting the IOZ boundary); guidelines for establishing campus identity.
9. *Neighborhood integration.* Thresholds and strategies for neighborhood engagement; mitigation of impacts on neighboring properties, including construction impacts; buffering requirements; objectives for pedestrian linkages and safety; other requirements that address community concerns.
10. *Monitoring.* A schedule for regular monitoring reports on IDP implementation in accordance with the IDP.

E. Standards of review: The regulatory framework shall:

1. Be consistent with the Comprehensive Plan and the Institutional Development Plan.
2. Provide a clear zoning framework, using graphics and tables as appropriate, to apply to future site plan reviews.
3. Provide specific regulatory statements as appropriate that respond to concerns raised during the required public involvement.
4. Outline measurable goals and thresholds for improvements or other actions identified in the IDP to be advanced in subsequent site plan applications.

F. Approval/adoption. The Planning Board shall review the proposed regulatory framework against the standards of review and make a recommendation on the institution's IOZ designation and regulatory framework to the City Council for adoption as part of this Land Use Code.

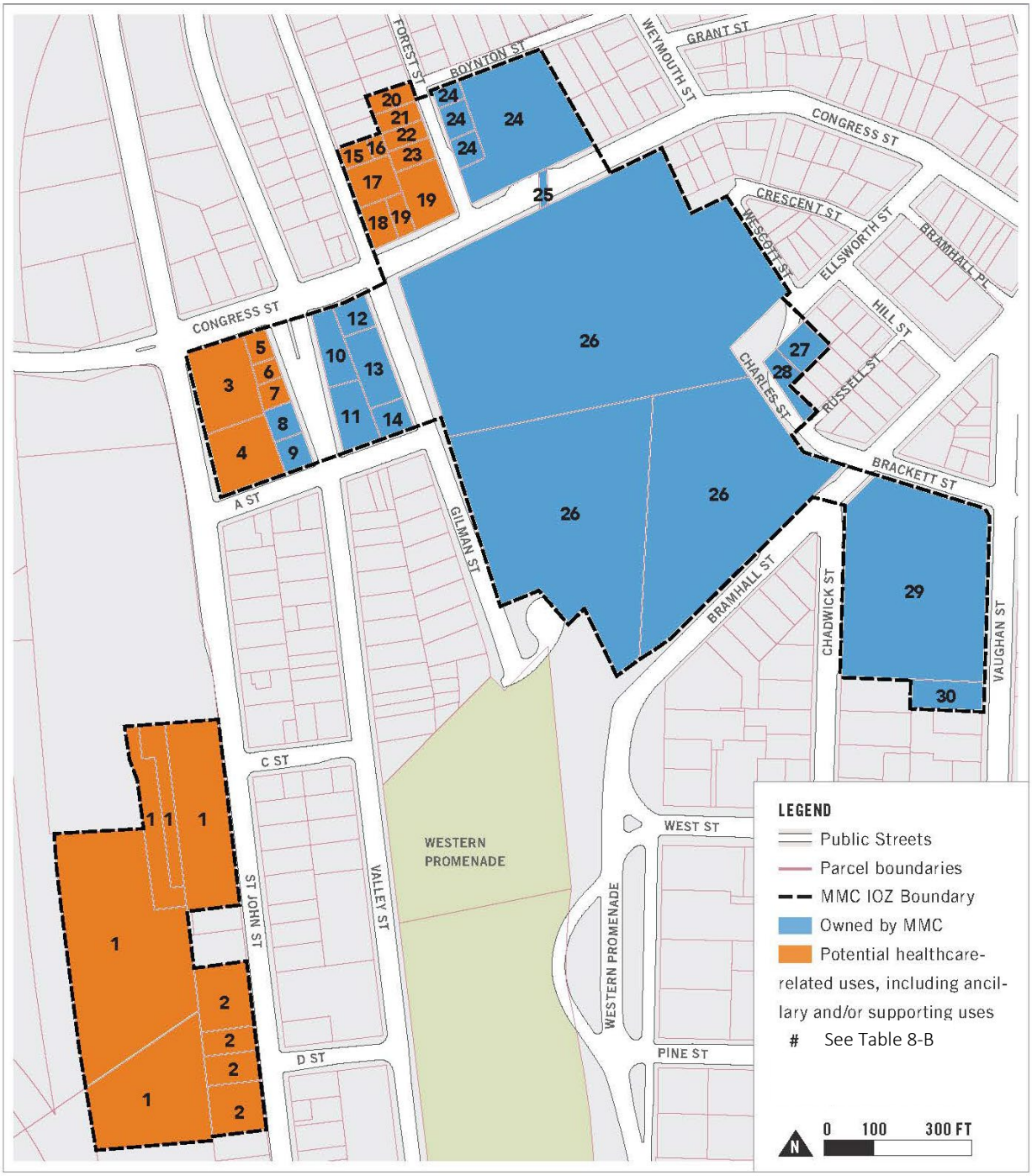
G. Amendments. A regulatory framework and IOZ boundary as adopted by the City Council shall remain in force unless and until amended. Amendments to a regulatory framework and/or IOZ boundary may be brought forth by the City or eligible institution. Proposed amendments to the IOZ boundary or regulatory framework shall be reviewed by the Planning Board and adopted by the City Council subject to the provisions of this ordinance.

8.5.6 Maine Medical Center Institutional Overlay Zone Regulatory Framework

A. Applicability. All development proposed by Maine Medical Center (MMC) within the boundary of the MMC Institutional Overlay Zone (IOZ) shall be consistent with the approved Institutional Development Plan (IDP), consistent with the Comprehensive Plan, and meet applicable standards of the Land Use Code, unless such standards are superseded by the following regulatory framework. This regulatory framework shall govern future development by MMC within the IOZ unless amended by the Portland City Council upon formal application of MMC. The MMC Institutional Overlay Zone shall have the boundaries depicted in Figure 8-B, below, and shall include the properties listed in Table 8-B.

B. Updates and amendments

1. It is intended that the IDP will be updated on a regular basis to ensure that the data is current and that the document remains accurate. Accordingly, monitoring reports



Note: Refer to Table 8-C for a list of permitted uses.

FIGURE 8-B: MMC IOZ BOUNDARY



TABLE 8-B: LIST OF PROPERTIES INCLUDED IN THE MMC IOZ

Map#	Legal Description	Address	Acreage	Ownership
1	64-A-2-8-9-11/74-A-7/75-A-6	222 St John St.	4.6516	Owned by others
2	68-D-1-3-13-14-16	180 St John St.	0.9494	Owned by others
3	65-G-1	950 Congress St.	0.4628	Owned by others
4	64-B-1	275 St John St.	0.4163	Owned by others
5	65-G-2	942 Congress St.	0.0659	Owned by others
6	65-G-3	940 Congress St.	0.0482	Owned by others
7	65-G-4	274 Valley St.	0.0667	Owned by others
8	65-G-5	268-270 Valley St.	0.0978	MMC
9	64-B-2	262-266 Valley St.	0.0895	MMC
10	65-H-1	932 Congress St.	0.1864	MMC
11	65-H-9	261 Valley St.	0.2185	MMC
12	65-H-2	930 Congress St.	0.1040	MMC
13	65-H-5	52 Gilman St.	0.2384	MMC
14	65-H-8	44 Gilman St.	0.1128	MMC
15	65-E-22	85 Gilman St.	0.0565	Owned by others
16	65-E-32	85 Gilman St.	0.0282	Owned by others
17	65-E-24	81 Gilman St.	0.1653	Owned by others
18	65-E-28	919 Congress St.	0.1059	Owned by others
19	65-E-29-30	909 Congress St.	0.3233	Owned by others
20	65-E-19	22 Forest St.	0.0826	Owned by others
21	65-E-21	18 Forest St.	0.0831	Owned by others
22	65-E-23	14 Forest St.	0.0826	Owned by others
23	65-E-25	12 Forest St.	0.0883	Owned by others
24	53-I-1-2-3-12	887 Congress St.	1.3400	MMC
25	53-X-1	Congress St. Pedestrian Walkway	---	MMC
26	53-D-7/54-H-1/64-C-1	22 Bramhall St.	12.563	MMC
27	54-C-6	34 Ellsworth St.	0.1341	MMC
28	54-C-10	40 Ellsworth St.	0.1155	MMC
29	54-I-1	308 Brackett St.	2.5200	MMC
30	63-B-8	214 Vaughan St.	0.1983	MMC

Notes:

Properties owned by MMC are listed under MMC or MMC Realty Corp.

MMC will not extend its functionally-related Bramhall campus hospital operations beyond the boundary of the IOZ within the City of Portland without further amendment to the IDP. This includes any expansion of functionally-related operations that displace residential uses outside of the IOZ boundary. A functional relationship is defined as uses or activities that are traditionally or customarily linked to the day-to-day operations of the MMC Bramhall Campus that would relocate a significant proportion of the total employee population or activities.

will be filed every three years and shall include a summary of progress on IDP implementation and of acquisitions and divestment since the date of IDP approval. At the time of the submission of the monitoring report, MMC shall identify any updates to the IDP which may result from updated master planning, changes in baseline information, or changes in the adjacent neighborhoods which affect MMC, to allow the IDP to remain current. Updates and minor amendments not described below shall be reviewed administratively by the Planning Authority.

2. Minor amendments that impact phasing of the long-term development blocks or change the approach to parking, transportation, neighborhood engagement or design shall be reviewed by the Planning Board for consistency with the objectives of the IDP. In addition to consistency with the objectives of the IDP, review of phasing and development program amendments shall focus on integration with the campus and impacts on transportation or infrastructure. This review may occur simultaneously with the site plan review of an anticipated project.
3. Major amendments shall be reviewed by the Planning Board and are required under the following circumstances:
    a. A change to the regulatory framework is required.
    b. The IDP is no longer representative of the institutional mission or approach to community as a result of redevelopment in the area or City upgrades to neighborhood planning (such as roadway changes, infrastructure upgrades, community design, lighting).
    c. Development proposed by MMC is inconsistent with the master facility plan, transportation plan intent, design plan intent, or environment and infrastructure plan intent identified in the IDP.
4. Annual monitoring reports will be submitted for MMC's Transportation Demand Management (TDM) Plan. TDM monitoring reports shall include a summary of progress towards targets established in the TDM Plan.

C. **Uses.** In addition to the uses permitted in the underlying zone, the uses in Table 8-C are permitted as a matter of right. In recognition that MMC is part of a mixed-use area of the city, with important existing services and businesses that serve the local and wider community, healthcare facility development fronting onto Congress Street and St. John Street shall activate the public realm, to the extent able, with uses such as service and retail/restaurant, landscaping, active building entrances, pocket parks, etc., on the ground or other publicly accessible level, consistent with the design intent contained in the approved IDP. In areas identified in the IDP as "Priority zone for commercially oriented/retail uses," usable ground floor retail, restaurant, or comparable community-oriented use that provides services to local residents and employees both during the day and evening hours is required. In areas labeled "Street activation through location of windows, entrances, etc.," usable ground floor retail,

restaurant, or community-oriented use is encouraged to the extent practicable. Such uses, where constructed or facilitated as part of a healthcare related development, are expressly permitted whether ancillary or supporting the healthcare facility or not, and shall be open and welcoming to the general public in addition to employees or visitors of MMC.

TABLE 8-C: PERMITTED USES

Healthcare facilities, including but not limited to the following ancillary and/or supporting uses:
• Hospital
• Medical Office/Clinic
• Laboratory Center / Services
• Research and Development (R&D) Laboratory or Facility
• Educational Facility / Conference Center
• Administrative / Business Office
• Accessory Service or Trade Uses
• Guest House
• Multi-family Housing for Healthcare Staff and Students
• Rehab / Skilled Nursing Facility
• Retail
• Restaurant/Cafe
• Employee Service Amenities
• Day Care Center
• Fitness Center or Gymnasium
• Parking Lot or Garage
• Bicycle Storage
• Heliport
• Antenna Station
• Outdoor use areas, such as green areas, parks, gardens, art installations, and other active and passive non-commercial recreation spaces

D. **Dimensional requirements.** The MMC Institutional Overlay Zone shall have the dimensional requirements listed in Table 8-D and depicted in Figures 8-C and 8-D.

E. **Design.** New buildings within the IOZ shall adhere to the Design Guidelines set forth in Chapter 5: Design of the IDP and the site plan standards of Article 14.

F. **Signs**

1. At the time of first site plan review following IDP approval, a unified campus-wide signage plan shall be submitted for review and approval by the Planning Authority. Any update to such plan due to a change in name or logo shall not require amendment to the IDP.
2. Signs shall be designed in accordance with the campus-wide signage plan. All signs shall be designed in proportion and character with building facades and adjacent street typology. All signs shall be coordinated with the building and landscaping design and be constructed of appropriate permanent, high quality materials and finishes.

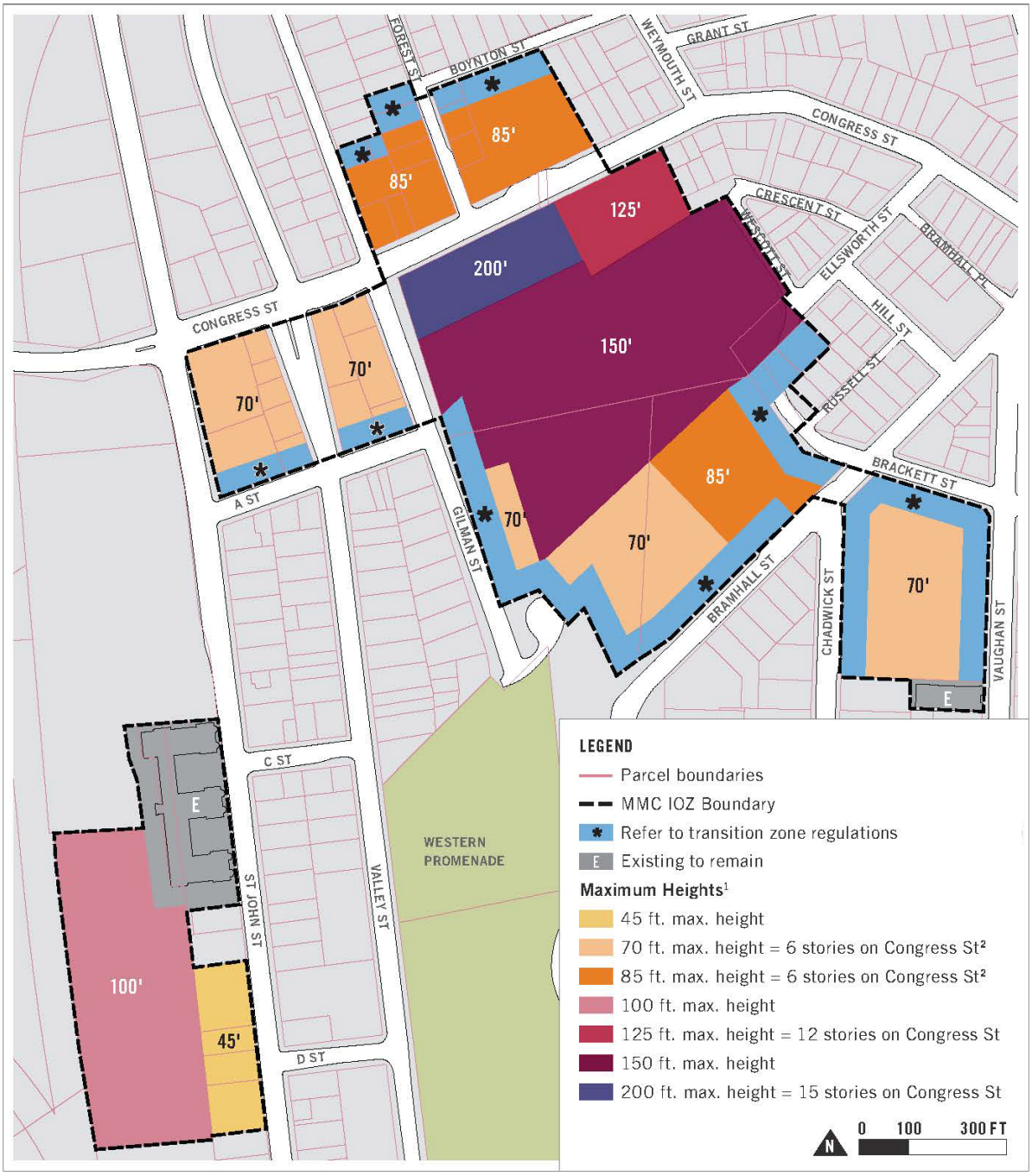
G. **Transportation**

1. *Transportation Demand Management* (*TDM*)
   a. At the time of the first site plan review following IDP approval, MMC shall submit a campus-wide TDM Plan substantially in accordance with those TDM objectives and strategies identified in the approved Institutional Development Plan. The TDM Plan may be phased into short-, mid-, and long-term actions to allow for progressive implementation over time.

TABLE 8-D: MMC IOZ DIMENSIONAL REQUIREMENTS

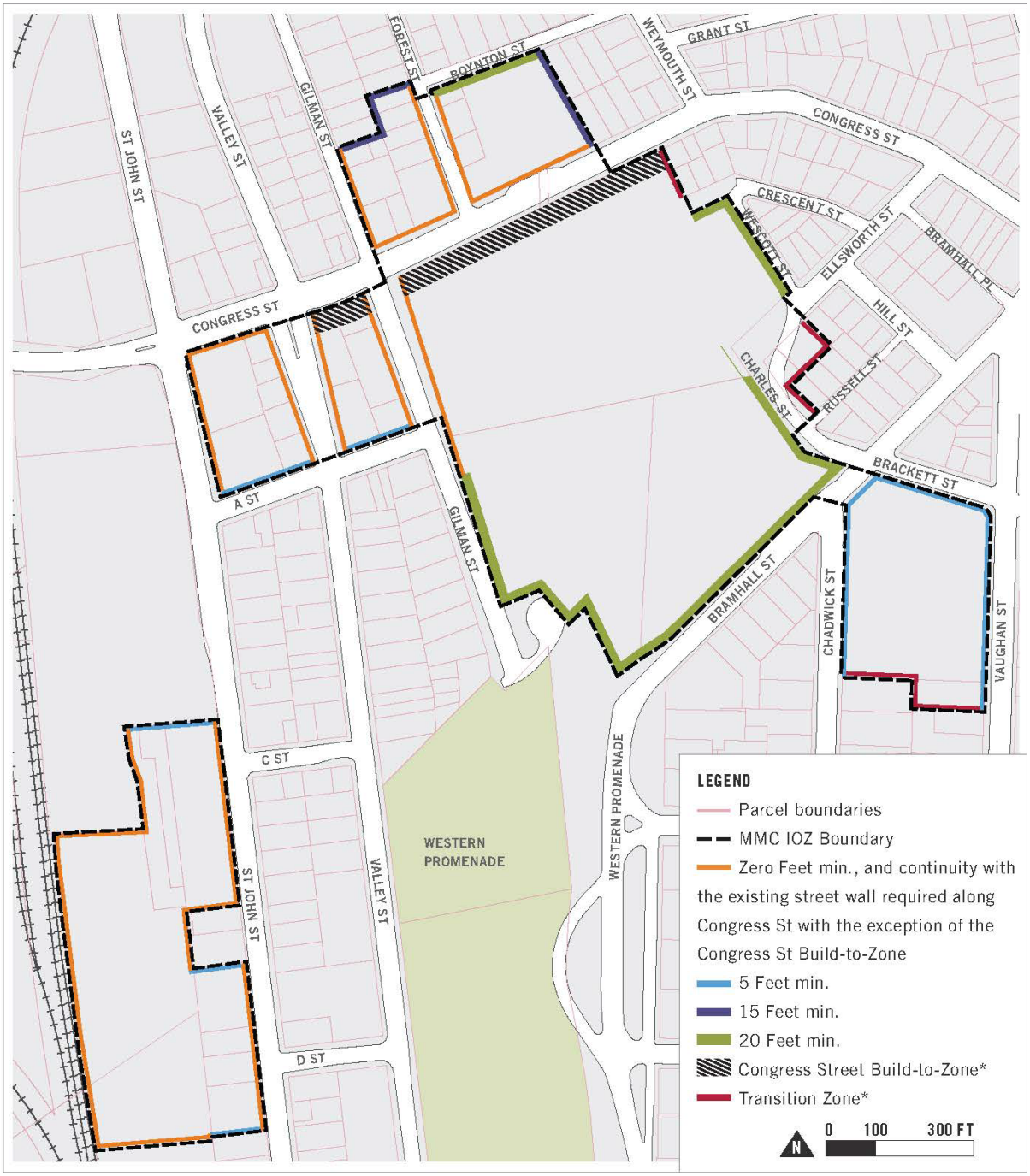
Building heights (max.)	Max. building heights for new buildings within the IOZ shall be governed by the Maximum Building Heights Map in Figure 8-C, or by the transition zones clause of this table for those buildings located in transition zones. Refer to IDP "Chapter 5. Design" for methodology on determining heights.
Building heights (min.)	Three stories, except in transition zones, where the minimum building height shall be two stories. Minimum building heights shall not apply to building awnings, associated kiosks, pavilions or similar building components.
Building length (max.)	Length of proposed parking garage at 222 St John St shall not exceed 500 feet as measured roughly parallel to St John St.
Building setbacks (min.)	Minimum building setbacks shall be governed by the Minimum Setbacks Map in Figure 8-D. Additional requirements are listed in the transition zones and Congress Street build-to zone sections of this table.
Congress Street build-to zone[1]	A build-to zone is identified for some properties that abut Congress Street. See Minimum Setbacks Map in Figure 8-D for the location of build-to zone. i. The Congress Street build-to zone extends between 0 to 40 feet from the right-of-way boundary. ii. Buildings located in these parcels must have a minimum of 70% of the façade facing Congress Street located within the build-to zone.
Transition zones	Transition zones are identified inside the IOZ boundary in areas where the IOZ abuts or is located across a public right-of-way from a residential zone or a historic-designated district. See Maximum Building Heights Map in Figure 8-C for location of transition zones. i. Transition zones shall extend 50 feet into the parcel from the parcel boundary. ii. Transition zones that abut a Residential zone with or without an intervening public right-of-way shall have a maximum height limit that matches the maximum height permitted within that Residential zone. iii. In areas where the IOZ abuts a residential zone without an intervening public right-of-way, minimum side and rear yard requirements of the abutting residential zone apply within the IOZ boundary, unless noted otherwise in Minimum Setbacks Map in Figure 8-D.

[1]A "build-to zone" is the area on the lot where all or a portion of the street-facing building facade must be located, measured as a minimum and max. yard (setback) range from the public right-of-way boundary.



Notes: 1. Minimum building heights also apply. Refer to Table 8-D.
2. For buildings with residential use above the ground floor, the following height maximums apply: 70 ft. maximum height = 7 stories, and 85 ft. maximum height = 8 stories.

FIGURE 8-C: MAXIMUM BUILDING HEIGHTS



* Refer to Table 8-D Dimensional Requirements

FIGURE 8-D: MINIMUM SETBACKS

b. The TDM Plan shall be designed to provide transportation choice with the goal of reducing parking demand and single-occupancy vehicle trips to and from MMC by employees and visitors.

c. The TDM Plan shall establish parking and trip reduction targets associated with the short-term (0-2 years), mid-term (2-5 years), and the long-term (5+ years), as well as a data collection plan.

2. *Parking*. Parking requirements in the IOZ shall be established at the time of site plan review based on a parking study that includes a campus-wide analysis of demand and supply. The parking demand study shall determine parking requirements and shall be sufficient to alleviate parking pressure on surrounding neighborhoods. Parking studies developed by MMC shall integrate parking and trip reduction achievements and data contained in the TDM Plan.

H. **Environment.** Development proposed by MMC shall be designed to integrate with the surrounding context, including open space and pedestrian networks and infrastructure.

I. **Mitigation measures.** MMC shall mitigate site plan impacts to off-premise infrastructure in a manner proportionate to those impacts. Mitigation may include financial or in-kind contributions to existing or planned City projects focused on mitigating the impacts of MMC development. Mitigation contribution shall be determined based on the City's standard procedure in effect at the time of site plan review.

J. Neighborhood integration and engagement

1. For the purpose of keeping surrounding residential areas appraised of its future development plans, and to address any neighborhood issues related to the operations of the MMC Bramhall campus, MMC shall adhere to the ongoing community engagement principles identified in the approved Institutional Development Plan.

2. MMC shall conduct ongoing community engagement, including the formation of a Neighborhood Advisory Committee comprised of representatives of MMC, the Parkside neighborhood, the West End neighborhood, the Western Promenade Neighborhood Association, the St. John Valley neighborhood, the Libbytown neighborhood, and the City.

K. Construction management

1. At the time of site plan review, MMC shall submit a construction management plan substantially in accordance with those construction management principles identified in the approved Institutional Development Plan for review and approval by the Planning Authority.

2. The construction management plan shall include a construction schedule, as well as strategies for managing neighborhood communication and noise, air quality, traffic, and parking impacts associated with the construction as set forth on the construction management template developed by the City and attached and incorporated to the IDP as Appendix A.

L. Other requirements

1. *Helipad.* MMC shall be governed by the provisions of the Helistop Overlay Zone with the following exceptions:
   a. Setback requirements of Subsection 8.4.2(A)(2).
   b. Fencing requirements of Subsection 8.4.2(A)(3).
2. *Snow ban parking.* When the City of Portland declares a snow parking ban, MMC shall make parking available to neighbors in a designated parking area on or near its campus upon the following condition: Due to the patterns of patient flow in the hospital, the hours of snow ban parking for registered vehicles during an announced City of Portland snow parking bans are 6:00 p.m. until 6:00 p.m. Vehicles that are not moved out of these parking areas by the applicable time each morning are subject to towing at the owner's expense.
3. *Healthy communities.* Recognizing that a stable residential and commercial environment is key to the health of any neighborhood, MMC commits to supporting its existing and future neighbors in the St. John Valley, Parkside, West End, Western Prom, and Libbytown neighborhoods. Accordingly, MMC shall implement and participate in the healthy communities programs as described below.
   a. Caring Community Grants. MMC shall develop an annual grant program with available funds of up to $30,000. Goals, priorities, eligibility requirements, program guidelines, and allocation approach will be developed by the MMC Neighborhood Advisory Committee, as described in Chapter 6 of the IDP approved on September 26, 2017. Neighborhood associations or other entities located or operating in the St. John Valley, Parkside, West End, Western Promenade, and Libbytown neighborhoods may apply for grant funding relating to the following initiatives:
      i. Neighborhood investment and Infrastructure: Focused on creating strong, safe, accessible and vibrant neighborhoods.
      ii. Quality of life: Focused on improving access to recreation, arts or cultural experiences in the neighborhoods.
      iii. Diversity and inclusion: Focused on fostering the building of relationships and understanding among diverse groups, including capacity building and outreach activities.
      iv. Public Safety: Focused on supporting public safety programs through training programs, equipment or other means in the neighborhoods.
      v. Environmental sustainability: Focused on preventing waste, increasing recycling or supporting other programs that work to improve the environment.
   b. Healthy Neighborhoods Program. MMC shall initiate and adopt a memorandum of understanding

(MOU) by and between the MMC, the City of Portland, an identified Community Housing Development Organization and any other community partners that may be identified later establishing a Healthy Neighborhoods program. Such a program shall be designed to fund and execute housing and community improvement and development programs in St. John Valley and the other neighborhoods surrounding MMC's Bramhall Campus.

8.5.7 The Roux Institute at Northeastern University Overlay Zone Regulatory Framework

A. **Applicability**. All development proposed by the Roux Institute at Northeastern University ("Roux Institute") within the boundary of the Roux Institutional Overlay Zone (IOZ) shall be consistent with the approved Institutional Development Plan (IDP), consistent with the Comprehensive Plan, and meet applicable standards of the Land Use Code, unless such standards are superseded by the following regulatory framework. This regulatory framework shall govern future development by the Roux Institute within the IOZ unless amended by the Portland City Council upon formal application of the Roux Institute. The Roux Institutional Overlay Zone shall have the boundaries depicted below and shall include the approximately thirteen-acre property located at 1 Bean Pot Circle and identified as parcels 447-A001 and A002 in the City's assessing records.



FIGURE 8-E: ROUX INSTITUTIONAL OVERLAY ZONE BOUNDARY

B. Phasing and monitoring

1. The Roux Institute campus will be developed in phases, as set forth in the IDP. The IDP will be updated on a regular basis to ensure that the data is current and that the document remains accurate. Accordingly, monitoring reports will be filed every three years and shall include a summary of progress on IDP implementation and of acquisitions and divestment since the date of IDP approval. At the time of the submission of the monitoring report, any updates to the IDP shall be identified which may result from updated master planning, changes in baseline information, or changes in the adjacent neighborhood which affect the campus, to allow the IDP to remain current. Updates and minor amendments not

described below shall be reviewed administratively by the Planning Authority.

2. At completion of each phase, the Roux Institute campus shall have the appearance of a complete and comprehensive design. Permanent and meaningful public space shall be established in the first phase to ensure public benefit. Interim conditions shall be designed for a pleasant pedestrian experience through planting, lighting, wayfinding, graphics, artwork, or ornamental fencing to provide screening, buffers, and enhancement. Interim areas of the site which are not actively used for parking or construction staging will be appropriately landscaped or accommodate gathering on lawns or other aesthetically hardened spaces.
3. Minor amendments that change the approach to parking, transportation, neighborhood engagement or design shall be reviewed by the Planning Board for consistency with the objectives of the IDP. This review may occur simultaneously with the site plan review of a proposed project.
4. Major amendments shall be reviewed by the Planning Board and are required under the following circumstances:
    a. A change to the regulatory framework is required.
    b. The IDP is no longer representative of the institutional mission or approach to community as a result of redevelopment in the area or City upgrades to neighborhood planning (such as roadway changes, infrastructure upgrades, community design, lighting).
    c. A change in approach to parking, transportation, neighborhood engagement or design is inconsistent with the objectives of the IDP, resulting in a modification to the applicable objectives.

Review of major amendments may occur simultaneously with the site plan review of the proposed project.

C. Uses

1. The Roux Institute campus will encompass a variety of uses to support the mission of the Roux Institute to spur innovation, build talent, and drive economic growth. Partnerships with industry, academia, and government are essential components of the institute's success. Campus uses will include classrooms and laboratories, housing, faculty offices, dining areas, convening spaces, fitness centers, retail facilities, entrepreneurial spaces, light manufacturing, incubator space, research and design facilities, hotel, and office space. The uses on the campus will support collaboration with private industry, other institutions, and community organizations, which is essential to the Roux Institute's approach to learning through integrated research, student work opportunities, and entrepreneurial endeavors. Hotel rooms will cater to prospective students, faculty and staff, visiting lecturers, specialists, and business partner guests, providing multiple opportunities for informal and unplanned interactions and collaboration that would otherwise not be available if staying in a hotel miles away from campus. A range of

rental housing options will foster community and provide on-site opportunities for students, faculty, staff, and their families. These units will ease some of the housing pressure and traffic that might otherwise result from new residents attracted to Portland by the institute. Housing units not occupied by residents affiliated with the Roux Institute may be made available to the public to further assist in easing the housing pressure.

2. Recognizing the community value of a larger waterfront parcel in close proximity to a primary bike and pedestrian trail system, the Roux Institute campus will be designed to include those uses that will welcome the neighbors to the campus, including publicly available open space, waterfront access, recreational opportunities, restaurant, dining, small neighborhood grocery, and/or other limited retail options. These uses will provide a means for serving the residents and other users of the campus, as well as welcoming the neighborhood to foster connectivity and community engagement, activating the public realm, and reducing dependence on automobiles.
3. In addition to the uses permitted in the underlying zone, the uses in Table 8-E shall also be permitted as a matter of right in all buildings that are located within the IOZ and on land owned or leased by the Roux Institute. In recognition that the Roux Institute is a graduate-level educational and research institution with a number of corporate partners, and in recognition of its location outside of the downtown, the uses in Table 8-E and many that are permitted in the underlying zone, such as multi-family housing, hotels, offices and retail, are ancillary to and support the vision and mission of the institution. In addition, ground floor retail, restaurant, or comparable community-oriented uses that provide services to local residents, students, faculty and staff shall be provided. Such uses are expressly permitted whether ancillary to or supporting the educational institution, and shall be open and welcoming to the general public in addition to students, faculty, staff, or visitors of the Roux Institute.

TABLE 8-E: PERMITTED USES

- Laboratory and research facilities
- Low-impact industrial (>10,000 SF)
- High-tech manufacturing

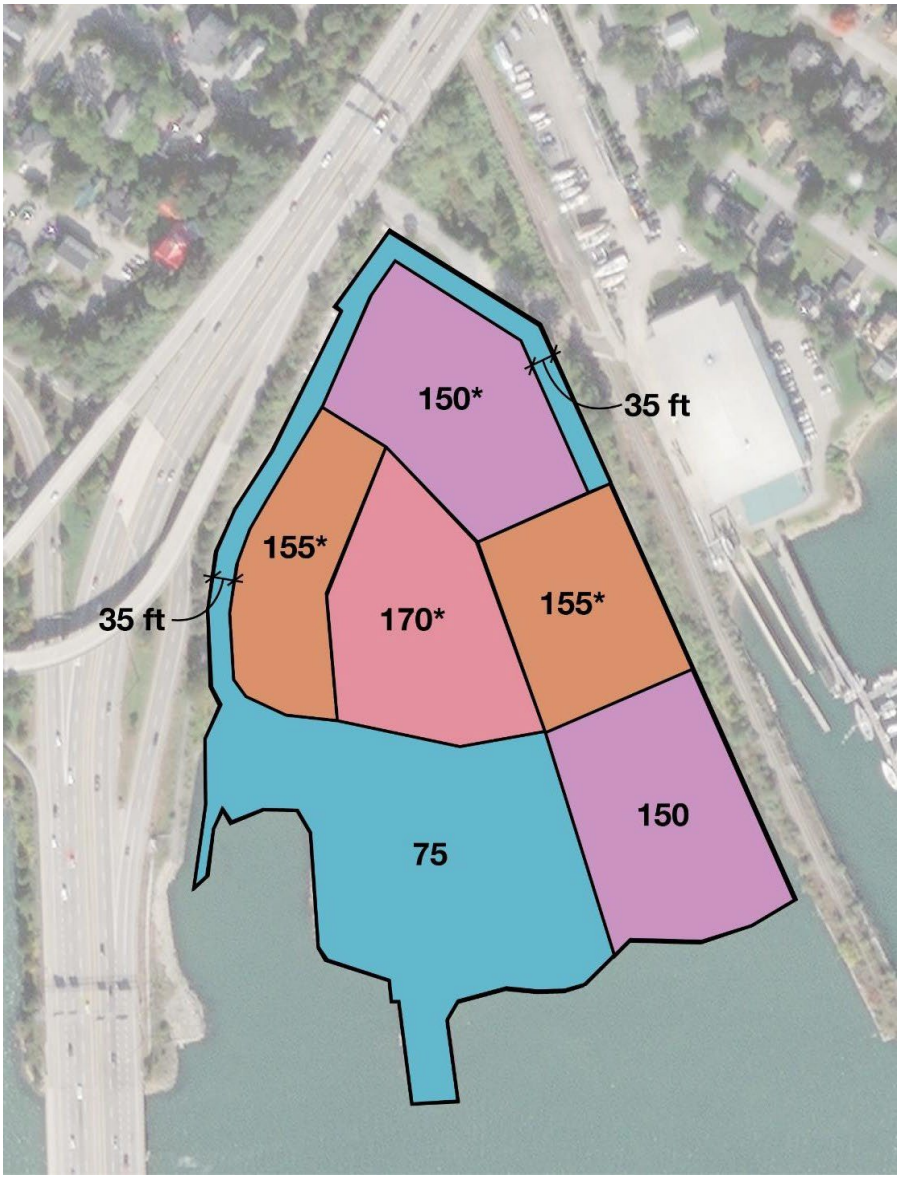
4. Within the boundary of the IOZ, hotels shall be limited as follows:
   a. No more than one hotel shall be located in the IOZ.
   b. The hotel shall contain no more than 130 rooms.
   c. The hotel shall be no more than eight stories in height, not including structured parking. There shall be no more than two levels of above grade structured parking beneath the first floor of the hotel. Nothing herein is intended to preclude the co-location of hotel use and structured parking on one or more levels of the hotel.

TABLE 8-F: DIMENSIONAL REQUIREMENTS

Building heights (max.)	Maximum building heights for new principal buildings in the IOZ shall be governed by the Roux IOZ Height Map (Figure 8-F)

D. Dimensional requirements

1. *Applicability.* All principal buildings and structures located within the IOZ and located on land owned or leased by the Roux Institute shall be subject to the dimensional requirements of the underlying zone, except where modified by the provisions of this section.
2. *Rules of measurement*
   a. Publicly accessible corridor: A corridor accessible to the general public that is open to the sky or enclosed with a minimum width of 20 feet. Enclosed portions of publicly accessible corridors shall have a minimum height of 30 feet.
   b. Street wall: Within the Roux IOZ the term "street wall" shall mean a wall or portion of a wall that includes the principal entry to a building facing a street, public right-of-way, major pedestrian access routes, or open spaces. Orientation of the principal entry to a building shall be determined by the applicant.
3. *Minimum and maximum street wall heights.* New principal buildings in the IOZ shall rise to a minimum street wall height of 45 feet and may rise to a maximum street wall height of 105 feet.
4. *Stepback requirements*. At a height not lower than the minimum street wall height or higher than the maximum street wall height, a stepback with a minimum depth of at least 10 feet shall be provided. Required stepbacks shall only apply to a building's street wall.
5. *Building length requirements*
   a. For buildings with a length greater than 250 feet, a continuous, publicly accessible corridor that connects two streets, public rights-of-way, major pedestrian access routes, or open spaces shall be provided, with the precise location to be identified, defined, and reviewed under site plan review. Building length shall be measured at grade in a straight line between the outer corners of the designated street wall.
   b. Publicly accessible corridors need not be linear and may have necessary grade changes.
   c. Any building wall situated along a publicly accessible corridor shall be designed to provide sufficient architectural and graphic amenities to provide visual interest, transparency between interior activities and pedestrian activity, or active uses and relate the building, and its use to passersby.
   d. Publicly accessible corridors shall:
      i. Include pedestrian amenities such as benches and other seating;
      ii. Be illuminated to levels that are adequate but not excessive for the safety, comfort, and conveniences of occupants and users of the site, and
      iii. Provide access to the public during regular operating hours of the institute.



Notes:

1. Applies to zones shown with an asterisk (*): above height of 75 feet, no building floorplate shall exceed 35,000 square feet.
2. Above height of 50 feet, no two buildings shall be closer than 40 feet apart.
3. Building heights for buildings that span two or more height zones shall be measured by calculating the highest point (as defined in the Land Use Code) of that portion of the building within a particular height zone. If the roof is sloped, height is measured at the midpoint of that portion of the slope located within the particular height zone.

FIGURE 8-F: HEIGHT OVERLAY MAP

e. The Roux Institute may close off public access to a publicly accessible corridor during special events or when determined necessary by the institute for security or public safety purposes.

6. *Transitions and buffers*
   a. The campus is surrounded by existing buffers, with I-295 to the west, state-owned vacant parcels to the north, the rail corridor and marine business to the east, and Casco Bay to the south. In addition to the existing buffers, development shall further ease the transition to and from the campus through the design methods in areas shown on Figure 8-G.
   b. Public open space will ease transition from the smaller scale of Sherwood Street. A transition onto the campus will also be accomplished through thoughtful façade design at the pedestrian level. Potential nuisance features like dumpsters, air handlers, and parking will be appropriately screened. Buildings will avoid blank walls to respect the adjacent neighborhood and facilitate a sense of permeability and welcome.
   c. The shoreline transition area between the buildings and the water will serve as meaningful public open space. Building facades facing the water will be considered public-facing, with views



FIGURE 8-G: TRANSITION AREAS AND BUFFERS

designed for interest from the water and Eastern Promenade Trail.

d. The transition area between the campus and I-295 contains a height limitation of 75 feet along the edge and between the highway and the B&M Cannery Building, preserving the historic view of the building from the highway and easing the transition to the greater allowable building heights in the center of campus.

e. The transition area along the edge of the campus adjacent to the rail corridor also contains a height limitation of 75 feet along the edge of the property closest to the residential neighborhood, further easing the transition to the greater allowable building heights at the center of campus, mitigating shadow impacts to adjacent properties.

E. Transportation

1. *Transportation demand management (TDM)*

   a. At the time of the first site plan review following IDP approval, the developer shall submit a campus-wide TDM Plan substantially in accordance with those TDM objectives and strategies identified in the approved IDP. The TDM Plan may be phased into short-, mid-, and long term actions to allow for progressive implementation over time.

   b. The TDM Plan shall be designed to provide transportation choice with the goal of reducing parking demand and single-occupancy vehicle trips to and from the Roux Institute campus by students, faculty, staff, institutional partners, and visitors.

   c. The TDM Plan shall establish parking, mode share, and trip reduction targets associated with each phase of development, as well as a data collection plan.

   d. Annual monitoring reports will be submitted for the TDM Plan. TDM monitoring reports shall include a summary of progress towards targets established in the TDM Plan. If deficiencies are identified, they will be resolved in accordance with the site plan approval.

2. *Traffic movement permit (TMP)*

   a. Any development that will generate over 100 passenger car equivalents will trigger TMP review which will determine applicable mitigation for that development program. There are contributions anticipated to area-wide elements to support trip reduction targets, such as contribution to the development of shared use path infrastructure and support for additional transit service to the campus. The TMP review may consider an individual site plan or may cover more than one site plan. Each of the TMP submissions and review will continue to contemplate capacity for multimodal connections to continue to reduce automobile trips.

   b. Mode shares and trip reduction targets have been identified in the IDP



and will be updated and modified with each TMP submission as necessary.

3. *Bicycle and pedestrian access and safety*
   a. A Transportation, Access, and Circulation Plan has been provided in the IDP. At the time of the first site plan review, the developer shall submit an updated Plan. Where possible, the bicycle and pedestrian access routes shall connect to established bicycle and/or pedestrian facilities. The developer shall look to establish new bicycle and pedestrian bicycle and/or pedestrian facilities where feasible.
   b. The site and building design shall not prohibit the enhancement of transit service to and from the site.
   c. Bicycle, pedestrian, transit, and motorized vehicular facilities proposed to and from the site shall provide sufficient capacity and allow for safe connections for modes of transportation.
   d. Sherwood Street shall be improved to accommodate bicycles and pedestrians within the existing right-of-way. Separate sidewalks and bicycle lanes shall be provided where feasible.
4. *Parking*. Parking requirements in the IOZ, including but not limited to parking ratios, shall be established at the time of site plan review for each phase of development based on a parking study that includes a campus-wide analysis of demand and supply. Parking studies shall integrate parking and trip reduction achievements and data contained in the TDM Plan. Parking requirements shall be determined in accordance with the requirements in the Land Use Code in effect at the time of site plan review.
5. *Circulation*
   a. The campus shall contain a bike and pedestrian circulation network which includes a perimeter access loop, an internal system of pathways and a major campus "promenade" which will link campus developments, the upland, and the waterfront.
   b. The perimeter access path for bicycle and pedestrians will serve to connect the campus to primary site entry points from the community and provide a continuous recreational loop. Where appropriate, the perimeter access path will be enhanced by wayfinding, lighting, landscaping, and safe crossings at vehicular intersections. Where possible, building facades will respond to the perimeter access path for views into the building and periodic activation to building entrances.
   c. Internal campus circulation pathways will connect major open spaces, buildings entrances, and outdoor plazas to create a network of multiple pathways including the perimeter access path. Pathways will be located along or oriented toward facades that have active programs, architectural articulation, appropriately scaled entrances, and windows. Pathways will avoid traveling along stretches of undifferentiated or blank facades back

doors or service areas. Pathways will be generally lower-velocity systems than the access loop. Where appropriate, the internal campus circulation pathways will be enhanced by wayfinding, lighting, landscaping, and safe crossings at vehicular intersections.

d. The campus promenade will serve as a major organizing feature connecting the upland and the water and providing access to open spaces, allowing views of the principal campus of buildings, and connecting to the internal campus circulation pathways and perimeter access path. The promenade will be enhanced by lighting, wayfinding, landscape buffers, and open spaces. Viewsheds and topography along the promenade will emphasize the Roux Institute and Burnham & Morrill (B&M) Cannery Building, pier, and other principal buildings and spaces.

F. Environment

1. The IOZ shall contain a minimum of three acres of public open space designed to enhance waterfront access and provide bicycle/pedestrian network connectivity. This open space requirement shall be met at the completion of construction of the first site plan approval and shall be maintained at all phases of development. The three acres need not be contiguous and may be provided in new and/or different locations following completion of development phases. The public open space shall be meaningful space, functioning as recreation areas, social gathering spaces, or natural buffers. The method of assuring public access to the public open space shall be determined at site plan review.
2. A Sustainability and Resilience Charter will be created by the Roux Institute for the campus. The charter shall contain sustainability goals related to development categories such as energy, water, transportation, equity, and resilience and may be revised over time in response to evolving technology and industry standards. The charter will require all development on the campus to utilize critical components of industry standard benchmarking systems such as LEED, SITES, WELL, ILFI, and Passive House. The charter will be submitted to the Planning Authority prior to submission of the first site plan application. Proposed site plans shall be consistent with the goals outlined in the charter.
3. Development shall utilize lighting designs required for safety and comfort and that minimize impact to the night sky in accordance with light pollution reduction standards in ANSI/ASHRAE/IESNA 90.1-2007 or its most current edition.
4. Development shall be carried out in such a way as to minimize the impacts of sea level rise, protecting infrastructure and site features by designing to a minimum of 2-feet above the Base Flood Elevation (BFE) as shown on the most current FEMA Flood Insurance Rate Map.
5. The shoreline edge and immediate adjacent upland shall be protected through

shoreline armoring and vegetation to prevent erosion and enhance natural resource protection. Work in coastal wetlands and significant wildlife habitats (as defined by the Maine Department of Environmental Protection) will be minimized to the maximum extent practicable and shall comply with all applicable local, state and federal permitting requirements in effect at the time.

6. Design of exterior building envelopes will be in developed in conjunction with the American Bird Conservancy and Cornell Ornithology Lab standards to mitigate bird strikes to the extent practicable.

G. Mitigation measures

1. Site plan impacts to off-premise infrastructure shall be mitigated in a manner proportionate to those impacts. Mitigation may include financial or in-kind contributions to existing or planned City projects focused on mitigating the impacts of the development. Mitigation contribution shall be determined based on the City's standard procedure in effect at the time of site plan review.
2. Impacts to natural resources shall be mitigated in accordance with local, state and federal permitting standards in effect at the time.

H. Design

1. *Introduction and intent.* New development in the IOZ shall adhere to the following design guidelines and the site plan standards of the City of Portland. All new development shall be designed to create a visual connection with the goal of achieving a cohesive campus appearance with a strong identity and sense of place. New development may be contemporary and forward looking in architectural style, but shall be informed by or responsive to the iconic B&M Cannery Building as an example of Portland's unique legacy of innovation, adaptation and durability. Reference to the Cannery Building specifically and in general to the early 20th century industrial factory building type may inform the architectural principles of highly functional yet articulated human-centered facades and details, a combination of local and innovative materials, use of natural daylighting, high degree of flexibility and scalability and capacity for long service life. New development shall be characterized by excellence in architectural design, craftsmanship, materials, streetscape, resilience, sustainability and landscape improvements, signage, and lighting appropriate for a campus development on a coastal site. These principles and standards are intended to regulate the future build out of the Roux Institute campus while ensuring that new development is sensitive to adjacent residential neighborhoods and commercial areas and successfully integrates the existing site into the public realm while establishing a global beacon for thought leadership in artificial intelligence, computer and data sciences, digital engineering, and advanced life sciences.
2. *Standards*
   a. Waterfront

i. The waterfront will be publicly accessible to provide a variety of open spaces throughout all phases of development that foster social interaction.
ii. New principal buildings on the waterfront shall include a publicly accessible entrance to interior public space, if provided, from the waterfront side and upland side of the building along an anticipated desire line. Said interior public space, if provided, may be closed to the public during special events, outside normal operation hours, and when necessary for security or public safety purposes.

b. Cohesive campus
   i. The overall composition and experience of the campus will be considered for cohesive identity from approaches along I-295 and views from the East Deering neighborhood.

c. Historic preservation
   i. Buildings, site development, circulation, and open space will respect the B&M Cannery Building, a designated historic landmark.

d. Connectivity
   i. Prioritize the bicycle and pedestrian circulation network on campus while providing connectivity for auto, public transit, service and emergency vehicles at each development phase.
   ii. Surface parking lots shall be located to the maximum extent practicable toward the rear or side of a building not occupied by a principal entry to a building facing a street, public right-of-way, major pedestrian access routes, open space, and/or the waterfront.

e. Open space
   i. Open space will be publicly accessible to provide multiple functions for recreation, social gathering, and buffers that integrate within the overall composition and experience of the campus at each development phase.

f. Sustainable practice
   i. Buildings and site development will incorporate sustainable technologies in building design, orientation, energy production, and sensitivity to natural resources at each development phase.

g. Resilience
   i. Buildings and site development will incorporate resilience strategies to account for flooding, severe weather events, and integration of publicly accessible spaces at each development phase.

h. Building design

i. Building façade materials will be of high quality, durable to the marine climate and contribute to an attractive public realm. The first 35 feet of building height shall complement the pedestrian character in materiality, transparency, and detailing.
ii. Rooftop appurtenances will be incorporated, screened, and set back from roof edges to reduce visual impact from the surrounding neighborhood.

i. Building entrances
i. Building entrances will include prominent facades and be oriented toward, located adjacent to, or accessible from rights-of-way, major pedestrian access routes, or open spaces.

j. Mitigation of impacts
i. Buildings and site development will endeavor to minimize potential negative impacts related to shadows, wind, noise, heat, glare, lighting, contaminants, and the environment.

I. Neighborhood integration

1. *Neighborhood engagement*
a. For the purposes of keeping surrounding residential areas apprised of its future development plans, and to address any neighborhood issues related to the operations of the Roux Institute campus, the Roux Institute shall adhere to the ongoing neighborhood engagement principles identified in the IDP.
b. Ongoing community engagement shall be conducted, including the continuation of neighborhood forums and maintenance of the Roux Institute campus website.
c. A Community Advisory Group shall be created for the purpose of sharing information on project development, planning, and seeking input. To the extent practicable, the group shall be comprised of representatives of interested groups such as the East Deering Neighborhood, East Deering Neighborhood Association, East Deering Neighborhood for Responsible Development, Front Street Area Neighborhood, a tenant representative from Portland Housing Authority's Washington Gardens and Front Street developments, recreation, parks and trails, including the Friends of Payson Park, from sustainability, rail, bicycle/pedestrian, public transit, Portland Harbor, Portland Public Schools, including a Presumpscot School parent, higher education, and the business community.
d. A designated community contact shall be engaged to be the point of contact for providing information to the neighborhood and receiving feedback.

2. *Construction management.* At the time of site plan review, Northeastern University shall submit a Construction Management Plan substantially in accordance with the construction management principles identified in the Institutional Development

Plan for review and approval by the Planning Authority.

J. Historic preservation

1. *Historic preservation review.* The B&M Cannery Building has been designated as a local historic landmark. The area of designation includes the B&M Cannery Building, as well as the area of the former Codfish Building and pier. The Historic Preservation Board's review of activity within the site of the former Codfish Building and pier is limited to review of any activity that would require a Certificate of Appropriateness that is proposed on a newly constructed pier. A Certificate of Appropriateness will not be required for the demolition of the Codfish Building or construction of a new pier and related infrastructure, including future alterations to the pier structure.
2. *Required interpretive elements.* Northeastern University shall include interpretive element(s) on top of or within the surface of the new pier that convey the history and significance of the Codfish Building. Prior to construction of said elements, the University shall submit the proposal to the Historic Preservation Board for its review and approval. The interpretive elements shall be designed in a manner that does not interfere with the use and functionality of the pier as a marine passenger facility and for water access by the Roux Institute and the public.
3. *100-foot review exemption.* The B&M Cannery Building is exempt from Subsection 14.6.4(E)(2) for review of development within 100 feet of a landmark.

8.6 ISLAND TRANSFER STATION OVERLAY

8.6.1 Purpose

The purpose of the Island Transfer Station Overlay Zone is to establish a location for a transfer station for municipal solid waste and municipal public works activities. This zone shall be established through a conditional rezoning process in order to ensure the imposition of appropriate conditions for the protection of neighboring properties.

8.6.2 Permitted uses

A. Municipal solid waste facilities, including compactors and storage bins, provided that the compactor shall be located within a fully enclosed structure.
B. Recycling facilities, provided that all recycling areas shall be buffered and screened from neighboring properties.
C. Municipal garages, material storage, and parking for vehicles.
D. Maintenance of municipal vehicles and equipment.
E. Minor wind energy systems co-located with public industrial or utility facilities, subject to the standards of Subsection 6.4.18.

8.6.3 Conditions

Requirements for setbacks and any operational limitations shall be established as part of the conditional rezoning process.

8.7 PEDESTRIAN ACTIVITIES DISTRICT (PAD) OVERLAY

The following restrictions shall apply in the Pedestrian Activities District (PAD) Overlay Zone,

which shall include street frontages as delineated on the PAD Overlay Zone map.

8.7.1 Permitted uses

A. At least 75% of the street level frontage of a building on a street located within the PAD Overlay Zone must be occupied, and, at minimum, the floor area to be occupied shall be 75% of the street level frontage multiplied by a 20 foot depth, by:
   1. Retail as permitted in the B-3 zone.
   2. General services.
   3. Hotels.
   4. Restaurants as permitted in the B-3 zone.
   5. Bars.
   6. Theaters and performance halls, provided that only ticket and refreshment sales, lobbies, lounges and entrances shall be located within this area.
   7. Cultural facilities.
   8. Governmental uses.
   9. Studios for artists and craftspeople including, but not limited to, carpenters, cabinetmakers, and silk screeners.
   10. Other uses where the applicant can demonstrate to the Building Authority that the proposed use will not differ substantially from a required ground floor retail use in its effect on the continuity of pedestrian-oriented use and that the proposal establishes a ground floor use that generates pedestrian interest and activity.

B. For those buildings which have frontage on more than one street located within the PAD overlay zone, the street level area of each such frontage shall meet the above requirements.

8.7.2 Conditional uses

Any use permitted in the B-3 and B-3b zone may be authorized as a conditional use subject to the floor area requirements of Subsection 8.7.1, provided that the Planning Authority shall be substituted for the Board of Appeals as the reviewing authority. Such uses shall meet the following conditions and standards:

A. The applicant can prove by competent evidence (including but not limited to reliable documentation of advertising, real estate brokerage efforts, and other sales mechanisms) that the space has been actively marketed, and, in the case of new construction, available for permitted uses in the PAD Overlay Zone for a period of six months and that it has been unable to market the space for a permitted use in accordance with Subsection 8.7.1.

B. The approval of any conditional use under this subsection shall be for the specific tenant proposed for the conditional use approval and shall not run with the space to subsequent tenants. A conditional use approval shall expire at the end of each tenant's use, and a new approval shall be required for new tenants. However, where a conditional use has been approved under this subsection and the term of the effected tenancy is five years or less, the tenant may sublet the area for the approved conditional use which approval may run with said lease but may not be extended without review by the Planning Authority.

C. The Planning Authority may impose reasonable conditions concerning the design, appearance, use, and extent of use of the space along the street frontage to ensure maximum pedestrian compatibility and interest.

D. Notwithstanding the above, the Planning Authority may authorize a reduction in the percentage of required ground floor pedestrian-oriented uses where the physical limitations of an existing building so require. Any such reduction shall be the least necessary to provide relief and shall include mitigating design factors.

E. The Planning Board shall adopt rules and regulations governing the Planning Authority's review of an applicant's marketing efforts under this subsection.

8.7.3 Prohibited uses

In no event shall any required retail frontage area be used for any of the following:

A. Storage.

B. Service entrances, including loading docks, dumpsters and compactors, except as provided in Subsection 8.7.4.

C. Food preparation areas, unless such preparation areas are visually oriented toward pedestrians on streets located within a PAD Overlay Zone.

8.7.4 Exceptions

For those buildings which have 40 feet or less of frontage on a street within the PAD Overlay Zone, the ground floor area requirements for permitted uses under Subsection 8.7.1 shall be reduced to 50% of the frontage where required to accommodate a service entrance. For buildings which have frontage on more than one street located within a PAD Overlay Zone, only one such frontage shall be permitted to reduce the required retail area to 50% of the frontage.

8.8 STREAM PROTECTION OVERLAY (S-P)

8.8.1 Purpose

The purpose of the Stream Protection Overlay Zone is to preserve and protect significant streams outside of the Shoreland Zone by providing a buffer from land development activities in order to conserve stream channel capacity and to minimize siltation and stream bank erosion.

8.8.2 Applicability

The Stream Protection Overlay Zone includes all land areas within 75 feet, horizontal distance, of the normal high-water line of a stream as shown on the City of Portland zoning map. These standards apply only to areas within the Stream Protection Overlay Zone. Streams within the Shoreland Zone are subject to the provisions of Article 11.

8.8.3 Development standards

A. **Minimum building setback from normal high-water line of stream:** 75 feet. Notwithstanding this requirement, when a lot is a lot of record under Subsection 4.3.1 or cannot otherwise meet the setback requirement of this subsection due to physical limitations of the site, the Planning Board may approve a reduction of the setback requirement for a principal structure to the least amount necessary to achieve a building dimension of 28 feet, provided that the setback is not reduced to less than 40 feet. Structures in existence on June 15, 1992 may be expanded once during the lifetime of the structure up to 25 feet toward a stream or tributary stream, provided that the setback is not reduced to less than forty 40 feet and the floor area or volume is not increased by more than 30%.

B. **Filling of material.** Filling of material within a Stream Protection Zone shall require site plan review under the provisions of Article 14.

C. **Minimum parking setback from normal high-water line of stream:** 75 feet. Notwithstanding this requirement, the Planning Board may reduce the parking setback where the required setback cannot be met to the least extent necessary, provided that such setback shall not be less than the setback of the principal structure from the stream.

8.9 UNIVERSITY OF SOUTHERN MAINE OVERLAY

8.9.1 Purpose

The intention of the University of Southern Maine Overlay Zone is to establish an overlay zone in which an existing university campus can be continued and reasonably expanded within defined boundaries, in addition to those uses permitted in the underlying zone or zones. The purpose of this section is to recognize the unique qualities of a university campus while at the same time protecting the value and integrity of established neighborhoods.

8.9.2 Location and applicability

The University of Southern Maine Overlay Zone is intended to encompass and define the University of Southern Maine campus west of Forest Avenue. Properties in the University of Southern Maine Overlay Zone shall continue to be governed by the regulations applicable to the underlying zone except as specifically modified by this section.

8.9.3 Permitted uses

A. In addition to the permitted uses allowed in the underlying zones and notwithstanding anything to the contrary in the use regulations for the underlying zones, post-secondary schools and university uses are permitted in the University of Southern Maine Overlay Zone, including, but not limited to:

1. Classrooms.
2. Laboratory and research facilities.
3. Student unions.
4. Dining halls.
5. Bookstores.
6. Auditoriums.
7. Concert and lecture halls.
8. Gymnasiums.
9. Libraries.
10. Outdoor use areas, such as “quads”, greens, parks, gardens, art installations, and other active and passive noncommercial recreation spaces.
11. Faculty and student housing.
12. Parking lots and garages.
13. Community meeting spaces.
14. Administrative and faculty offices.
15. Transportation facilities.
16. Maintenance facilities.
17. Utility buildings.
18. Student health services.
19. Daycare facilities, nursery schools and kindergartens operated in conjunction with university programs or serving students, faculty or employees of the university and their families, with associated outside play areas.
20. Other buildings, structures and uses customarily incidental to a university.

B. On lots fronting on Chamberlain Avenue and Exeter Street, university uses shall be limited to faculty housing, graduate student housing, faculty offices and administrative offices, and

buildings containing such uses shall be designed and maintained so as to complement the residential character of the street as required in Subsection 8.9.9

C. No change of use permit shall be required for any of the above uses in actual existence as of the date of enactment of the University of Southern Maine Overlay Zone.

8.9.4 Conditional uses

The following uses are permitted as provided in Section 6.5:

A. Minor wind energy systems, subject to the standards of Subsection 6.4.18.

8.9.5 Dimensional requirements

University buildings and structures shall be subject to the dimensional requirements of the underlying zone, except as follows:

A. **Minimum setbacks.** Minimum setbacks shall be the same as in the underlying zone, except as shown on the University Campus Overlay Setback Map, incorporated herein by reference. Side and rear setbacks shall not be required between buildings on contiguous lots owned by the university on the condition that such contiguous lots shall be considered merged and shall not be separately conveyed unless required setbacks in the underlying zones are provided.

B. **Maximum building height.** Maximum building height shall be the same as in the underlying zone, except as shown on the University Campus Overlay Height Map, incorporated herein by reference.

C. **Minimum building height.** All new freestanding buildings in height zone B and height zone C must be built to a height of at least 35 feet or designed and constructed so that they can be expanded to 35 feet or higher. As used in this paragraph, the term "new freestanding building" means any building which is not an addition to or expansion of a building which existed on the date of enactment of the University of Southern Maine Overlay Zone.

D. **Maximum impervious surface ratio**. A maximum of 66% of the total land area within the University of Southern Maine Overlay Zone, exclusive of public streets, shall be impervious.

E. **Maximum coverage by buildings**. 40% of the total land area within the University of Southern Maine Overlay Zone, exclusive of public streets, shall be covered by building footprint.

8.9.6 Parking

The amount of parking required for any university building or building addition shall be determined by the Planning Board during site plan review, based on an analysis of campus-wide parking demand and supply, pursuant to a comprehensive university parking management plan, and treating all contiguous land (including land on opposite sides of the street) owned by the university as one lot. In determining the amount of parking required for any university building, the Planning Board may take into account such factors as:

A. The availability of off-campus parking and shuttle transportation to and from such off-campus facilities.

B. The ratio of commuter students to resident students.

C. The use of centrally located on-campus parking facilities so situated that students, faculty, staff and visitors arriving on campus can reasonably

be expected to park in the central facilities and walk to their various on-campus destinations during the course of a school day.

D. Shared use of a single parking facility by two or more buildings when the peak parking demand period for such buildings do not overlap.

E. Development and implementation of a parking management plan which discourages on-street parking. On-street parking shall not be used to satisfy the university's parking demand.

F. Development and implementation of programs designed to reduce the number of automobiles parking on campus, such as ride share programs and incentives for use of bicycles and public transportation.

8.9.7 Loading

The amount of loading area required for any university building shall be determined by the Planning Board during site plan review, based on a campus-wide analysis, treating all contiguous lots owned by the university as one lot. In determining the amount of loading space required for any university building, the Planning Board may take into account such factors as:

A. The use of centrally located on-campus loading facilities so situated that vehicles making deliveries can load and unload in the central facilities, provided no single location is overburdened with loading facilities.

B. Shared use of a single loading facility by two or more buildings.

C. Impacts of the loading area on adjacent uses outside the University of Southern Maine Overlay Zone.

8.9.8 Signage

Signs shall comply with the requirements of Article 20, except as those regulations are modified or augmented below:

A. Signs shall be designed in accordance with signage standards promulgated by the university, providing for a unified and ADA-compliant campus-wide system for identification, orientation, and regulatory signage.

B. Banners are allowed as follows:

1. Generic banners containing the logo and colors of the university, used for decorative purposes.
2. Banners used for advertising university events, which can be displayed for a maximum of four weeks prior to and one week following the event.

8.9.9 Design principles and standards

All development in the University of Southern Maine Overlay Zone is subject to the requirements contained within the City of Portland *Design Manual*.

8.9.10 Campus housing

For any development requiring major site plan review, the university shall submit to the Planning Board a campus housing analysis. The analysis shall include a description of housing demand and supply at the time of the application, a projection of housing demand expected to arise from the proposed development and/or as a result of program changes anticipated to occur concurrently with the proposed development, and a description of how the university intends to meet any increased housing demand through on-campus housing, off-

campus housing developed by the university, and/or off-campus housing developed by others.

8.9.11 Required review for change of use, additions, and renovations

In the case of properties fronting Chamberlain Avenue, Exeter Street, and the northerly side of Bedford Street from Surrender Street to Deering Avenue, minor site plan review shall be required of all changes of use and all building additions and renovations affecting an area equivalent to 25% or more of the existing floor area of a structure, unless major site plan review is otherwise required under Article 14.

8.10 WAYNFLETE SCHOOL OVERLAY

8.10.1 Purpose

The intent of this section is to establish a Waynflete School Overlay Zone which protects the value and integrity of established residential neighborhoods, establishes clearly defined boundaries beyond which residential conversions cannot occur and results in no net loss of dwelling units, while allowing Waynflete School, an existing private day school, to continue and reasonably augment its existing uses and programs, thereby maintaining compatible development at medium densities appropriate to the existing neighborhood patterns. As used in this section, the term "Waynflete School" includes any successor institution that operates as a private day school.

8.10.2 Location and applicability

The Waynflete School Overlay Zone, as shown on the zoning map, is intended to encompass and define Waynflete School's principal campus on the Portland peninsula. Properties in the Waynflete School Overlay Zone shall continue to be governed by the regulations applicable to the underlying zone except as specifically modified by this section.

8.10.3 Subdistricts

The Waynflete School Overlay Zone consists of two subdistricts. Except where otherwise specified in this Section 8.10, all provisions of this Waynflete School Overlay Zone apply in both subdistricts. The subdistricts, as shown on the Waynflete School Overlay Zone subdistrict map, incorporated herein by reference, are as follows:

A. The Campus Core subdistrict defines the interior core of the campus and is intended to allow compact development of school uses, with specific space and bulk regulations designed to accommodate school uses.

B. The Campus Edge subdistrict is intended to preserve residential character along the streets bordering the campus by limiting the amount of residential space which can be converted to school uses, by maintaining a number of dwelling units within the subdistrict which equals the number of dwelling units existing in the subdistrict at the time of enactment of this Overlay Zone, and by encouraging mixed-use buildings along the street frontages. The space and bulk regulations of the R-4 zone continue to apply within the Campus Edge subdistrict.

8.10.4 Permitted uses

In addition to the permitted uses allowed in the underlying zones and notwithstanding anything to the contrary in the use regulations for the underlying zones, the following uses are permitted in the Waynflete School Overlay Zone:

A. **School uses.** Elementary, middle and secondary school uses including, but not limited to, the following:

1. Classrooms.
2. Laboratory facilities.
3. Dining halls.
4. Auditoriums.
5. Concert and lecture halls.
6. Gymnasiums.
7. Libraries.
8. Outdoor use areas, such as "quads", greens, parks, gardens, art installations, and other active and passive recreation spaces.
9. Parking lots and structures.
10. Community meeting spaces.
11. Administrative and faculty offices.
12. Transportation facilities.
13. Maintenance facilities.
14. Utility buildings.
15. Student health services.
16. Bookstores.
17. Accessory uses which are customarily incidental and subordinate to the location, function and operation of a private day school.

B. **Residential uses.** Faculty or staff housing, which shall be considered a residential use, and not a school use, for all purposes under this overlay zone.

8.10.5 Prohibited uses

A. Boarding schools.

B. Dormitories.

8.10.6 Residential conversions prohibited

A. Conversions of existing residential buildings within the Waynflete School Overlay zone shall be prohibited.

B. The existing houses at 11 Fletcher Street, 3 Storer Street, 305 Danforth Street, and 299 Danforth Street shall not be relocated from their locations existing as of January 20, 2010. This provision shall not apply to garages.

C. At no time shall the number of dwelling units within the Waynflete School Overlay Zone be reduced below four (the number existing at the time of enactment of this Overlay Zone).

8.10.7 Dimensional requirements

Buildings and structures in the Waynflete School Overlay Zone shall be subject to the applicable dimensional requirements of the underlying zones, except as follows:

A. Minimum setbacks shall be the same as in the underlying zone, except that side and rear setbacks shall not be required between buildings on contiguous lots owned or occupied by Waynflete School on the condition that such contiguous lots shall be considered merged and shall not be separately conveyed unless required yard dimensions in the underlying zones are provided.

B. Minimum street frontage shall be the same as in the underlying zone, except that all the land within the Waynflete School Overlay Zone owned or occupied by Waynflete School shall be considered a single lot for the purpose of complying with minimum street frontage.

C. Maximum coverage by buildings shall be the same as in the underlying zone, except that in the Campus Core subdistrict the maximum coverage by buildings shall be 40% and all the land within the Campus Core subdistrict owned or occupied by Waynflete School shall be considered a single lot for the purpose of calculating maximum coverage by buildings.

8.10.8 Parking

The amount of parking required for any change of use, new building, or building addition within the zone shall be determined during site plan review, based on an analysis of school-wide demand and supply, pursuant to a comprehensive school-wide Transportation Demand Management Plan (TDM), and treating all land owned by Waynflete School within the Waynflete School Overlay Zone as one lot. Any existing parking management or TDM plan approved as part of a previous approval shall remain in effect until revised or updated pursuant to this section. In determining the amount of parking required for any building within the Waynflete School Overlay Zone, the Planning Authority or the Planning Board may take into account such factors as:

A. The use of centrally located on-campus parking facilities so situated that students, faculty, staff and visitors arriving on campus can reasonably be expected to park in the central facilities and walk to their various on-campus destinations during the course of a school day.
B. Shared use of a single parking facility by two or more buildings when the peak parking demand periods for such buildings do not overlap.
C. Development and implementation of a parking management plan which discourages on-street parking.
D. Development and implementation of a TDM plan subject to the review and approval of the Planning Authority or the Planning Board. The TDM plan shall employee elements such as public transit initiatives, parking cash-out, car sharing, car and van pooling incentives, provision of bicycle and pedestrian commuting accommodations, guaranteed ride home programs, employee surveys, newsletters, alternative transportation information sharing, and other such strategies that reduce single occupancy vehicle trips to and from Waynflete school. Waynflete School shall follow the standards and guidelines for developing a TDM plan found in the TDM section of the City of Portland *Technical Manual*.

8.10.9 Loading

The amount of loading area required for any building within the Waynflete School Overlay Zone shall be determined by the Planning Board during site plan review, based on a campus-wide analysis, treating all land owned by Waynflete School within the Waynflete School Overlay Zone as one lot. In determining the amount of loading space required for any building within the Waynflete School Overlay zone, the Planning Board may take into account such factors as:

A. The use of centrally located on-campus loading facilities so situated that vehicles making deliveries can load and unload in central facilities, provided no single location is overburdened with loading facilities.
B. Shared use of a single loading facility by two or more buildings.
C. Impacts of the loading area on adjacent uses outside the Waynflete School Overlay Zone.

8.10.10 Signage

Signs shall comply with the requirements of Article 20.

8.10.11 Restrictions

Notwithstanding the conditional use provisions for institutional uses within the R-4 or R-6 zones, Waynflete School cannot locate a school use listed in Subsection 8.10.4 on any lot in the R-4 or R-6



zones outside the boundaries of the Waynflete School Overlay Zone that was occupied by a residential use or structure on or after January 20, 2010. This restriction does not prevent Waynflete School from seeking a conditional use permit for a school use, where otherwise allowed by the zoning regulations, on lots outside the Waynflete School Overlay Zone that were not occupied by a residential use or structure on or after January 20, 2010.

9 FORM-BASED ZONES

9.1 INDIA STREET FORM-BASED ZONE

9.1.1 Purpose

The India Street Form-Based Code is different than traditional zoning, placing the primary emphasis on a building's physical form and its relationship to the street, and de-emphasizing land use. The intent of the India Street Form-Based Code Zone is to establish a zone that encourages a vibrant, walkable, mixed-use urban district, preserves and values the existing historic neighborhood fabric, and fosters and supports local businesses and residential areas. The goal of the India Street Form-Based Code is the creation and preservation of an active and human-scale public realm and the reinforcement of existing neighborhood character through good street space design. The components of the form-based code include the guiding principles, Regulating Plan, subdistricts, general development standards, dimensional requirements, building design standards, diagrams, and definitions.

9.1.2 General guiding principles

The general guiding principles set forth here shall be applicable to all subdistricts within the India Street Form-Based Code Zone:

A. The street is a coherent space, with consistent building and streetscape character on both sides of the street. This agreement of buildings and streetscape across the street contributes to a clear public space and district identity.

B. The street wall is visually well defined. Land should be clearly public or private. Buildings contribute to the vital and safe public space while providing a clear boundary to the private, protected realm.

C. Street walls are engaged with the street environment. Buildings are inviting places that interact with and contribute to the street vitality. Inactive edges, vehicle storage, garbage, and mechanical equipment should be kept away from the street. Shared infrastructure, to the extent practicable, including, but not limited to, service alleys, parking areas, stormwater treatment, public transportation facilities, and driveways, shall be utilized.

D. Buildings are designed for the urban environment. Buildings must be designed for the urban situation within the subdistrict which often includes mixed-uses. Buildings are positioned near the street and facades are oriented to the street.

E. Respect historic character. If a property is within the India Street Historic District, Article 17 is applicable. New construction, building additions, or alterations in the India Street Historic District shall reflect and complement the character-defining features and elements of the existing historic development to which it is visually related.

9.1.3 Applicability

A. The requirements set forth in this Section 9.1 shall apply to all new development, primary and accessory structures, including building additions within the India Street Form-Based Code Zone as designated on the India Street Regulating Plan.

B. A partial waiver of the requirements listed below may be granted if it can be demonstrated to the satisfaction of the

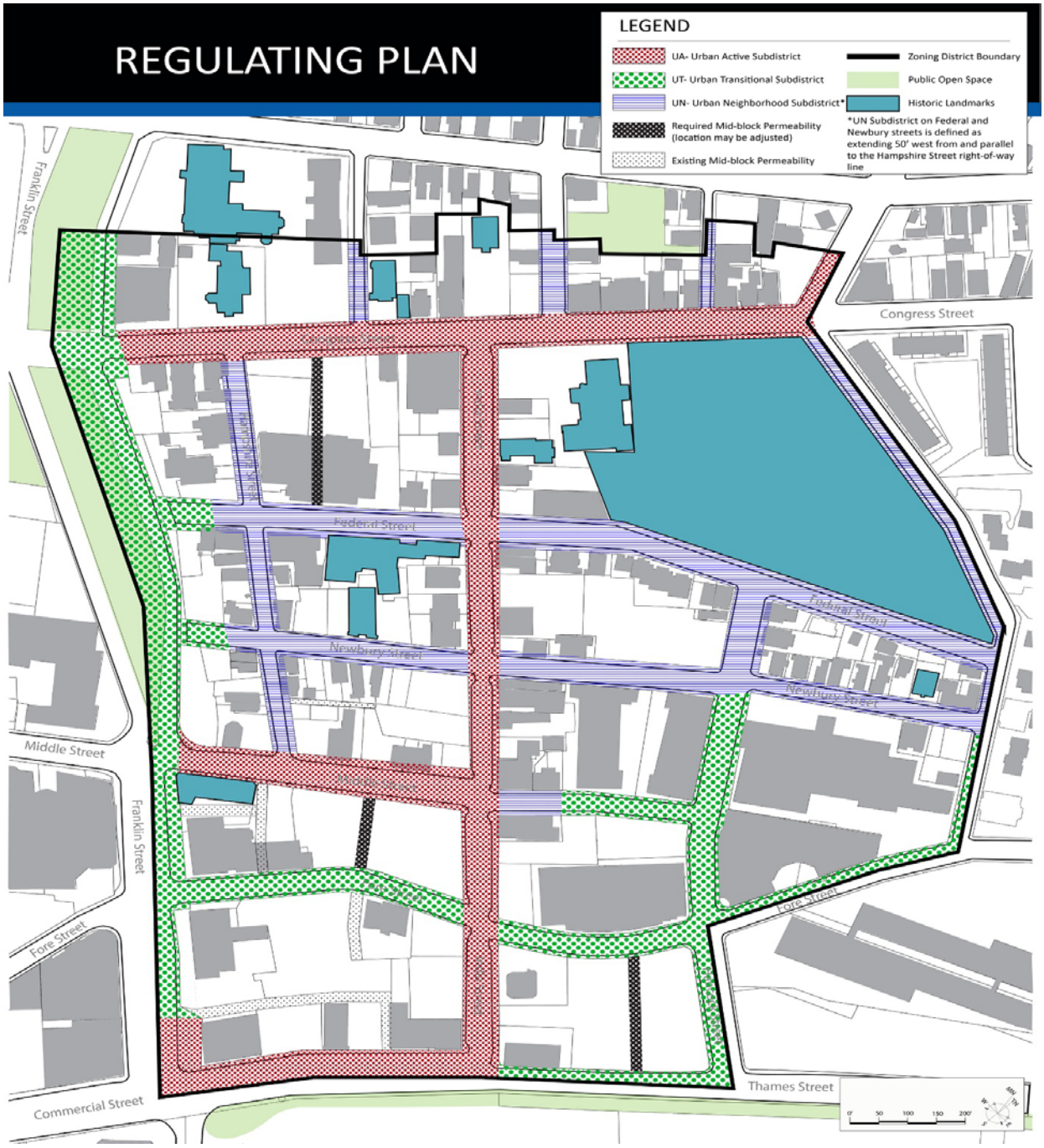


FIGURE 9-A: IS-FBC REGULATING PLAN

Planning Authority that the requirements in Subsection 9.1.3(C) below have been met:

1. Building orientation.
2. Blank façade length (max.).
3. Fenestration, ground floor facade area.
4. Building entry frequency, orientation, or elevation.
5. Garage door setback or width.
6. Additional building length – ground floor partition or module requirements.

C. A partial waiver request must meet the following requirements:

1. The intent of the IS-FBC zone as stated in Subsections 9.1.1 and 9.1.8.
2. Be the least adjustment necessary to satisfy the practical, programmatic, or functional needs of the proposed development.
3. At least one of the following applies:
   a. The proposed zoning alternative better achieves the zone and subdistrict intent.
   b. The zone or subdistrict intent will not be met by applying the requirement in this particular circumstance.
   c. There is a legal or practical necessity or unique conditions.
   d. Unique site factors make the zoning requirement impractical or cost prohibitive.

9.1.4 Establishment of subdistricts

The India Street Form-Based Code Zone as shown on the Regulating Plan is divided into three subdistricts:

A. Urban Neighborhood (UN) Subdistrict.
B. Urban Transitional (UT) Subdistrict.
C. Urban Active (UA) Subdistrict.

9.1.5 Regulating Plan

The Regulating Plan shows the location of the zone boundary and subdistricts subject to regulation by the IS-FBC zone.

9.1.6 Definitions

Terms used throughout this India Street Form-Based Code Zone may be defined in Article 3 or in Article 7. Terms not so defined shall be accorded their commonly accepted meanings. In the event of any conflict between the definitions in this section and those in Article 3, Article 7, or any other local land use ordinances, rules, or regulations, those of this India Street Form-Based Code Zone shall take precedence. For reference, terms are illustrated in Figure 9-B.

Building, accessory. A detached structure that is incidental and subordinate in area and extent, and/or use to the principal building(s) on the property. A lot may have more than one accessory building.

Building addition. Any increase to footprint or volume of an existing structure.

Building, principal. The main structure(s) on a lot having the predominant area and extent, and/or use. A lot may have more than one principal building.

Buildings, attached. Two or more independent buildings that share at least one common party wall but have full building separation and independent principal entries; not free-standing. Attached buildings may or may not have common ownership.

Building Design Standard (BDS). The basic design parameters governing building form, including

intent, guidelines, and standards for architectural elements such as proportion, articulation, fenestration, entries, roof lines, and materials.

Elevation. An exterior wall of a building not along a frontage line.

Entrance, principal. The main point of access for pedestrians into a building. A building may have more than one principal entrance.

Façade. Any exterior wall of a structure exposed to public view from a public right-of-way.

Façade, blank. A building façade that contains expanses of wall area with no windows, no entrances, no articulation, and no other elements or features, or is otherwise undifferentiated.

Green roof. A roof of a building that is partially or completely covered with vegetation and designed to meet the Maine Stormwater Best Management Practices Manual standards and recommendations. A green roof installation must serve the purpose of reducing stormwater runoff through retention or slowing and consist of an assembly that at a minimum includes a root repellent system, a drainage system, a filtering layer, a growing medium and plants, and shall be installed on a waterproof membrane. The vegetated area of a green roof may be considered pervious for zoning impervious calculations.

Mid-block permeability. A continuous, open-air corridor at least 20' in width that connects two streets or public rights-of-way and physically provides a break in the street wall. The corridor must be unobstructed and open to the sky for the majority of its length.

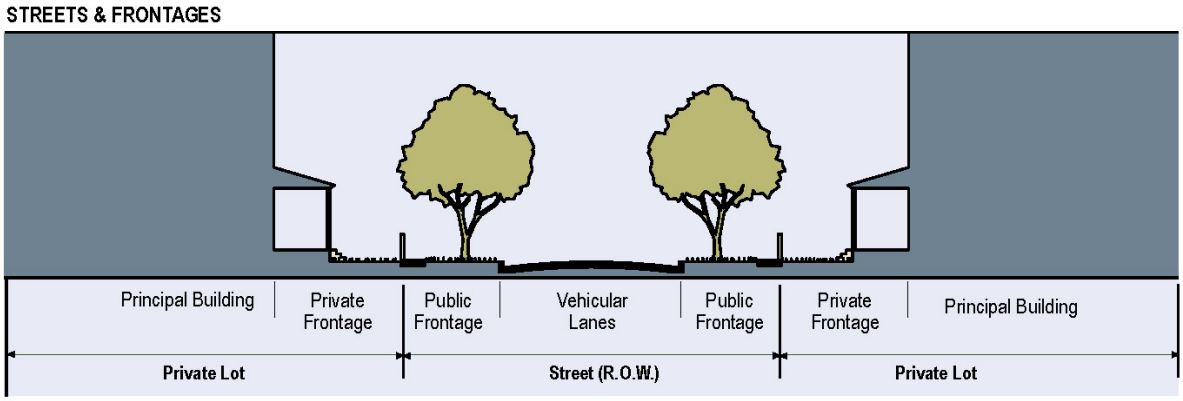
Party wall. Any partition wall common to two adjacent or attached buildings.

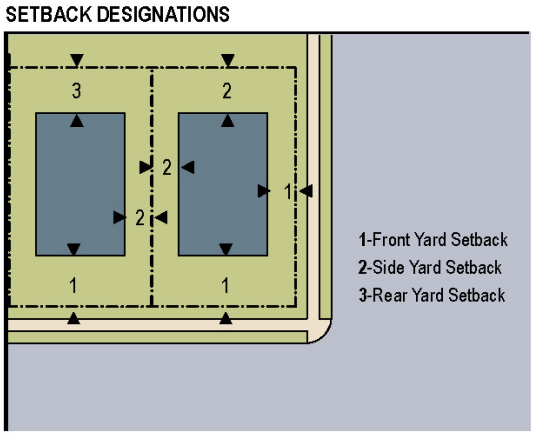
Regulating plan. A zoning map that shows the boundary of the area and subdistricts subject to regulation by the India Street Form-Based Code.

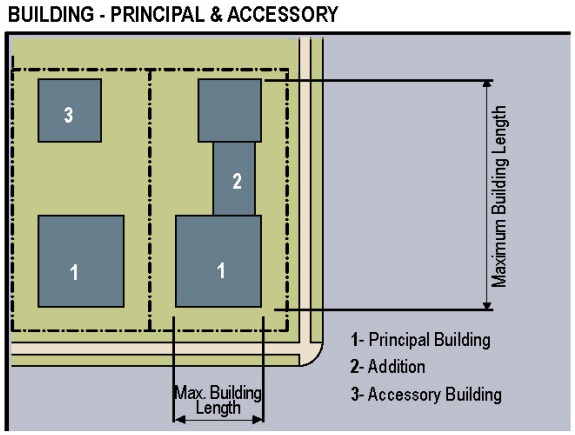
Stepback. A building setback of a specified distance measured from the ground floor building face that occurs at a prescribed number of stories or height above the ground and excludes the minimum necessary housing of elevators, stairways, tanks, fans, or other building operating equipment not intended for human occupancy.

Yard, side. A yard adjoining a side lot line extending from the front yard to the rear yard, the width of which shall be the shortest horizontal distance between the side lot line and any structure. On corner lots, non-frontage yards shall be considered side yards.

Zero lot line. The location of a structure on a lot such that one or more of the structure sides rests directly on a lot line.







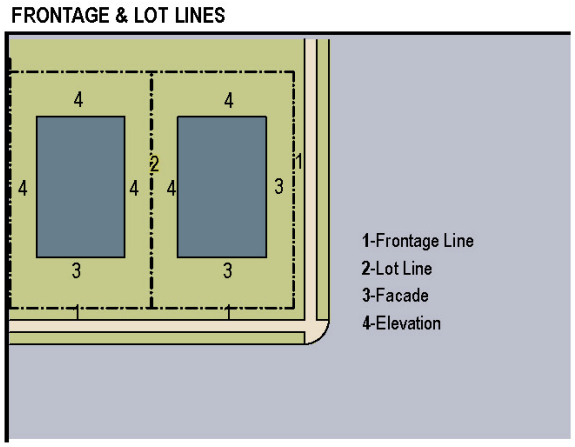


FIGURE 9-B: IS-FBC TERMS ILLUSTRATED

A. Prohibited uses

1. Correctional pre-release facilities.
2. Funeral homes.
3. Drive-through facilities.
4. High-impact industrial uses.
5. Auto service stations.
6. Truck terminals.
7. Recycling and solid waste disposal services.
8. Storage and parking facilities for Class 1 flammable and combustible liquids (having an aggregate total of more than 100 gallons) but excluding storage that is part of a motorized vehicle or pleasure craft facility.

B. Siting standards

1. *Mid-block permeability*
   a. On lots with frontage on two streets roughly parallel to Commercial/Thames Street, for each and every 200 feet in street line length of lot, a full break between structures of at least 20 feet in width shall be provided roughly perpendicular to Commercial/Thames Street and within the middle third of the applicable street frontage. (See Figure 9-G.)
   b. Is encouraged in any location that connects existing public or private alleys, passages, or streets.
   c. Any development providing mid-block permeability with public access between two streets is eligible for one additional story of up to 12 feet in height under the provisions of Subsection 9.1.7(C). Public access shall be defined through a legal agreement such as an easement or license.
   d. Refer to Regulating Plan for identified required mid-block permeability locations.
2. *Frontage requirements*
   a. Minimum street frontage: 30 feet
   b. Building length measurement shall not include porches, decks, or balconies that are appended to the principal structure.
   c. In the case of a corner lot or lot bounded by at least three streets, maximum building lengths may not be exceeded in order to meet front yard setbacks.
   d. Additional building length is allowed beyond the maximum building length under the following circumstances and according to Table 9-A:

TABLE 9-A: ADDITIONAL BUILDING LENGTH

Subdistrict	Attached Buildings	Ground Floor Partitions	Massing Variation	Structured Parking Exception
UN	unlimited run	Not allowed	Not allowed	Not allowed
UT	unlimited run	200 ft. max. length; 2 modules	200 ft. max. length	200 ft. max. length
UA	unlimited run	150 ft. max. length; 3 modules	Not allowed	150 ft. max. length

i. Attached buildings: An unlimited number of attached buildings having up to 30 feet of street-facing building length is allowed. A party wall condition is required at least every 30 feet and for the entire height of each building. (See Table 9-A Additional Building Length – Attached Buildings.)

ii. Ground floor partitions: Additional building length is permitted with the provision of ground floor partitions where the following conditions are met. (See Table 9-A Additional Building Length – Ground Floor Partitions.):

a) Partitions must extend from the facade at least 2/3rds of the building depth.

b) Partitions must be architecturally expressed on the building exterior.

c) Each module created by partition must have at least one functional, street-facing entry.

d) Modules created by partition shall be sized to have reasonable function and proportion in relation to overall building length.

e) In the UA subdistrict, number of modules are required based on building length. In a building with a length greater than 50 feet but less than 100 feet, at least two modules are required. In a building with a length greater than 100 feet but less than or equal to 150 feet, at least three modules are required.

f) Massing Variation: Additional building length is permitted where at least 30% and up to 40% of the total façade building length is set back at least 20 feet. (See Table 9-A Additional Building Length – Massing Variation.)

g) Structured Parking Exception: Additional building length for one facade without partition walls is allowed for the use of ground-level structured parking.

3. *Setbacks*

a. Lots with a street frontage of less than 35 feet are exempt from providing side yards but only where required yard is perpendicular to the frontage that is less than 35 feet.

b. Where new construction or building additions create a side yard of less than five feet, a maintenance easement is required where a combination of the side yard and

easement must be at least five feet. Party wall conditions are exempt from providing a maintenance easement. Corner lots may only apply the side yard reduction to one required side yard.

c. Building facades within 10 feet of a corner are exempt from setback requirements in order to allow special corner architectural treatments.

d. Subdivision developments consisting of horizontally attached buildings on individual lots are not required to have side yards between buildings where a party wall condition will exist, but shall be required to meet the applicable side setbacks at the external and internal subdivision lot boundaries between buildings that are not attached to each other.

4. *Landscaping and screening*

a. Surface parking areas shall be screened from view from sidewalks, public rights-of-way, and public open spaces using landscaping, walls, fencing, or a combination thereof.

b. Walls and fences shall meet the dimensional requirements in Table 9-B.

TABLE 9-B: WALL/FENCE DIMENSIONAL REQUIREMENTS

Location	Height	Visual Permeability
Within front yard	6 ft. max.	Required above 2 ft. from sidewalk grade
Side or rear yard	8 ft. max.	n/a

5. *Building additions*

a. Building additions which exceed the footprint of the existing building to which it is an addition or which exceeds 50,000 square feet shall be subject to major site plan review.

b. Exemptions

i. A building addition may not cause the building to exceed the maximum building length requirement except in the case that the building addition is located between a street frontage and an existing building with a legally non-conforming length. In such an instance, a building addition length may match but not exceed the legally non-conforming length of the existing building to which it is an addition. (See Figure 9-G.)

ii. Building additions are exempt from story minimums or maximums in order to match existing building in number of stories. All other subdistrict height standards shall apply including height minimum and maximums in feet.

TABLE 9-C: HEIGHT BONUSES

Subdistrict	Pre-Bonus Height (max.)	Mid-Block Permeability[1]	Residential Density	Green Roof	Affordable Housing	Height With Bonus (max.)	Bonus Floor Stepback[2] (min.)
UN	45 ft. and 4 stories	n/a	n/a	n/a	1 story up to 12 ft.	57 ft. up to 5 stories	15 ft.
UT	65 ft. and 6 stories	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	77 ft. up to 7 stories	15 ft.
UA (Congress Street and Commercial Street only)	50 ft. and 4 stories	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	1 story up to 12 ft.	62 ft. up to 5 stories	15 ft.

[1] Must be publicly accessible.
[2] Measured from the ground floor building edge facing any public right-of-way.

C. Height standards

1. *Height bonus applicability*
   a. If a frontage faces a UT street, UN street, or allowed UA street according to Table 9-C, then the portion of the building facing that street is eligible for a height bonus. For lots with multiple frontages where a frontage faces an ineligible street, bonus story must be stepped back at least 35 feet from ineligible street line. (See Subsection 9.1.8(D).)
   b. Only one height bonus may be applied per structure.
2. One additional story of up to 12 feet in height is allowed if one of the following provisions is met:
   a. For residential development with residential density equal to or greater than 150 dwelling units per acre (density may be achieved with the bonus floor).
   b. For any development providing a green roof, where:
      i. At least 50% of the cumulative lot area is pervious.
      ii. At least 50% of the cumulative roof area is a green roof. Green roof area may be applied towards the 50% lot area requirement.
   c. For residential development where 20% of the units meet the definition of either "Workforce Housing Unit for Sale" or "Low-income Housing Unit for Rent" as per Article 3.

D. Parking standards

1. Parking shall be provided as per Article 19.
2. Structured parking must meet the Building Design Standard for structured parking. (See City of Portland *Design Manual.*)
3. In the case of a building addition, non-conforming existing surface parking may remain. In the case of new construction, surface parking must be brought into conformance with IS-FBC standards.

9.1.8 Subdistrict dimensional requirements

A. Urban Neighborhood (UN) subdistrict

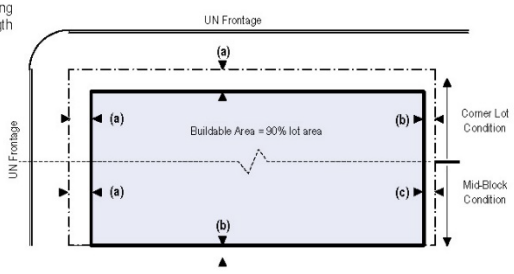
The intent of this subdistrict is to maintain and promote a small-scale, less active urban fabric. Buildings may be more private in character and have smaller footprints with building types including, but not limited to, single-family, rowhouses, duplexes, triple-deckers, and double-triples. Building frontages may be less transparent and entries may be raised above sidewalk level with frontage types including raised, recessed doorways, porches, and stoops. The streetscape has variable setbacks and landscaping with many buildings within one block and streets tend to be narrow.

SITING STANDARDS	
Orientation - Principal Frontage	determined by applicant
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length - Principal facade	50' max.
Building Length - Secondary fac.	50' max.
BLANK FACADE length (max)	15'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	unlimited run
Ground Floor Partitions	not allowed
Massing Variation	not allowed
Structured Parking Exception	not allowed
SETBACKS	
Principal Building	
(a) Front Yard	5' max.
Setback Applicability (see Figure 9-G)	75% of total building length must meet front yard setback
(b) Side Yard*	5' min. - May be reduced provided that the cumulative side yards are not less than 10'
(c) Rear Yard	10' min.
Accessory Building Front Yard	5' min.
Side Yard	5' min.
Rear Yard	5' min.
BUILDING ENTRIES (SEE ALSO BDS)	
Frequency at frontage	at least 35'
Principal Entries	
Orientation	any orientation allowed
Elevated Stoop (> 1 step)	allowed
HEIGHT STANDARDS	
Principal Building	
Building Height Min.	25', at least 2 stories
Building Height Max.	45', up to 4 stories
Accessory Building	
Building Height Max.	25'
PARKING STANDARDS	
Surface Parking Location	35' min. setback from street
Within Side Yard	20' max in width per lot; may not exceed 50% of frontage length
Garage at frontage (attached or detached)	
Garage Door Setback (min)	5'
Garage Door Opening (max)	9' up to 40% of facade length
	20' max. limit
Notes and Exceptions	

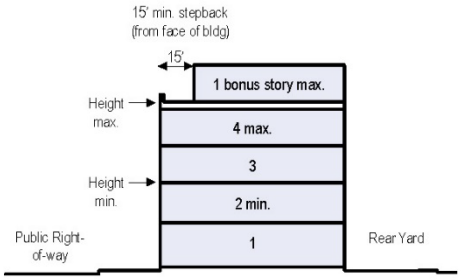
* Reduced side yards and zero lot lines are allowed under certain conditions (see Subsection 9.1.7(B)(3) Setbacks)

UN

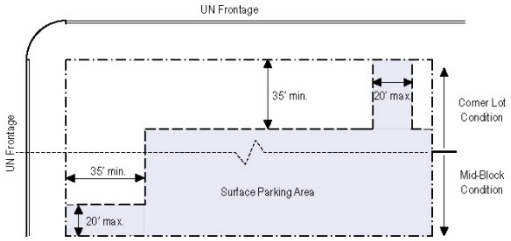
SITING STANDARDS
1. The FACADES and ELEVATIONS of Principal Buildings shall be distanced from the lot lines as shown.
2. FACADES shall be built along the frontage lines to the length specified in the table.



HEIGHT STANDARDS
1. Height shall be measured as specified in Article 7.
2. Number of stories excludes attics and raised basements.



PARKING STANDARDS
1. Surface parking areas may be provided within the shaded area shown.



B. Urban Transitional (UT) subdistrict

The intent of this subdistrict is to encourage higher density, mixed-use building types that accommodate any use. Building frontages are a mix of activity level, have larger footprints, and the most flexibility of height and scale. Building ground floor spaces tend to accommodate flexible and changing uses with frontage types including doorways, forecourts, arcades, and storefronts. The streetscape may be less active than the UA subdistrict with wide sidewalks, street trees, and setbacks and stepbacks providing relief from large building masses.

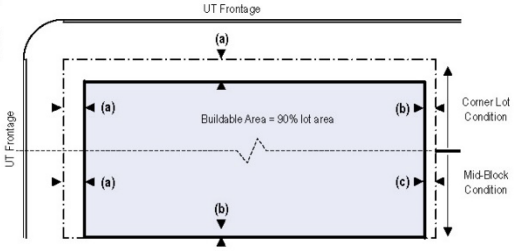
SITING STANDARDS	
Orientation - Principal Frontage	determined by applicant
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length	100' max.
BLANK FACADE length (max)	30'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	unlimited run
Ground Floor Partitions	200' max., 2 modules
Massing Variation	200' max.
Structured Parking Exception	200' max.
SETBACKS	
Principal Building	
(a) Front Yard	10' max.
Setback Applicability (see Figure 9-G)	75% of total building length must meet front yard setback
(b) Side Yard*	10' min. - May be reduced provided that the cumulative side yards are not less than 20'
(c) Rear Yard	10' min.
(d) STEPBACK (adjacent to UN)	10' min. stepback after 45' height
Accessory Building Front Yard	5' min.
Side Yard	5' min.
Rear Yard	5' min.
BUILDING ENTRIES (SEE ALSO BDS)	
Frequency at frontage	at least 95'
Principal Entries	
Orientation	any allowed
Elevated Stoop (>1 step)	allowed
HEIGHT STANDARDS	
Principal Building	
Building Height Min.	3 stories
Building Height Max.	65', up to 6 stories
Ground Story Height	n/a
Accessory Building	
Building Height Max.	25'
PARKING STANDARDS	
Surface Parking Location	35' min. setback from street
Garage at frontage (attached or detached)	
Garage Door Setback (min)	10'
Garage Door Opening (max)	9' up to 40% of facade length
	20' max. limit
Notes and Exceptions	

* Reduced side yards and zero lot lines are allowed under certain conditions (see Subsection 9.1.7(B)(3) Setbacks)

UT

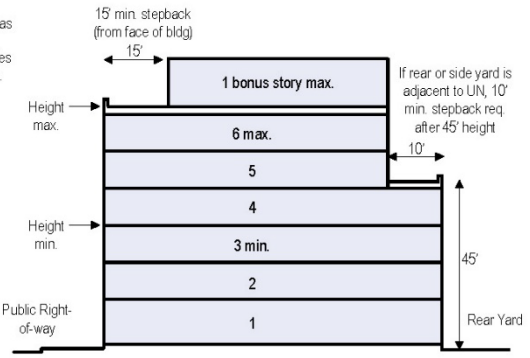
SITING STANDARDS

1. The FACADES and ELEVATIONS of Principal Structures shall be distanced from the lot lines as shown.
2. FACADES shall be built along the frontage lines to the length specified in the table.



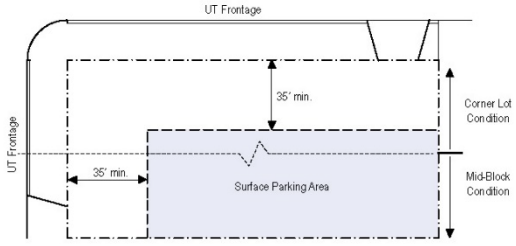
HEIGHT STANDARDS

1. Height shall be measured as specified in Article 7.
2. Number of stories excludes attics and raised basements.



PARKING STANDARDS

1. Surface parking areas may be provided within the shaded area as shown.



C. Urban Active (UA) subdistrict

The intent of this subdistrict is to maintain and promote a moderate-scale, diverse, mixed-use neighborhood with vibrant streets and active ground floor spaces. Buildings are more active and engage the street at the ground level. Building frontages are transparent and entries are at sidewalk level with frontage types including storefronts and recessed doorways. The streetscape has steady street planting, and buildings set close to the street providing a consistent street wall.

UA

SITING STANDARDS	
Orientation - Principal Frontage	face a UA street
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length	50' max.
BLANK FACADE length (max)	15'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	unlimited run
Ground Floor Partitions	150' max., up to 3 modules
Massing Variation	not allowed
Structured Parking Exception	150' max.
Fenestration, ground floor	60-90% (see BDS) facade area
SETBACKS	
Principal Building	
(a) Front Yard*	5' max.
Setback Applicability (see Figure 9-G)	75% of total building length must meet front yard setback
(b) Side Yard**	5' min. - May be reduced provided that the cumulative side yards are not less than 10'
(c) Rear Yard	10' min.
Accessory Building Front Yard	5' min.
Side Yard	5' min.
Rear Yard	5' min.
BUILDING ENTRIES (SEE ALSO BDS)	
Frequency at frontage	at least 40'
Principal Entries	
Orientation	at least 1 facing UA street or corner
Elevated Stoop (>1 step)	not allowed
HEIGHT STANDARDS	
Principal Building	
Building Height Min.	3 stories
Building Height Max.	50', up to 4 stories
Accessory Building	
Building Height Max.	25'
PARKING STANDARDS	
Surface Parking Location	35' from street
Garage at frontage (attached or detached)	
Garage Door Setback	20' min. from street
Garage Door Opening (max)	n/a

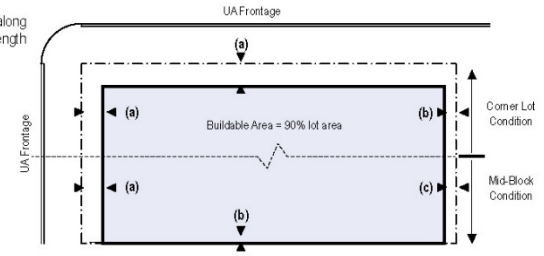
Notes and Exceptions

* Up to 10'0" max. front yard setback is allowed if ground plane at frontage is a continuation of the accessible public right-of-way

** Reduced side yards and zero lot lines are allowed under certain conditions (see Subsection 9.1.7(B)(3) Setbacks)

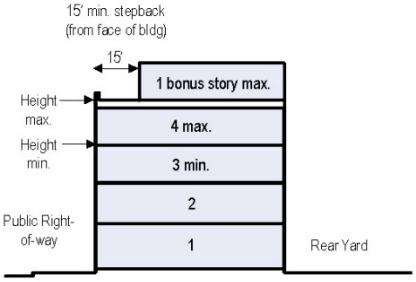
SITING STANDARDS

1. The FACADES and ELEVATIONS of Principal Buildings shall be distanced from the lot lines as shown.
2. FACADES shall be built along the frontage lines to the length specified in the table.



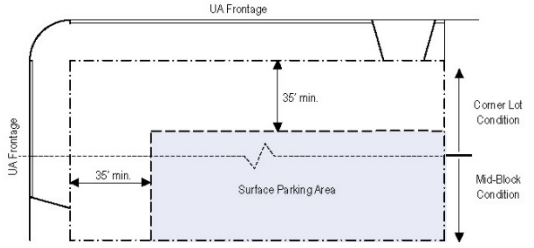
HEIGHT STANDARDS

1. Height shall be measured as specified in Article 7.
2. Number of stories excludes attics and raised basements.



PARKING STANDARDS

1. Surface parking areas may be provided within the shaded area as shown.



D. Corner conditions

For corner lots where two subdistricts intersect at a street corner, the dimensional requirements and building design standards of the "dominant" subdistrict shall apply 35 feet deep into the lot measured from the dominant lot line along its associated street frontage or public ways including required mid-block permeability. Otherwise, dimensional requirements shall be according to the subdistrict onto which the building façade faces.

CORNER

ORIENTATION

- Corner lots shall be treated as having street frontage on all streets regardless of building orientation
- Principal Building shall designate a Principal Frontage and Secondary Frontage*
- In the case of a corner lot having UA frontage, the Principal Frontage must face a UA street*

SETBACKS

(a) Front Yard (1st Lot Layer)	according to subdistrict
(b) Side Yard	according to subdistrict

Building facades within 10' of a corner are exempt from setback requirements in order to allow special architectural treatments.

UA INTERSECTS UT

Dominant Subdistrict (35' deep)	UA
Orientation - Principal Frontage	UA street
Dominant Building Design Standards (applicable 35' deep)	
Ground Story Height	12' min. clear
Fenestration, ground floor	60-90% (see BDS) facade area

(measured as a percentage of the FACADE that is 2' above sidewalk grade)

UA INTERSECTS UN

Dominant Subdistrict (35' deep)	UA
Orientation - Principal Frontage	UA street
Building Length - UN FACADES	100' max.
Dominant Building Design Standards (applicable 35' deep)	
Ground Story Height	12' min. clear
Fenestration, ground floor	60-90% (see BDS) facade area

(measured as a percentage of the FACADE that is 2' above sidewalk grade)

UT INTERSECTS UN

Dominant Subdistrict (35' deep)	UN
Orientation - Principal Frontage	determined by applicant

- Corner lots shall be treated as having street frontage on all streets regardless of building orientation

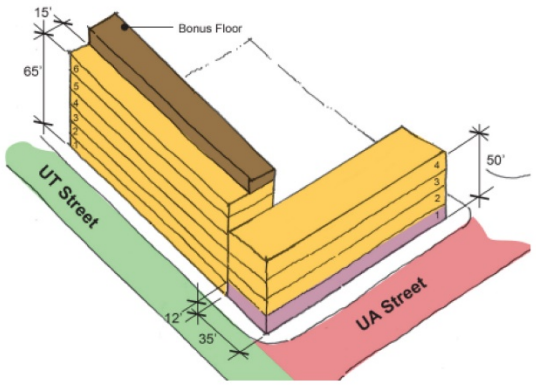
UN INTERSECTS UN

Building Length maximums:	
Principal Frontage	30' max.
Secondary Frontage	50' max.

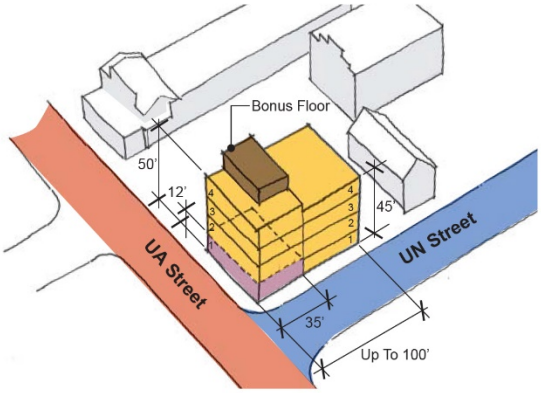
Notes and Exceptions

* Does not have to correspond to legal building address

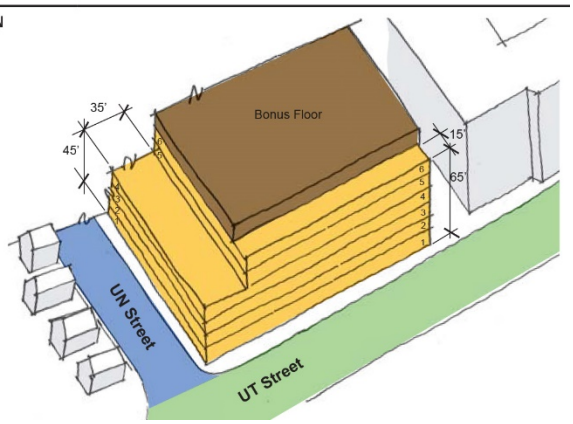
UA INTERSECTS UT
(example only)



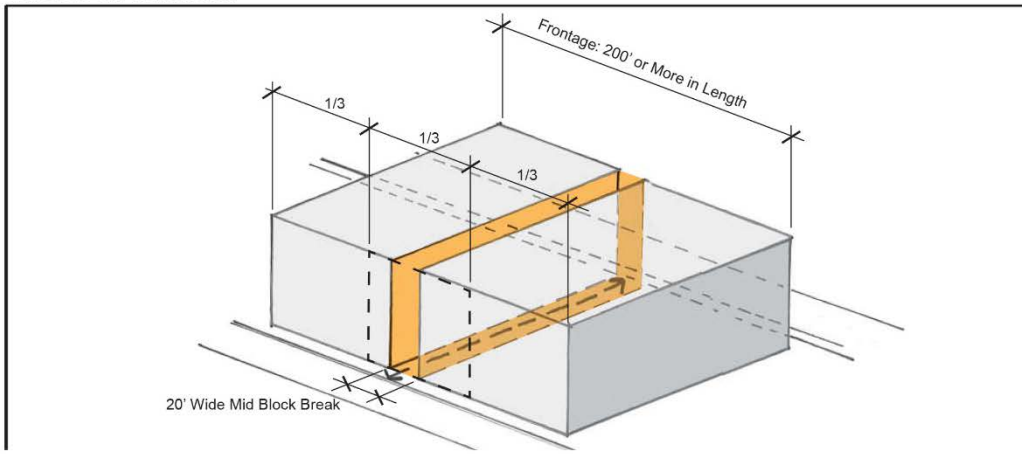
UA INTERSECTS UN
(example only)



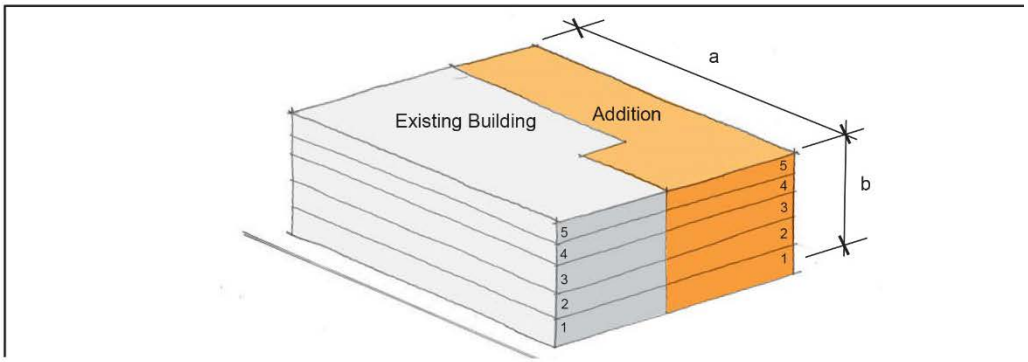
UT INTERSECTS UN
(example only)



MID-BLOCK PERMEABILITY



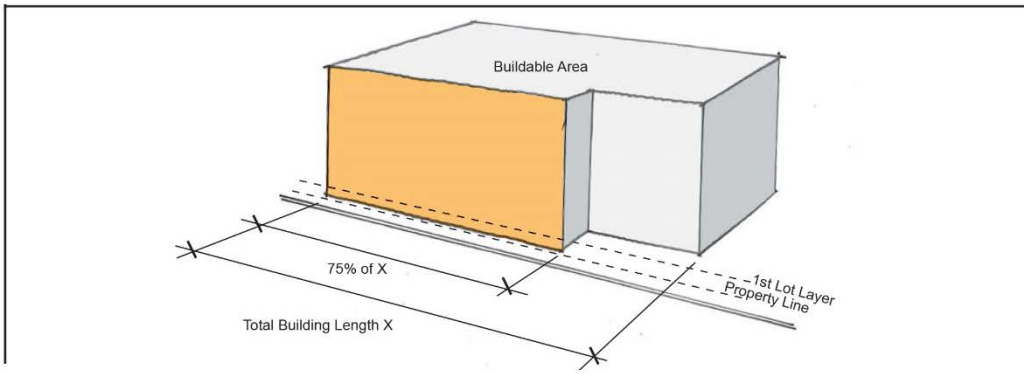
ADDITION



a - Addition length may match but not exceed the length of existing building to which it is an addition. All other Subdistrict Dimensional Requirements apply.

b - Addition height may match existing building in number and height of stories. All other Subdistrict Height Standards apply.

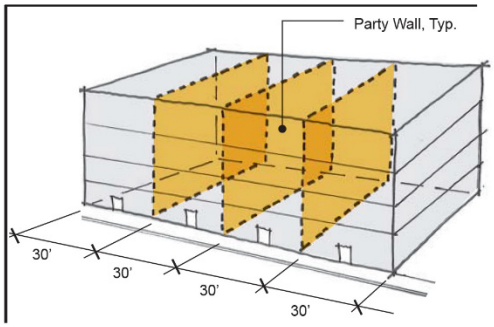
BUILDING LENGTH - 1st LOT LAYER



At least 75% of the total building length must be within the 1st LOT LAYER.

FIGURE 9-G: DIMENSIONAL REQUIREMENTS ILLUSTRATED

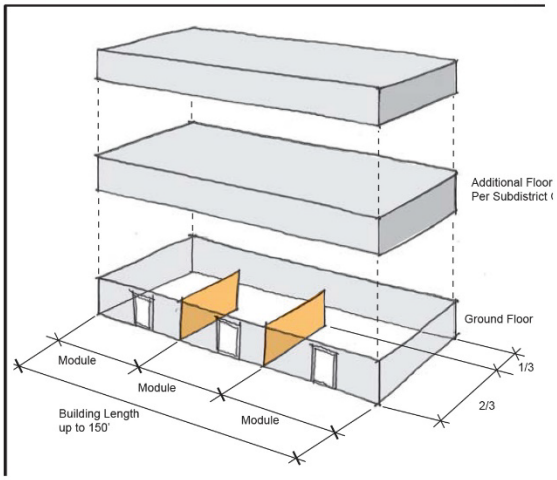
ADDITIONAL BUILDING LENGTH - ATTACHED BUILDINGS



An unlimited number of ATTACHED BUILDINGS having up to 30' street-facing building length is allowed.

A PARTY WALL condition is required at least every 30' and for the entire height of each building.

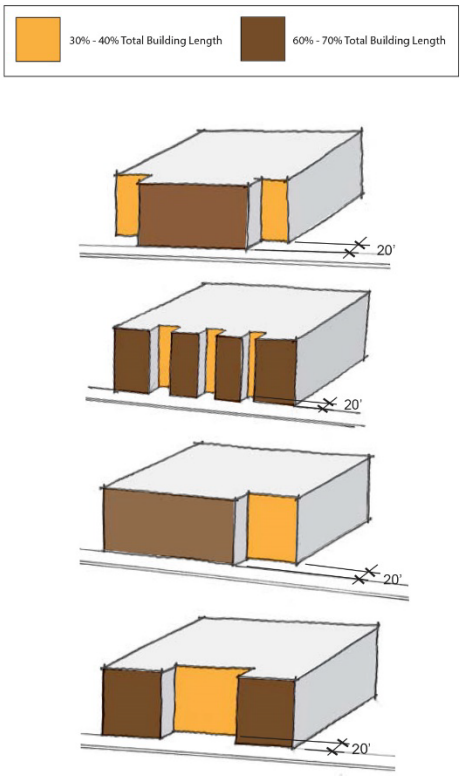
ADDITIONAL BUILDING LENGTH - GROUND FLOOR PARTITIONS (UA)



Additional Building Length is permitted up to 150' with the provision of a least two Ground Floor Partitions

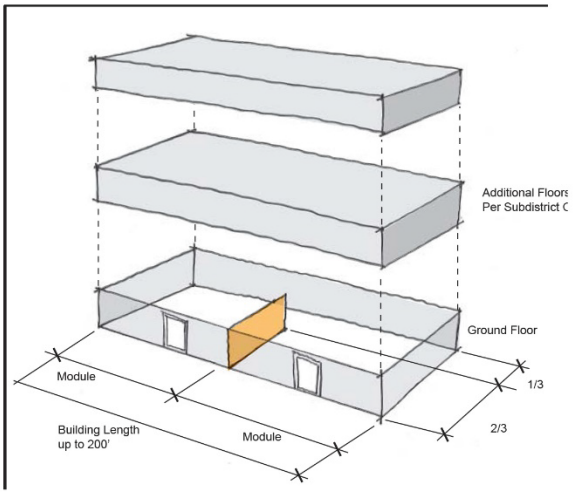
See General Development Standards and BDS for additional requirements.

ADDITIONAL BUILDING LENGTH - MASSING VARIATION (UT)



Additional building length is permitted where at least 30% and up to 40% of the total building length is setback to the 3rd LOT LAYER (20').

ADDITIONAL BUILDING LENGTH - GROUND FLOOR PARTITIONS (UT)



Additional Building Length is permitted up to 200' with the provision of at least one Ground Floor Partition.

See General Development Standards and the BDS for additional requirements.

FIGURE 9-G (CONT.): DIMENSIONAL REQUIREMENTS ILLUSTRATED



10 WATERFRONT ZONES

10.1 IN GENERAL

Portland's waterfront zones were developed to support a wide range of industries unique to the city's maritime environment that rely upon access to the working waterfront. Competing demands for limited access require a more exhaustive use list, specialized performance standards, and a unique set of dimensional restrictions that are unlike those of other zones. Given this high degree of specialization, Article 10 should generally be viewed in isolation from other articles within the Land Use Code, with the exception of waterfront-specific definitions, listed within Article 3. Uses specific to Article 10 may feature some degree of overlap with other defined uses allowed elsewhere within the city. However, in such instances, the use as referenced within this article shall control.

10.2 EASTERN WATERFRONT PORT ZONE (EWPZ)

10.2.1 Purpose

A. The Eastern Waterfront Port Zone is created to nurture deepwater-dependent activity within the context of the established waterfront. The transport of goods and passengers by water is an important component of both the local and regional economies and this transport and other forms of marine industry are dependent upon land and piers with direct access to Portland Harbor. Given the existing pier infrastructure, proximity to deep water, and urban context, Portland's Eastern Waterfront is uniquely situated to support a wide range of water-dependent industry and commerce through a variety of marine activities.

B. The support and expansion of Portland's marine industry requires piers, uplands, and circulation consistent with the transportation purpose and use of marine facilities. The growth of Portland's marine passenger industry also requires supporting services and activities to provide a safe, convenient, and enjoyable travel experience for users of marine passenger facilities. Non-marine uses that complement the marine passenger industry, are compatible with existing and future water-dependent uses, and provide opportunities for residents and visitors alike to enjoy the Eastern Waterfront throughout the year, are encouraged.

C. The primary use of the deep-water resources must be for the berthing and support of large vessels. Non-marine uses that complement and support the deepwater infrastructure and do not conflict or compete for limited space with existing or anticipated deepwater-dependent uses are encouraged. Existing and future pier infrastructure and upland support areas should be designed and maintained to support a variety of marine uses and be responsive to future technologies and trends in the marine industry.

D. Given the need to nurture and support deepwater-dependent uses and the need for non-deepwater-dependent uses to complement the marine passenger industry and to support the maintenance and repair of pier infrastructure, the Eastern Waterfront Port Zone recognizes the following hierarchy of uses:

1. The first priority of this zone is to protect and nurture existing and potential deepwater-dependent uses (those uses

requiring a minimum of 15 feet of water depth).

2. The second priority is to allow shallow water-dependent and other permitted marine uses, so long as they do not interfere with deepwater-dependent uses, either directly by displacement or indirectly by placing incompatible demands on the zone's infrastructure.
3. Other uses specified herein are allowed only if they do not interfere with and are not incompatible with higher priority uses.

10.2.2 No adverse impact on marine uses

No use shall be permitted, approved or established in this zone if it will have an impermissible adverse impact on future marine development opportunities. A proposed non-water-dependent component of a development will have an impermissible adverse impact if it will result in any one or more of the following:

A. The proposed use will displace an existing water-dependent use.
B. The proposed use will reduce existing commercial vessel berthing space.
C. The proposed use, structure or activities, including but not limited to access, circulation, parking, dumpsters, exterior storage or loading facilities, and other structures, will unreasonably interfere with the activities and operation of existing water-dependent uses or significantly impede access to vessel berthing or other access to the water by water-dependent uses.
D. The siting of a proposed use will substantially reduce or inhibit existing public access to marine or tidal waters.

10.2.3 Permitted uses

Subject to a determination that the proposed use meets the standards of Subsection 10.2.2, the following uses are permitted in the Eastern Waterfront Port Zone:

A. Marine passenger
   1. Intermodal marine passenger facilities.
   2. Cruise ship home port and port-of-call berthing and support.
   3. International and domestic ferries.
B. Marine commercial
   1. Transient and long-term commercial berthing.
   2. Marine-related warehousing.
   3. Marine-related construction, manufacturing, fabrication, salvage, and repair.
   4. Storage and repair of fishing equipment.
   5. Ship and other marine vessel construction, building, servicing, and repair.
   6. Boat and marine equipment storage.
   7. Harbor and marine supplies and services, chandleries, and ship supply such as fueling and bunkering of vessels.
   8. Public, non-profit, or commercial marine transportation and excursion services, including captained charter services, sport fishing and water taxis.
   9. Ship and off-shore support services, including but not limited to tug boats, pilot boats, and chandleries.
   10. Facilities for marine pollution control, oil spill cleanup, and servicing of marine sanitation devices.
   11. Marinas located east of the eastern boundary of the parcel of land owned by the City of Portland pursuant to a deed from the State of Maine dated February

1982 and recorded in the Cumberland County Registry of Deeds at Book 4916, Page 26.

12. Marine office, including but not limited to offices of owners of marinas, wharves or their agents, and naval architects, and seafood brokers.

C. Commercial

1. Professional, business, government, and general office located in upper floors of structures existing as of September 18, 2006.

**Editor's Note - On-site parking for non-marine commercial uses are permitted as conditional uses subject to the provisions of Subsection 10.2.4.*

2. Temporary events, except festivals as otherwise governed under paragraph (3) listed below. Buildings, piers and lands within the EWPZ may be used for temporary public and private events including but not limited to exhibitions, conferences, meetings, and trade shows under the following conditions:
   a. Temporary events occupying more than 10,000 square feet of building or outdoor space shall not exceed a combined total of 60 days between May 1st to October 31st.
   b. No temporary event may continue for more than 14 days of continuous operation.
   c. Any temporary event that anticipates more than 5,000 people in attendance on any single day must provide and be subject to a parking management plan. The parking management plan must be submitted for the review and approval of the public works authority at least 60 days prior to the first day of the event.
3. Festivals subject to City license.
4. Street vendors licensed pursuant to Chapter 19 of the City of Portland Code of Ordinances.

D. Public

1. Fire, police, and emergency services.
2. Governmental agency emergency operations/crisis centers.
3. Research, military and visiting attraction vessel berthing.
4. Landscaped pedestrian parks, plazas and other similar outdoor pedestrian spaces, including without limitation pedestrian and/or bicycle trails.

E. Other

1. A facility for non-profit organizations whose facility may include offices, classrooms, equipment, equipment rentals, storage, and bathrooms for the public.

10.2.4 Conditional uses

A. The following uses shall be permitted as conditional uses in the Eastern Waterfront Port Zone, provided that, notwithstanding Subsection 6.5.1, or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the review authority, and provided further that in addition to the provisions of Subsection 6.5.2, such uses will not impede or preclude existing or potential water-dependent development within the zone, will allow for adequate right-of-way access to the water, are compatible with marine uses, and meet all additional standards set forth below.

B. Conditional use standards

1. *Marine compatibility.* The proposed use shall be compatible with existing and potential marine uses in the vicinity, as required by Subsection 10.2.8(M) and (N).
2. *Parking and traffic circulation.* All applications for conditional use in the EWPZ shall submit a parking and circulation plan for review and approval by the Planning Board. The parking and circulation plan shall show the location of all existing and proposed structures, travel ways, and parking under the common ownership and/or control of the subject pier or property. The plan shall demonstrate that the parking and circulation of the conditional use does not interfere with the functional marine utility of the property and otherwise meets the standards and conditions of the EWPZ.

C. Conditional uses

1. *Marine*
   a. Marine products, wholesaling, and retailing.
   b. Ice-making services.
   c. Marine freight facilities providing service for, and/or intermodal transfer of, container and breakbulk freight.
   d. Marine educational facilities.
   e. Seafood retailing, wholesaling, packaging, and shipping.
   f. Seafood processing for human consumption, subject to the performance standards applicable to the I-L zone as listed in Section 6.8.
   g. Commercial marinas serving commercial and recreation boats located west of the eastern boundary of the parcel of land owned by the City of Portland pursuant to a deed from the State of Maine dated February 1982 and recorded in the Cumberland County Registry of Deeds at Book 4916, Page 26, provided that such facilities are located in areas that do not conflict with the navigation and handling of deepwater-dependent vessels accessing existing or potential deepwater berthing.
   h. Fish byproducts processing, provided that:
      i. Any fish byproducts processing facility has a valid rendering facility license under Chapter 12 of the Portland City Code of Ordinances.
      ii. Any fish byproducts facility shall employ current and appropriate odor control technology to eliminate or minimize detectable odors from such a process, and in no case shall odors exceed the odor limitation performance standards of the IM zone in Subsection 6.8.10.
      iii. The processing other material wastes or byproducts shall not be deemed a lawful accessory use permitted herein.
2. *Commercial*
   a. Structured parking available to the general public.
   b. Professional, business, government and general offices uses in upper floors of structures constructed after September 18, 2006.



c. Passenger support services supporting a marine passenger use listed under Subsection 10.2.3(A). The total ground floor area occupied by any combination of the following uses (regardless of ownership) shall not exceed 35% of the gross floor area of the principal associated marine passenger use and no more than 35,000 square feet cumulative within the EWPZ:
   i. Retail.
   ii. Restaurants/food service other than street vendors.
   iii. Retail service.
   iv. Passenger information services.

3. *Industrial.* The following industrial uses are permitted provided that such uses shall conform to the IM zone performance standards set forth in Section 6.8 in addition to the performance standards of Subsection 10.2.8. Where redundant or contradictory performance standards exist, the more restrictive standard applies.
   a. Non-marine-related warehousing in structures existing as of September 18, 2006.
   b. Facilities for combined marine and general construction.
   c. Low impact industrial uses as permitted in the IL zone in structures existing as of September 18, 2006, excluding all auto repair service facilities.
4. *Public*
   a. Utility substations. Public utility substations, including but not limited to electrical transformers, sewage and stormwater pumps and telecommunication switching stations, are permitted under the following conditions:
      i. The facility is located more than 100 feet from the water's edge.
      ii. The facility occupies no more than 50 square feet of structure above ground.
      iii. The facility provides no dedicated on-site parking and all subsurface elements of the facility are installed and operated such that land occupied by the facility is otherwise useable and made available for marine-related uses, including but not limited to parking, travel ways, and/or storage.
      iv. The facility shall be sized, sited and screened to minimize visual impact and prominence from public ways.
   b. Maritime museums, limited to 5,000 square feet of ground floor footprint.

**Editor's Note - On-site parking for non-marine commercial and industrial uses are permitted as conditional uses subject to the following provisions.*

5. *Parking for non-marine uses.* Notwithstanding Subsection 19.1.6 and Article 14 of this Land Use Code, no parking shall be allowed in this zone for non-marine uses unless the applicant can demonstrate that the number of parking spaces on-site exceeds the number of parking spaces needed to accommodate the demand for marine and water-

dependent uses that are permitted by Subsections 10.2.3 and 10.2.4 which are or may be located on the subject property. (See editor's note below.) The remainder of parking required, if any, for such non-marine uses shall be provided off-site.

**Editor's Note - Vacant ground floor space should be considered to have a parking demand similar to other space housing an existing water-dependent use elsewhere on the subject property or on a comparable property.*

D. The following use shall be permitted only upon the issuance of a conditional use permit subject to the provisions of Section 6.5, and any special provisions, standards, or requirements specified below:
   1. Wind energy systems.
   2. Solar energy systems.

10.2.5 Prohibited uses

Uses, whether floating or fixed to land, which are not enumerated in Subsections 10.2.3 or 10.2.4 as permitted or conditional uses are prohibited. Those uses that are specifically prohibited shall include, without limitation:

A. Residential uses.
B. Amusement/theme parks.
C. Bulk freight facilities.
D. On-site gambling casinos not accessory to and located aboard either a ferry or inter-port cruise ship.

10.2.6 Contract or conditional rezoning

In addition to those marine and non-marine uses authorized in Subsections 10.2.3 and 10.2.4, an applicant may apply to locate a non-marine use not otherwise permitted, if the reviewing body finds the applicant has met the standards of Subsection 10.2.2, the performance standards of Subsection 10.2.8, the applicable standards of contract/conditional rezoning contained in Section 5.3, and conforms to the following requirements:

A. Standards for contract or conditional rezoning:
   1. All non-marine uses are either permitted or conditionally permitted in the B-5 zone, and are not specifically prohibited in Subsection 10.2.5 above. Any hotel, inn, or other similar transient lodging establishment proposed must be located landward of the spring tide line and westerly of the extension of the India Street right-of-way.
   2. The aggregate ground floor area of any development permitted hereunder located within 100 feet of the pier edge or working edge of the hardened shoreline shall be occupied by at least 50% of one or more marine uses set forth in Subsections 10.2.3 and 10.2.4. Note: the circulation areas and areas occupied for accessory parking serving marine uses shall not be used as the basis for calculating the 50% provision above.
   3. The development is consistent with the Comprehensive Plan and without the non-marine use component authorized herein, the site could not otherwise support an economically viable water-dependent use.
   4. The project's public benefits outweigh its potential negative impacts, provided that such public benefits include one or more of the following: protection of existing water-dependent uses, preservation of future water-dependent use development opportunities, contribution to the development of and/or on-going



maintenance of the marine infrastructure for commercial vessels, and visual and physical access to the waterfront for the general public.

5. The non-marine portion of the development will not significantly restrict air or light for marine uses located in the immediate vicinity; will not create significant adverse local climatic effects on marine uses such as an undue increase of winds or shadowing; and will not adversely affect the efficient operation of marine uses, such as by producing less efficient traffic, parking or circulation patterns.
6. The rezoning contains adequate provisions and/or conditions to ensure that on-site water-dependent infrastructure remains occupied by commercial marine use(s) listed in Subsections 10.2.3 and 10.2.4 and that said use is not abandoned after the project is developed.

B. Notwithstanding Subsection 10.2.8(H) and off-street parking standards of Article 14, all on-site parking constructed or used for non-marine uses allowed only by contract or conditional rezoning shall be subject to the conditional use provisions Subsection 10.2.4(C)(5). Additionally, the total amount of parking shall be established by the City Council in the conditional or contract rezoning agreement after consideration of the Planning Board's recommendation on the same.

10.2.7 Dimensional requirements.

In addition to the generally applicable provisions of Section 7.5 of this Land Use Code, lots in the EWPZ shall be subject to the following requirements:

A. Minimum lot size: None

B. Minimum frontage: None

C. Minimum yard dimensions:

1. *Front setback:* None
2. *Side setback:* None
3. *Rear setback:* None
4. *Setback from pier line:* Notwithstanding the above requirements, a minimum setback of 25 feet from the edge of any pier, wharf or working edge of the hardened shoreline shall be required for any structure, provided that marine offices, as defined in Section 10.2.3(B)(12), may be located up to five feet from the edge of any pier, wharf, or working edge of the hardened shoreline. The setback area may be utilized for water-dependent uses and public uses and activities, subject to the provisions of Subsections 10.2.2 and 10.2.4, and shall not be utilized for restaurant, drinking, or other non water-dependent uses or for off-street parking. The edge of any pier, wharf or bulkhead shall include any attached apron(s).

D. Maximum impervious surface: 100%

E. Maximum building height: 45 feet, except as follows:

1. For purposes of this subsection only, moveable elements such as cranes and gantries, connection devices such as conveyors or bridges, and floating vessels shall not be subject to the space and bulk requirements, but shall be subject to a determination by the Federal Aviation Administration that the location of such equipment will not create a hazard to air traffic.

2. Rooftop appurtenances may exceed the maximum height limits of 45 feet providing that their design and placement is either fully screened or integrated into the architecture of the structure on which they sit.
3. The applicant must provide a determination from the Federal Aviation Administration that structures and equipment in excess of 45 feet will not exceed the applicable height guidelines for the runway approach and will not create a conclusive evidence that the proposed development will not create a hazard.

10.2.8 Performance standards

Development in the Eastern Waterfront Port Zone shall comply with the following standards:

A. **Outdoor storage of materials.** Outdoor storage of commodities and materials accessory to normal conduct of business shall be entirely contained, including runoff contaminants and residual material, within a designated area.

B. **Noise**

1. The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the EWPZ between the hours of 7:00 p.m. and 7:00 a.m. from facilities or operations commenced on or after July 1, 1988, shall not exceed 55 decibels on the A scale at or within the boundaries of any residential zone, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices, and maritime navigation signals.
2. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).
3. In addition to the sound level standards otherwise established, facilities or operations established or built in the EWPZ on or after July 1, 1988, shall employ best practicable sound abatement techniques to prevent tonal sounds and impulse sounds or, if such tonal and impulse sounds cannot be prevented, to minimize the impact of such sounds in residential zones. Tonal sound is defined as a sound wave usually perceived as a hum or which because its instantaneous sound pressure varies essentially as a simple sinusoidal function of time. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with a duration of less than one second.

C. **Vibration.** Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not



apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile-supported pier.

D. **Federal and state environmental regulations**. All uses shall comply with federal and state environmental statutes and regulations regarding emissions into the air, except where provisions of this code are more stringent.

E. **Discharges into harbor areas.** No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the Department of Public Works in accordance with Chapter 24, Article III of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24, Article II of the City of Portland Code of Ordinances and federal and state environmental statutes and regulations regarding wastewater discharges.

F. **Storage of vehicles.** Storage of any unregistered automotive vehicle on the premises for more than 10 days shall not be permitted.

G. **Landfill of docking and berthing areas.** Landfill of docking and berthing areas shall be governed by 38 M.R.S. § 471-478, and permitted only if the landfill does not reduce the amount of linear berthing areas or space, or berthing capacity. If approved, construction shall be undertaken using methods approved by the Department of Public Works and shall be accomplished in a manner so as to ensure that a stable and impermeable wall of acceptable materials will completely contain the fill material and will not permit any fill material to leach into docking areas or navigable waters.

H. **Off-street parking and loading**. Off-street parking and loading is subject to provisions as provided in Article 19.

I. **Shoreland and Flood Plain Management regulations.** Any lot or a portion of a lot located in a Shoreland Zone as identified on the City zoning map or in a flood hazard area shall be subject to the requirements of Articles 11 and 12.

J. **Lighting.** All lighting on the site shall be shielded such that direct light sources shall not interfere with vessels transiting the harbor, nor have an unreasonable adverse impact on adjacent residential zones, and shall be compliant with the site lighting standards of the City of Portland *Technical Manual*.

K. **Signs.** Signs shall be permitted as set forth in Article 20.

L. **Storage of pollutants and oily wastes**. On-premises storage of pollutants and oily wastes shall not be permitted for more than 45 days.

M. **Compatibility of non-marine uses with marine uses.** Non-marine uses, structures, and activities, including but not limited to access, circulation, parking, dumpsters, exterior storage, and loading facilities or other structures shall neither unreasonably interfere with the existence or operation of marine uses nor significantly impede access to vessel berthing or other access to the water by existing or potential marine uses.

N. **Functional utility of piers and access to the water's edge.** All development, whether for marine or non-marine uses, must anticipate current and future needs of water-dependent uses to functionally access the water's edge for

the transfer of goods, materials, and passengers between berthed vessels and land bound vehicles. Provisions for the storage and movement of goods, materials, and passengers must be designed into all waterside development and internal circulation routes must be maintained or otherwise provided as an element of any development.

10.3 WATERFRONT CENTRAL ZONE (WCZ)

10.3.1 Purpose

A. The Waterfront Central Zone was created to protect and nurture water-dependent and marine-related support uses so that they may grow and prosper in the present and into the future in an environment and area dedicated to this purpose. The following priority of uses is recognized:

1. The first priority of this zone is to protect and nurture existing and potential water-dependent uses in a setting that enforces their continued economic viability.
2. The second priority is to encourage other marine and marine-related support uses so long as they do not interfere with water-dependent uses, either directly by displacement or indirectly by placing incompatible demands on the zone's infrastructure.
3. Non-marine uses are encouraged provided that they do not interfere with and are not incompatible with first and second priority uses. Non-marine uses are beneficial to the waterfront economy because they provide the financial return to property owners necessary for the maintenance and improvement of the marine infrastructure.

B. Water-dependent and marine-related support uses by their nature have activities and operational needs that are unique to this area and are not shared by other commercial and industrial uses in the city. These first and second priority uses and related activities may result in noise, odor, dust, hours of operation, parking, and traffic patterns and traffic control needs that are necessary for the convenient and successful conduct of such uses. Other uses may not be compatible with these types of effects. Other specified uses are permitted in the Waterfront Central Zone, provided that they do not significantly interfere with the activities and operation of water-dependent and marine-related support uses. Such uses must be, and are assumed to be, aware of the impacts associated with marine uses and therefore must accept and be tolerant of them. Other specified uses in the zone shall accommodate to those patterns and needs of the higher priority uses so long as those higher priority uses are not detrimental to public health and safety and the higher priority activities are conducted in accordance with sound practices or practices customary in the trade.

C. Commercial Street is recognized as an important economic center for the city and region. Marine-compatible uses are encouraged to locate and grow along Commercial Street while higher priority marine uses are protected on the waterfront.

10.3.2 Definitions

For the purposes of the Waterfront Central Zone only, the following terms shall have the following definitions:



Common circulation drives. Private driveways, roadways and circulation areas accessible to all on-site tenants and/or occupants of a lot within the Waterfront Central Zone providing access from/to the public street network.

Lot. Any abutting property under common ownership.

Commercial Street Overlay Zone (CSOZ). The Commercial Street Overlay Zone (CSOZ) is a portion of the Waterfront Central Zone, as described below, where new and existing development may be occupied with 100% non-marine use tenants listed under Subsection 10.3.3(B), subject to the standards and use limitations provided in Subsection 10.3.7(B). The geographic limits of the CSOZ are defined by parcels of land and piers within the Waterfront Central Zone located on the landward side of a line established 125 feet south of the southerly sideline of Commercial Street and modified as follows: the seaward limit of the CSOZ extends to a line 300 feet south of the southerly sideline of Commercial Street in the area between the easterly and westerly sideline of Long Wharf. Additionally, all areas subject to this provision are set back landward at least 25 feet from the average high tide line of Portland Harbor and associated coastal wetlands. Where the 125 foot offset intersects with the footprint of a building existing as of May 2019 and such intersection leaves 75% or more of the building within the CSOZ, the entire building shall be considered included in the CSOZ. All offset distances are measured horizontally. All applicants for development within the CSOZ are responsible for demonstrating their location within CSOZ according to the findings of a site specific land survey conducted by a professional land surveyor licensed by the State of Maine. The limits of the CSOZ shall be shown on all site plans and subdivision plats for proposed development within the CSOZ.

On-site. That portion of any lot included within or directly impacted by a proposed development.

10.3.3 Permitted uses

Subject to a determination that the proposed use meets the standards of Subsection 10.3.7, as applicable, the following uses listed under Subsection 10.3.3(A), (B), (C), and (D) are permitted anywhere in the Waterfront Central Zone. Uses listed under Subsection 10.3.3(E) are only permitted in the CSOZ.

A. Marine

1. Marine products wholesaling, distribution and retailing.
2. Marine repair services and machine shops.
3. Tugboat, fireboat, pilot boat and similar services.
4. Harbor and marine supplies and services, chandleries, and ship supply such as fueling and bunkering of vessels.
5. Marine industrial welding and fabricating.
6. Shipbuilding and facilities for construction, maintenance, and repair of vessels.
7. Commercial marine transport and excursion services, including ferries, captained charter services, sport fishing, and water taxis.
8. Cargo handling facilities, including docking, loading, and related storage.
9. Boat repair yards.

10. Boat storage facilities, excluding rack storage facilities (Boat rack storage facilities are included as a conditional use).
11. Seafood processing and retailing.
12. Seafood packing and packaging.
13. Seafood loading and seafood distribution.
14. Fabrication, storage, and repair of fishing equipment.
15. Ice-making services.
16. Facilities for marine construction and salvage.
17. Facilities for marine pollution control, oil spill cleanup, and servicing of marine sanitation devices.
18. Fabrication of marine-related goods.
19. Fishing and commercial vessel berthing.
20. Non-commercial berthing of a maximum of 50 linear feet per pier. A non-commercial berth may not displace a commercial berth. Parking for any non-commercial berthing is subject to the provisions of Subsection 10.3.9(G).
21. Marine office, including but not limited to offices of owners of wharves or their agents, and naval architects, and seafood brokers.
22. Public landings.
23. Marine research, education, and laboratory facilities.
24. Bait sales and processing.
25. Harbor security and emergency response services including but not limited to Harbor Master, Marine Patrol and Coast Guard.
26. Commercial parking for water-dependent use business owners and employees.

B. Non-marine commercial and industrial uses. Non-marine uses permitted by this subsection are subject to the standards listed in Subsection 10.3.7.
   1. Professional, business, government, and general offices, except for offices for health care practitioners or health clinics which are only permitted in the CSOZ.
   2. Cabinet and carpentry shops, studios for artists and crafts people.
   3. Intermodal transportation facilities.
   4. Cold storage facilities.
   5. Commercial kitchens.
   6. Outside accessory activities.

C. Public
   1. Landscaped pedestrian parks, plazas, and other similar outdoor pedestrian spaces, including without limitation pedestrian and/or bicycle trails.

D. Other
   1. Interior accessory uses customarily incidental and subordinate to the location, function, and operation of permitted uses. Food service establishments, newsstands, and other similar retail and service support uses shall only be permitted as accessory uses if they are part of and located within the lot lines of a use set forth in Subsections 10.3.3(A)(1), (7), (11) or (22); such uses do not exceed 2,000 square feet in total floor area of the building, or 25% of the total floor area of the building, whichever is less, and each individual accessory use does not exceed 1,000 square feet in total floor area of the building; and further provided that such accessory uses provide goods or services that are supportive of the principal use and



its clientele. Exterior accessory uses shall be otherwise subject to the provision of Subsection 10.3.7(A).

2. Interior meeting or classroom space accessory to uses permitted in Subsection 10.3.3(A)(23) may be rented out for meeting use by marine-related or non-marine-related groups or organizations, or the general public, and such accessory uses shall not be subject to the limitations contained in (B) above, but shall only be permitted as accessory uses if the total of all support uses, including interior meeting or classroom space, does not exceed 3,000 square feet in total floor area per building, or 15% of the total floor area per building, whichever is less.

E. **Uses permitted only within the Commercial Street Overlay Zone (CSOZ).** Uses permitted by this subsection are subject to the standards listed in Subsection 10.3.7(B).

1. Retail and service establishments, including craft and specialty shops.
2. Restaurants provided that full course meal food service and consumption shall be the primary function of the restaurant, and full course meal service shall be continued up until the hours of closing.
3. Banking services without drive-up services.
4. Museums and art galleries.
5. Street vendors licensed pursuant to Chapter 19.
6. Offices of health care practitioners or health care clinics.
7. Personal service establishments.

10.3.4 Conditional use

The uses listed herein shall be permitted as conditional uses in the Waterfront Central Zone, provided that, notwithstanding Section 6.5, or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the review authority, and further provided that in addition to the provisions of Subsection 6.5.2, they shall also meet the applicable Waterfront Central Zone development standards in Subsection 10.3.7:

A. **Commercial marine conditional uses**

1. Fish by-products processing, provided that:
   a. Any fish by-products processing facility has a valid rendering facility license under Chapter 12 of the City of Portland Code of Ordinances.
   b. Any existing fish by-products facility shall employ current and appropriate odor control technology (and any new fish by-product use shall employ current, available odor control technology) to eliminate or minimize detectable odors from such a process, and in no case shall odors exceed the odor limitation performance standards of the I-M zone.
   c. The processing of other material wastes or by-products shall not be deemed a lawful accessory use under any other provision of this article.
2. Boat rack storage facilities, provided that:
   a. Parking shall be provided for 100% of the demand generated by the use (nothwithstanding Subsection 10.3.9(G), and such parking shall be provided off-site, in another zone permitting such use.

b. Boat rack structures shall not exceed 10,000 square feet of building footprint.

B. **Utility substations.** Public utility substations, including but not limited to electrical transformers, sewage, and stormwater pumps, and telecommunication switching stations, are permitted under the following conditions:
   1. The facility is located more than 100 feet from the water's edge.
   2. The facility occupies no more than 50 square feet of structure above ground.
   3. The facility provides no dedicated on-site parking and all subsurface elements of the facility are installed and operated such that land occupied by the facility is otherwise usable and made available for marine uses, including but not limited to parking, travel ways, and/or storage.
   4. The facility shall be sized, sited and screened to minimize visual impact and prominence from public ways.

C. **Wind energy systems.**

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10.3.5 Prohibited uses

Uses which are not enumerated in either Subsections 10.3.3 or 10.3.4 as permitted or conditional uses are prohibited. Uses enumerated in Subsection 10.3.3(E) shall be considered prohibited uses outside of the CSOZ. Those uses that are prohibited shall include, without limitation:

A. Residential uses.
B. Hotels, motels, hostels, bed and breakfasts, inns, lodging houses, tourist homes, short-term rentals, or boatels.
C. Auditoriums, civic centers, convention centers, or other meeting facilities not accessory to an otherwise permitted use.
D. Drinking establishments, private clubs, or non-profit social and recreational clubs.
E. Ground mounted telecommunication towers, antennas, and/or disks.
F. Drive-up services for any use other than a permitted use listed under Subsections 10.3.3(A) or 10.3.4(A)(1).
G. Auto service stations.
H. Laundry and dry-cleaning services.
I. Convenience stores with gas pumps.
J. Commercial parking for non-marine uses.

10.3.6 Dimensional requirements

In addition to the generally applicable provisions of Section 7.5 of this Land Use Code, lots in the Waterfront Central Zone shall be subject to the following requirements:

A. **Minimum lot size:** None
B. **Minimum frontage along Commercial Street:** 75 feet
C. **Minimum lot width within the CSOZ:** 50 feet measured parallel with Commercial Street and such lot width shall be continuous for the full depth of the lot located within the CSOZ.
D. **Minimum yard dimensions:**
   1. *Front setback:* None
   2. *Side setback:* None
   3. *Rear setback:* None
   4. *Setback from pier edge:* Notwithstanding the above requirements, a minimum first-floor setback of 10 feet from the edge of any pier, wharf, or bulkhead shall be required for any structure, exclusive of structurally necessary posts supporting upper floors, and deck-mounted equipment for loading and unloading vessels. The edge of any pier, wharf, or bulkhead shall include any attached



apron(s). Floats, rafts, and/or barges not structurally integral to the pier, wharf, or bulkhead may not be used to satisfy this requirement. Parking for non-marine uses shall not occupy the 10-foot setback.

E. **Maximum lot coverage:** 100%

F. **Maximum building height:** 50 feet. Except as provided in (H) below, a structure in the Waterfront Central Zone shall provide no more than three habitable floors, however, typical rooftop appurtenances and/or enclosed or open mechanical installations shall be allowed over the third floor.

G. **Minimum ground floor clearance:** Any new building proposed to be larger than 300 square feet and located more than 35 feet from the southerly sideline of Commercial Street shall provide no less than 15 feet of first floor to ceiling vertical clearance to promote marine industrial use potential. New buildings less than 300 square feet or additions to existing multistory buildings are exempt from this provision but shall provide the maximum ground floor clearance practicable.

H. **New non-marine use building exception for usable floors and minimum ground floor clearance:** Notwithstanding provisions (F) and (G) above, for new non-marine use buildings permitted within the CSOZ, four usable floors are allowed and ground floor clearance minimums do not apply.

10.3.7 Development standards

A. **Standards for non-marine uses located outside of the CSOZ.** Non-marine uses listed above in Subsection 10.3.3(B) and 10.3.4(B) that are located outside of the CSOZ shall be subject to the performance standards listed in Subsection 10.3.9 as well as the following standards:

1. *55% marine use required on ground floors.* At least 55% of the leasable ground floor area of all buildings on a lot (defined in Subsection 10.3.2 above), shall be occupied by marine uses, as listed under Subsection 10.3.3(A) or 10.3.4(A)(1).
2. *55% marine use required for all open areas.* After subtracting areas used for common circulation drives (defined in Subsection 10.3.2 above), at least 55% of unbuilt area (meaning area not occupied by a building) on the lot, when calculated using the aggregate of all such unbuilt areas, shall be occupied by marine uses as listed under Subsection 10.3.3(A) or 10.3.4(A)1.
3. *Ground floor vacancies and change of occupancy offered to water-dependent/marine uses.* Ground floor vacant space and areas proposed for a change of occupant outside of the CSOZ shall not be filled with any non-marine use without adequate opportunity for marine uses to occupy the space.
   a. Ground floor vacancy and change of occupant outside of the CSOZ advertised to marine users: In any lot or portion of lot outside of the CSOZ, each time a ground floor occupant departs or gives notice to depart from the lot, the space, along with any associated parking spaces to be vacated, must be made available to new marine occupants. Prior to renting to a non-marine user the property owner shall advertise for a new marine occupant for not less than

a 180-day period in targeted media and by other means reasonably calculated to reach marine users (e.g. local marine trade publications, marine trade websites, waterfront bulletins.) Should one or more marine users apply, the property owner shall make the space available to a marine occupant, in accordance with terms and rates generally consistent with comparable space in the 55% marine use portion of the zone (outside of the CSOZ.) The property owner may stop advertising sooner than the end of the 180-day period if a lease is signed with a marine user. Should no marine user apply by the end of the 180-day period, the owner may fill the space with a non-marine user provided that the new non-marine occupant will not cause the lot to exceed the non-marine use occupancy maximum of 45% of the ground floor area or open area.

b. Uses inventoried: To demonstrate adherence to the 55% marine use requirement, the applicant shall submit to the Planning Authority, upon request, an inventory which lists each occupant (tenant or otherwise), as well as a map which depicts the location of each occupant. The map shall show all ground level space, including buildings, parking, open areas and submerged lands associated with the subject lot. For each occupant, the property owner must indicate the square footage of area occupied and whether the occupant is a marine use as defined herein. For vacant space, the last previous occupant shall be listed, along with the date of departure.

c. Prior to changes of occupancy and/or as part of applications for new development outside of the CSOZ, the property owner or applicant shall provide proof of compliance with the requirements of this section as a condition of approval.

4. *Pier or bulkhead edge reserved for marine uses.* Notwithstanding any provision of this ordinance to the contrary, excepting only the portion of any pier which might be used for non-commercial berthing pursuant to Subsection 10.3.3(A)(20), all berthing and/or dockage space and associated floats plus the entire linear edge of that portion of every pier or bulkhead which is adjacent to greater than zero feet of water depth at mean low water, to a minimum setback line of at least 10 feet from the edge of the pier, bulkhead, or engineered shoreline may only be used or occupied by one or more marine uses as defined in Subsection 10.3.3(A) or 10.3.4(A). Said edge shall be the seaward extent of any engineered shoreline or working deck of any pier or wharf.

B. CSOZ standards. Non-marine uses listed under Subsections 10.3.3(B), 10.3.3(E) and 10.3.4 located within the CSOZ, as defined in Subsection 10.3.2, shall be subject to the performance standards listed in Subsection 10.3.9 as well as the following standards:



1. *Vessel access.* Non-marine uses allowed under this provision shall not disrupt or block access to vessel berthing and shall otherwise adhere to the performance standards of this zone described in Subsection 10.3.9.
2. *Maximum setback for new development on lots with 75 or more feet of Commercial Street frontage.* Any new non-marine development constructed subject to this provision which is located on a lot with 75 or more feet of frontage along the Commercial Street right-of-way shall be located with its front façade no further than 35 from the southerly sideline of the Commercial Street right-of-way. Furthermore, any such development shall orient its front façade and its primary pedestrian entrance toward Commercial Street and no vehicular circulation or parking may occupy the land or pier area between the front façade of the building and Commercial Street. Non-marine development subject to this provision on lots with fewer than 75 feet of frontage along the Commercial Street right-of-way, changes of use within existing buildings, and/or building additions of less than 5,000 square feet of new development to existing buildings are exempt from the maximum setback provisions established herein.
3. *Investment in marine infrastructure.* All applicants for site plan review or a change of use permit for non-marine development in the CSOZ are required to invest in marine infrastructure as a condition of development, provided that the total project costs exceed $250,000. The value of the investment shall be not less than 5% of total project costs over $250,000 for constructing non-marine space and associated site improvements in the CSOZ. Required investment may occur by one or both the following methods:
   a. Direct investment in marine infrastructure located on the same lot: Investment shall be for the benefit of marine uses listed in Subsection 10.3.3(A) within the same lot as the proposed non-marine development. Investment may include dredging, pile replacement, new or replaced structural decking (but not pavement resurfacing), new or replaced fendering systems, new or replaced floats, pier expansions, permanent conversions of recreational berthing to commercial berthing, bulkhead or seawall repair or improvements, or any combination of similar improvements. Plans for the marine infrastructure investment shall be submitted to the Planning Authority with the application for site plan review or change of use permit and shall include details and a commitment as to how the marine infrastructure will be utilized by marine users. The marine infrastructure improvements shall be completed prior to the issuance of a certificate of occupancy for the non-marine development project.
   b. Financial contribution: If direct investment in marine infrastructure is

not made, the developer shall make a financial contribution to the City's Waterfront Loan and Investment Fund.

10.3.8 No contract or conditional rezoning permitted

A. This section is intended to accomplish goals from *Portland's Plan 2030.* Specifically, these changes will:
   1. Prioritize and promote Portland's unique mix of water-dependent, marine-related and compatible non-marine uses.
   2. Recognize and reinforce the respective roles of the Eastern, Central, and Western Waterfronts.
   3. Celebrate, promote, and protect Portland's lobster and fishing industry as a foundation of the region's economy and a feature of civic pride.

B. In light of these goals and the significance of the Central Waterfront to the City's future, no contract or conditional rezoning applications may be approved in the Waterfront Central Zone.

10.3.9 Performance standards

All uses in the Waterfront Central Zone shall comply with the following standards:

A. **Outdoor storage of materials.** Outdoor storage of commodities and materials accessory to normal conduct of business, except pilings and/or cranes, shall be permitted to a maximum height of 45 feet, and such materials shall be entirely contained, including runoff contaminants and residual material, within a designated area within the lot boundaries.

B. **Noise**. The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the Waterfront Central Zone shall not exceed 75 decibels on the A scale at the boundaries of any lot, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, and sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).

C. **Vibration.** Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile supported pier.

D. **Discharges into harbor areas**. No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the



Department of Public Works in accordance with Chapter 24, Article III of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24, Article II of the City of Portland Code of Ordinances and federal and state environmental statutes and regulations regarding wastewater discharges.

E. **Storage of vehicles**. Storage of any unregistered automotive vehicle on the premises for more than 60 days shall not be permitted.

F. **Landfill of docking and berthing areas**. Landfill of docking and berthing areas shall be governed by 38 M.R.S. § 480-A through 480-HH, and permitted only if the landfill does not reduce the amount of linear berthing areas or space, or berthing capacity. If approved, construction shall be undertaken using methods approved by the Department of Public Works and shall be accomplished in a manner so as to ensure that a stable and impermeable wall of acceptable materials will completely contain the fill material and will not permit any fill material to leach into docking areas or navigable waters.

G. **Off-street parking and loading.** No off-street parking or loading shall be required under Article 19.

H. **Lighting**. All lighting on the site shall be shielded such that direct light sources shall not unreasonably interfere with vessels transiting the harbor nor have an unreasonable adverse impact on adjacent residential zones.

I. **Storage of pollutants and oily wastes**. On-premises storage of pollutants and oily wastes shall not be permitted for more than 45 days.

J. **Urban design**. Construction of new structures located within 35 feet of the southerly edge of Commercial Street between Maine Wharf and the easterly property line of the City fish pier shall conform to the guidelines set forth in the Downtown Urban Design Guidelines, unless such structures are also located within 100 feet of the water. Such structures that are also located within 100 feet of the water shall conform to the extent practicable to the Downtown Urban Design Guidelines.

K. **Pier and wharf expansions.** In addition to meeting Harbor Commission and Coast Guard requirements for navigation, any expansion or extension of a pier and or wharf in the Waterfront Central Zone shall demonstrate its compatibility with fixed route ferry service and emergency vessel operations.

L. **Public view protection**

1. Any new development in the Waterfront Central Zone shall perform a public view impact analysis for review and approval by the Planning Board or Planning Authority as a condition of site plan approval. The analysis shall:
   a. Demonstrate the project's adherence to the Portland View Corridor Protection Plan (City of Portland Comprehensive Plan, 2002) to the extent practicable.
   b. Promote the public's visual access to the water through sensitive building placement.

2. The Planning Board or Planning Authority shall find at a minimum that the proposed development:
    a. Retains street corridor views as extended across Commercial Street from the Portland peninsula.
    b. Retains panoramic views of the water from Commercial Street to the extent practicable.
    c. Where loss of existing public views to the water is shown to be necessary for the reasonable development of the site, the developer provides alternative public views to the water through newly established view corridors or publicly accessible pedestrian ways. Such pedestrian ways shall not interfere with existing or potential water-dependent uses, nor shall they endanger the public through uncontrolled proximity to industrial activity.

M. Operations and access management plan

1. Any new development, including changes of use or expansion of uses in the Waterfront Central Zone, shall submit a scaled plan and accompanying narrative that demonstrates waterfront access and functional accommodation for water-dependent uses. In accordance with *Portland's Plan 2030,* the plan shall demonstrate consistency with the hierarchy of waterfront uses, as further detailed in Subsection 10.3.1, with non-marine and marine-related uses being subordinate in placement and disposition to water-dependent uses, and designed so as not to impede access to the pier edge and vessel berthing nor interfere with marine operations.
2. The plan shall, at a minimum, illustrate the following information:
    a. Location of all existing and proposed structures, rights-of-way, common circulation drives as defined in Subsection 10.3.2, access-ways, sidewalks, pier edges, floats, and docks, showing the entire lot in the context of its respective pier.
    b. Existing and proposed off-street parking, labeled with associated uses.
    c. Facilities for the loading and unloading of goods and materials.
    d. Regularly occurring exterior activities including but not limited to the storage of material, equipment and vehicles, yard area, outdoor seating, and on-site waste management.
    e. Signage showing parking use, wayfinding, and posted operational restrictions.
    f. Plan narrative detailing how the standards listed below are achieved, tenant/landlord communication protocols, private enforcement actions to be employed to ensure plan compliance, and the responsible parties representing the property owner.
3. The operations and access management plan shall be reviewed by the Planning Authority.
4. In addition to the information above, the plan shall demonstrate compliance with the following standards:

a. Off-street parking is subject to the limitations described in Subsection 10.3.7 (A)("55% Rule"). Off-street parking spaces intended for use by water-dependent uses shall be sited as close as reasonably possible to associated vessels and/or ground-floor lease area.
b. Proposals for new non-marine parking, accessory to an otherwise permitted use in the WCZ, shall submit a parking analysis for all uses on the subject lot, justifying the number of non-marine spaces based upon the proposed use and demonstrating sufficient parking supply for marine uses. If sufficient parking is not available to marine uses, off-street parking for non-marine uses shall not be permitted.
c. Off-street parking, loading facilities, and access ways designated for water-dependent uses shall be exclusive to such uses, except that, if not being occupied by water-dependent tenants, such parking may be made available to non-marine uses between the hours of 5:00 p.m. and 2:00 a.m. Any such shared parking arrangements shall be documented in the operations and access management narrative described above, and clearly signed on-site.
d. All properties providing commercial berthing shall demonstrate reasonable opportunities to load and unload vessels from the subject lot.
e. Facilities for the loading and unloading of goods shall account for the frequency of use and vehicle type and, to the extent possible, minimize impacts to pedestrian and vehicle circulation patterns.
f. Provisions for the storage and movement of goods and materials shall be designed into all pier edge development. Circulation routes must be maintained or otherwise provided as an element of all development. The siting, design, and circulation of non-marine uses, particularly those allowed on first floors, shall accommodate reasonable access for pedestrians, vehicles, and freight transfer to and from berthed vessels.
g. Non-marine uses shall provide a dedicated pedestrian route between the proposed use and Commercial Street, and shall seek to minimize conflict with vehicle traffic.

10.4 WATERFRONT PORT DEVELOPMENT ZONE (WPDZ)

10.4.1 Purpose

Transport of goods by water to and from Portland is an important component of both the local and regional economy. This commerce is dependent upon land with direct access to the dredged deep-water channel of the Fore River and Portland Harbor. The Port of Portland is integral to the City's economic, cultural and fiscal health. This zone exists to ensure the continued viability of the Port of Portland. Uses in the Waterfront Port Development Zone, while governed by the similar performance standards as other industrial zones, are primarily

limited to those uses which are dependent upon deep water and which contribute to port activity. Non-marine activity may be allowed to the extent it will not have any adverse impact on marine uses.

10.4.2 No adverse impact on marine uses

No use shall be permitted, approved or established in this zone if it will have an impermissible adverse impact on future marine development. A proposed development will have an impermissible adverse impact if it will result in any one or more of the following:

A. The proposed non water-dependent use will displace an existing water-dependent use.
B. The proposed use will reduce existing commercial vessel berthing space.
C. The proposed nonwater-dependent use, structure, or activities, including but not limited to access, circulation, parking, dumpsters, exterior storage, or loading facilities, and other structures, will unreasonably interfere with the activities and operation of existing water-dependent uses or significantly impede access to vessel berthing or other access to the water by water-dependent uses.
D. The siting of a proposed nonwater-dependent use will substantially reduce or inhibit existing public access to marine or tidal waters.

10.4.3 Permitted uses

Subject to a determination that the proposed use meets the standards of Subsection 10.4.2, the uses in Table 10-A are permitted (●) or conditional (◐) in the Waterfront Port Development Zone.

10.4.4 Conditional use standards

Conditional uses shall be permitted in the Waterfront Port Development Zone, provided that, notwithstanding Section 6.5 or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the review authority. In addition to the provisions of Section 6.5, such uses will:

A. Not impede or preclude existing or potential water-dependent development on other lots.
B. Allow for adequate access to the water.
C. Be compatible with water-dependent and marine uses.
D. Operationally support one or more water-dependent use(s), or be located in a building or structure that is physically adaptable or relocatable to make way for future development of water-dependent uses.
E. Meet any additional performance and dimensional standards set forth below.

10.4.5 Prohibited uses

Uses which are not enumerated in Table 10-A as permitted or conditional uses are prohibited. Those uses that are prohibited shall include, without limitation:

A. Residential uses.
B. Hotels, motels, or boatels.
C. Auditoriums, civic centers, convention centers, or other meeting facilities.
D. Restaurants and drinking establishments.
E. Marinas, including marina associated boat storage facilities.
F. Truck terminals.



TABLE 10-A: WPDZ PERMITTED AND CONDITIONAL USES

Marine	Marine repair services and machine shops	●
	Tugboat, fireboat, pilot boat, and similar services	●
	Harbor and marine supplies and services and ship supply, such as fueling and bunkering of vessels	●
	Shipbuilding and facilities for construction, maintenance, and repair of vessels	●/◐[1]
	Marine cargo handling facilities, including docking, loading and related storage	●/◐[1]
	Boat repair yards	●/◐[1]
	Facilities for marine construction and salvage	●/◐[1]
	Facilities for marine pollution control, oil spill cleanup, and servicing of marine sanitation devices	●
	Marine retail and wholesale sales, including yacht brokerage	◐
	Boat storage facilities	●/◐[1]
	Seafood processing	◐
	Seafood packing and packaging	◐
	Fabrication, storage, and repair of fishing equipment	◐
	Ice-making services	◐
	Fabrication of marine-related goods	◐
	Fish by-products processing, provided that any fish by-product processing facility has a valid rendering facility license under Chapter 12 and the processing of other material wastes or by-products shall not be deemed a lawful accessory use under any other provision of this article.	◐
	Commercial berthing	●
Industrial	Intermodal transportation facilities principally for vessels with regularly scheduled destination service or for railroad transportation service	●/◐[1]
	Marine cargo container and chassis maintenance and repair	●
	Facilities for combined marine and general construction	◐[1]
	Cold storage facility, warehousing, and storage of goods which are awaiting shipment via cargo carriers	◐[1]
	Low impact industrial uses, including but not limited to bakeries, breweries, bottling, printing and publishing, pharmaceuticals, machine shops, manufacture of products, assembly of electrical components, tool and die shops, and the packaging of food, provided that such uses shall be subject to the performance standards of the I-M zone	◐
Public	Public uses including pedestrian and bicycle trails	●
	Utility substations, including sewage collection and pumping stations, water pumping stations, transfer stations, telephone electronic equipment enclosures and other similar structures, provided that such structures are located more than 100 feet from the water.	◐
Other	Off-street parking lots, excluding parking structures	◐
	Accessory uses customarily incidental and subordinate to the location, function, and operation of permitted uses[2]	●
	Minor solar energy systems	●
	Minor wind energy systems	◐

[1] Uses that may be located in buildings that exceed the maximum permitted height. Uses marked ●/◐ will be considered permitted uses when occupying buildings with a maximum height equal to or less than the maximum applicable height allowable under the permitted use dimensional standards, and conditional Uuses when above that height.

[2] Food service establishments, including food trucks and other similar retail and service support uses shall only be permitted as accessory uses if all such uses do not exceed 2,000 SF in total floor area of the building and each individual use does not exceed 1,000 SF in total floor area of the building; and further provided that such accessory uses provide goods or services that are supportive of the principal use and its clientele.



TABLE 10-B: WPDZ DIMENSIONAL REQUIREMENTS

	Permitted Use Dimensional Standards	Conditional Use Dimensional Standards
Setbacks (min.)	N/A	N/A
Lot size (min.)	N/A	5 acres, limited to 1 building greater than the maximum applicable height allowed under the permitted use dimensional standards.
Setback from pier line, wharf, or bulkhead (including any attached aprons)(min.)[1]	5 ft.	5 ft.
Lot coverage (max.)	50% east of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.	50% east of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.
	100% west of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.	100% west of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive.
Building height (inclusive of roof forms and rooftop appurtenances)(max.)[2]	55 ft. east of a line projected due south from the centerline intersections of West Commercial Street and the easterly most Cassidy Point Drive and west of Casco Bay Bridge.	60 ft. west of the Casco Bay Bridge[7], except as follows: 75 ft. in the area east of a line projected due south from the centerline intersections of W. Commercial Street and the easterly most Cassidy Point Drive and west of Casco Bay Bridge, on lots 5 contiguous acres or larger. [4] 130 ft. for bulk storage[3] facilities west of the projection of the westerly most Cassidy Point Drive segment.
	60 ft. west of a line projected due south from the centerline intersections of West Commercial Street and the easterly most Cassidy Point Drive.	
	In no case may any permitted heights exceed 50ft within 100ft of W.Commercial Street and all area of the WPDZ east of the Casco Bay Bridge. [5]	In no case may any conditionally permitted heights exceed 50ft within 100ft of W. Commercial Street and all area of the WPDZ east of the Casco Bay Bridge.[5]
Building length (max.)[6]	450 ft.	450 ft.
		300 ft. within 100ft of W. Commercial Street and all area of the WPDZ east of the Casco Bay Bridge.
	300 ft. within 100 ft. of W. Commercial Street and all area of the WPDZ east of the Casco Bay Bridge.	300 ft. for buildings or portions of buildings exceeding the maximum applicable height allowed under the permitted use dimensional standards.

[1] The setback area may be used for activities related to the principal uses in the structure, but shall not be used for off-street parking.
[2] Buildings and/or structures shall be limited to an absolute height measured from average grade with no portion of the structural roof system or roof top appurtenances exceeding the limits set forth under Table 10-B with the exception of moveable elements or connection devices as listed under Subsection 10.4.7
[3] Bulk storage dedicated to materials delivered or awaiting transportation to a site by waterborne transportation.
[4] A projection of the street centerline shall consist of an extension of the centerline to the water side boundary of the WPDZ.
[5] Height limitations east of the Casco Bay Bridge are intended to protect vistas of the harbor from public open space.
[6] As measured by a line parallel with the southern edge of the West Commercial Street right-of-way.
[7] Only those conditional uses so designated in Note 1 of the Waterfront Port Development Zone Use Table 10-A may be located in buildings taller than 60 ft.

10.4.6 Dimensional requirements

In addition to the generally applicable provisions of Section 7.5 of this Land Use Code, lots in the Waterfront Port Development Zone shall be subject to the requirements of Table 10-B.

10.4.7 Additional bulk, height, and location standards.

A. For structures exceeding the maximum applicable height allowed under the permitted use dimensional standards:
   1. Moveable elements such as cranes and gantries, and connection devices such as conveyors or bridges shall not be subject to the space and bulk requirements, but shall be subject to a determination by the Federal Aviation Administration that the location of such equipment will not create a hazard to navigation.
   2. The applicant must provide a determination from the Federal Aviation Administration that structures and equipment will not exceed the applicable height guidelines for the runway approach and will not create a hazard to navigable airspace. Such a determination shall be accepted as conclusive evidence that the proposed development will not create a hazard.
   3. For each lot, at least one view corridor of at least 90 feet in width shall be left unbuilt to preserve a clear line of sight between West Commercial Street and the water.

10.4.8 Performance standards

Proposals in the Waterfront Port Development Zone that qualify for site plan review shall submit, in addition to site plan submission requirements (if applicable), an impact mitigation narrative summarizing how the project meets the applicable performance standards. All uses in the Waterfront Port Development Zone shall comply with the following standards:

A. **Outdoor storage of materials.** Outdoor storage of commodities and materials accessory to normal conduct of business, except pilings and/or cranes, shall be permitted to a maximum height of 45 feet, and such materials shall be entirely contained, including runoff contaminants and residual material, within a designated area within the lot boundaries.

B. **Noise.**
   1. The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the Waterfront Port Development Zone between the hours of 7:00 p.m. and 7:00 a.m. from industrial facilities or operation commenced on or after July 1, 1988, shall not exceed 55 decibels on the A scale at or within the boundaries of any residential zone, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, and sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices.
   2. In measuring sound levels under this subsection, sounds with a continuous duration of less than 60 seconds shall be measured by the maximum reading on a

sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1).

3. In addition to the sound level standards otherwise established, facilities or operations established or built in the Waterfront Port Development Zone on or after July 1, 1988, shall employ best practicable sound abatement techniques to prevent tonal sounds and impulse sounds or, if such tonal and impulse sounds cannot be prevented, to minimize the impact of such sounds in residential zones. Tonal sound is defined as a sound wave usually perceived as a hum or which because its instantaneous sound pressure varies essentially as a simple sinusoidal function of time. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with a duration of less than one second.

C. **Vibration.** Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. This shall not apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile supported pier.

D. **Federal and state environmental regulations.** All uses shall comply with federal and state environmental statutes and regulations regarding emissions into the air, except where provisions of this Land Use Code are more stringent.

E. **Discharges into harbor areas.** No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the Department of Public Works in accordance with Chapter 24, Article III of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24, Article II of the City of Portland Code of Ordinances and federal and state environmental statutes and regulations regarding wastewater discharges.

F. **Storage of vehicles.** Storage of any unregistered automotive vehicle on the premises for more than 60 days shall not be permitted.

G. **Landfill of docking and berthing areas.** Landfill of docking and berthing areas shall be governed by 38 M.R.S. § 471 through 478, and permitted only if the landfill does not reduce the amount of linear berthing areas or space, or berthing capacity. If approved, construction shall be undertaken using methods approved by the Department of Public Works and shall be accomplished in accordance with the provisions of this Land Use Code and in a manner so as to ensure that a stable and impermeable wall of acceptable materials will completely contain the fill material and will not permit any fill material to leach into docking areas or navigable waters.

H. **Off-street parking.** Off-street parking is required as provided in Article 19.

I. **Shoreland and Flood Plain Management regulations.** Any lot or portion of a lot located in a Shoreland Zone as identified on the City



zoning map or in a flood hazard area shall be subject to the requirements of Articles 11 and 12.

J. **Lighting.** All lighting on the site shall be shielded such that direct light sources shall not unreasonably interfere with vessels transiting the harbor nor have an unreasonable adverse impact on adjacent residential zones.

K. **Signs.** Signs shall be permitted as set forth in Article 20.

L. **Storage of pollutants and oily wastes.** On-premises storage of pollutants and oily wastes shall not be permitted for more than 45 days.

M. **Compatibility of non-marine uses with marine uses.** Non-marine uses, structures and activities, including but not limited to access, circulation, parking, dumpsters, exterior storage and loading facilities or other structures shall neither unreasonably interfere with the existence or operation of marine uses nor significantly impede access to vessel berthing or other access to the water by existing or potential marine uses.

N. **Design.** Design and visual character shall:

1. In building design, including placement and screening of mechanical equipment, take into consideration long views to minimize negative visual impact and provide visual interest, and architecturally integrate exposed industrial systems and equipment where practical.
2. Organize massing to emphasize certain parts of the building such as entries, corners, or different uses.
3. Treat all facades, including the roof, with equal level of detail and articulation.
4. Vary and articulate building facades to add scale and avoid large monotonous walls. Treatments such as texture, color, material changes, or shadow lines or murals must be used to add visual interest and avoid dull, flat, repetitive facades.
5. Use a scaling or articulation element such as stepback, canopy, or fenestration as required for any street-facing façade within 50 feet of West Commercial Street.



11 SHORELAND ZONE

11.1 PURPOSE

The purpose of this article is to further the maintenance of safe and healthful conditions; prevent and control water pollution; protect fish spawning grounds, aquatic life, bird and other wildlife habitat; protect buildings and lands from flooding and accelerated erosion; protect archaeological and historic resources; protect commercial fishing and maritime industries; protect freshwater and coastal wetlands; control building sites, placement of structures, and land uses; conserve shore cover and visual as well as actual points of access to inland and coastal waters and natural beauty, as appropriate in an urbanized environment; and to anticipate and respond to the impact of development in shoreland areas.

11.2 APPLICABILITY

A. This article applies to all land areas, uses, structures, and land use activities within:
   1. 250 feet, horizontal distance, of the normal high-water line of any river.
   2. 250 feet, horizontal distance, of the upland edge of a coastal wetland, including all areas affected by tidal actions.
   3. 250 feet, horizontal distance, of the upland edge of a freshwater wetland.
   4. 75 feet, horizontal distance, of the normal high-water line of a stream.

B. This article also applies to any structure built on, over or abutting a dock, wharf, or pier, or other structure extending beyond the normal high-water line of a water body, meaning for the purposes of this article any river or stream, or within a wetland.

C. For the purposes of this article, wetlands shall include coastal and freshwater wetlands as defined in Article 3.

D. The regulations and controls of this article apply to all land areas, uses, structures, and land use activities cited within this subsection in all zones of the city.

11.3 REVIEW PROCEDURE

Development activities within the Shoreland Zone are reviewed by the Building Authority for compliance with the requirements of Section 11.4. Submission of plans for such development activity shall be prepared by qualified professionals, based upon a boundary survey.

11.4 USE-SPECIFIC LAND USE STANDARDS

11.4.1 Principal and accessory structures

A. All principal and accessory structures shall be set back at least 75 feet horizontal distance from the normal high-water line of water bodies, the upland edge of a wetland or associated tributary streams within a Shoreland Zone, except that in the following zones the setback shall be as indicated below:
   1. *B 3, B-5/B-5b, I-L on-peninsula, and I-M on-peninsula:* 25 feet.
   2. *I-B, WCZ, WPDZ, EWPZ:* No setback required. However, pier edge setbacks apply in the EWPZ, the WCZ, and the WPDZ.

B. For principal structures, setback measurements shall be taken from the top of a coastal bluff that has been identified on coastal bluff maps as being "highly unstable" or "unstable" by the Maine Geological Survey, as adopted on the City of Portland zoning map.

C. Notwithstanding this requirement, when a lot is a lot of record as defined in Subsection 4.3.1 or cannot otherwise meet the setback requirement of this subsection due to physical limitations of the site, the Planning Board may approve a reduction of the setback requirement for a principal structure to the least amount necessary to achieve a building dimension of 28 feet, provided that the setback is not reduced to less than 40 feet. Structures in existence on June 15, 1992, may be expanded once during the lifetime of the structure up to 25 feet toward a freshwater wetland, stream or tributary stream, provided that the setback is not reduced to less than 40 feet and the floor area or volume is not increased by more than 30%. In no event shall the setback from a coastal wetland be reduced to less than 75 feet, except as set forth in Subsection 11.4.1(A), above.

D. In all cases, accessory detached structures of less than 100 square feet of floor area shall be permitted with no setback, provided that such structures shall be used only for the storage of fish, bait, and related equipment. No setback shall be required for piers, docks, retaining walls, or any other structures which require direct access to the water as an operational necessity.

E. The lowest floor elevation or openings of all buildings and structures including basements shall be elevated at least one foot above the elevation of the 100-year flood, the flood of record, or in the absence of these, the flood as defined by soil types identified as recent flood plain soils.

F. Notwithstanding the requirements of this section, stairways or similar structures may be allowed with a permit from the Building Authority to provide shoreline access in areas of steep slopes or unstable soils, provided that:

1. The structure is limited to a maximum of four feet in width.
2. The structure does not extend below or over the normal high-water line of a water body or upland edge of a wetland, unless permitted by the Department of Environmental Protection pursuant to 38 M.R.S. § 480 C.
3. The applicant demonstrates that no reasonable access alternative exists on the property.

11.4.2 Piers, docks, wharves, bridges, and other structures and uses extending over or below the normal high-water line of a water body or within a wetland

A. Access from shore shall be developed on soils appropriate for such use and constructed so as to control erosion.

B. The location shall not interfere with existing developed or natural beach areas.

C. The facility shall be located so as to minimize adverse effects on fisheries.

D. The facility shall be no larger in dimension than necessary to carry on the activity and shall be consistent with surrounding character and uses.

E. New permanent structures, and expansions thereof, projecting into or over water bodies shall require a permit from the Department of Environmental Protection pursuant to the National Resources Protection Act, 38 M.R.S. § 480-C. Permits may also be required from the Army Corps of Engineers and Board of Harbor Commissioners if located in navigable waters.

F. Except in the WCZ, EWPZ, WPDZ, and I-B zones, no new structure shall be built on, over or abutting a pier, wharf, dock or other structure extending beyond the normal high-water line of a water body or within a wetland unless the structure requires direct access to the water as an operational necessity.

G. No existing structures built on, over or abutting a pier, dock, wharf, or other structure extending beyond the normal high-water line of a water body or within a wetland shall be converted to residential dwelling units in any zone.

11.4.3 Clearing or removal of vegetation

A. In all shoreland areas in Resource Protection Zones, the cutting or removal of vegetation shall be limited to that which is necessary for uses expressly authorized in that zone.

B. The clearing or removal of vegetation standards of this subsection shall not apply to the following zones: EWPZ, WCZ, WPDZ, B-3, B-5/B-5b, B-6, B-7, I-L (on-peninsula), and I-M zones (on-peninsula).

C. The clearing or removal of vegetation standards of this subsection shall not apply to those portions of public recreational facilities adjacent to public swimming areas. Cleared areas in these locations shall be limited to the minimum amount necessary.

D. Other than cutting or removal of vegetation as provided for in this subsection, timber harvesting shall not be permitted. For purposes of this subsection, timber harvesting is defined as the cutting and removal of timber for the primary purpose of selling or processing forest products. The cutting or removal of trees in the Shoreland Zone on a lot that has less than two acres within the Shoreland Zone shall not be considered timber harvesting. Cutting or removal of such trees shall be regulated pursuant to this subsection.

E. For purposes of this subsection, vegetation is defined as all live trees, shrubs, and other plants including without limitation, trees both over and under 4 inches in diameter, measured at 4 ½ feet above ground level.

F. In all areas other than the Resource Protection Zone, a buffer strip of vegetation shall be preserved, except where clearance is required for development of permitted uses, within a strip of land extending 75 feet, horizontal distance, from the normal high-water or upland edge of a coastal wetland, river, stream, or tributary stream within a Shoreland Zone, in accordance with the following:

1. There shall be no cleared opening greater than 250 square feet in the forest canopy or other existing vegetation if a forested canopy is not presented as measured from the outer limits of the tree or shrub crown. Notwithstanding this limitation, a footpath not to exceed six feet in width as measured between tree trunks and/or shrub stems is allowed provided that a cleared line of sight to the water through the buffer strip is not created.
2. Selective cutting of trees within the buffer strip is allowed provided that a well distributed stand of trees and other vegetation is maintained. For the purposes of this subsection, a "well distributed stand of trees" adjacent to a water body, tributary stream or wetland shall be defined as maintaining a minimum rating

TABLE 11-A: SHORELAND TREE STAND RATING SYSTEM

Diameter (at 4½ ft. above ground level)	Points
2 in. ≤ 4 in.	1
4 in. ≤ 8 in.	2
8 in. – 12 in.	4
12 in. or greater	8

score of 16 or more in any 25-foot by 50-foot rectangle area as determined by the rating system in Table 11-A. The following shall govern in applying the point system in Table 11-A:

a. The 25-foot by 50-foot rectangular plots must be established where the landowner or lessee proposes clearing within the required buffer;

b. Each successive plot must be adjacent to, but not overlap a previous plot.

c. Any plot not containing the required points must have no vegetation removed except as otherwise allowed by this ordinance.

d. Any plot containing the required points may have vegetation removed down to the minimum points required or as otherwise allowed by this ordinance.

e. Where conditions permit, no more than 50% of the points on any 25-foot by 50-foot rectangular area may consist of trees greater than 12 inches in diameter.

For the purposes of this subsection, "other natural vegetation" is defined as retaining existing vegetation under three feet in height and other ground cover and retaining at least five saplings less than two inches in diameter at 4 ½ feet above ground level for each 25-foot by 50-foot rectangular area. If five samplings do not exist, no woody stems less than two inches in diameter can be removed until five samplings have been recruited into the plot. Notwithstanding the above provisions, no more than 40% of the total volume of trees four inches or more in diameter, measured at 4 ½ feet above ground level may be removed in any ten-year period.

3. In order to protect water quality and wildlife habitat, existing vegetation under three feet in height and other groundcover, including leaf litter and the forest duff layer, shall not be cut, covered, or removed, except to provide a footpath or other permitted uses as described in this subsection.

4. Pruning of tree branches on the bottom one third of the tree is allowed.

5. In order to maintain a buffer strip of vegetation when the removal of storm damaged, diseased, unsafe or dead trees results in the creation of cleared openings, these openings shall be replanted with native tree species unless existing new tree growth is present.

G. Selective cutting of not more than 40% of the volume of trees four inches or more in diameter, measured at 4 1/2 feet above ground level, shall be allowed within any ten-year period at distances greater than 75 feet, horizontal distance, from the normal high-water line of any other water body, tributary

stream, or the upland edge of a wetland, except to allow for the development of permitted uses. Tree removal in conjunction with the development of permitted uses shall be included in the 40% calculation. For the purposes of these standards, volume may be considered to be equivalent to basal area. In no event shall cleared openings for any purpose, including but not limited to, principal and accessory structures, driveways, lawns, and sewage disposal areas, exceed in the aggregate 25% percent of the lot area within the Shoreland Zone, including land previously cleared.

H. Legally existing nonconforming cleared openings may be maintained but shall not be enlarged, except as allowed by this article.

I. Fields and other cleared openings which have reverted to primarily shrubs, trees, or other woody vegetation shall be regulated under the provisions of this subsection.

11.4.4 Erosion and sedimentation control

A. All activities which involve filling, grading, excavation or other similar activities which result in unstabilized soil conditions and which require a permit shall require a written soil erosion and sedimentation control plan in accordance with Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, published by the Cumberland County Soil and Water Conservation District and the Maine Department of Environmental Protection and the City of Portland *Technical Manual*. The plan shall be submitted to the Building Authority for approval and shall include, where applicable, provisions for:

1. Mulching and revegetation of disturbed soil.
2. Temporary runoff control features such as hay bales, silt fencing, or diversion ditches.
3. Permanent stabilization structures such as retaining walls or riprap.

B. In order to create the least potential for erosion, development shall be designed to fit with the topography and soils of the site. Areas of steep slopes where high cuts and fills may be required shall be avoided wherever possible, and natural contours shall be followed as closely as possible.

C. Erosion and sedimentation control measures shall apply to all aspects of the proposed project involving land disturbance and shall be in operation during all stages of the activity. The amount of exposed ground area at every phase of construction shall be minimized to reduce the potential for erosion.

D. Any exposed ground area shall be temporarily or permanently stabilized within one week from the time it was last actively worked, by use of riprap, sod, seed, and mulch, or other effective measures. In all cases, permanent stabilization shall occur within nine months of initial exposure. The following standards shall also be met:

1. Where mulch is used, it shall be applied at a rate of at least one bale per 500 square feet and shall be maintained until a catch of vegetation is established.
2. Anchoring the mulch with netting, peg, and twine or other suitable method may be required to maintain the mulch cover.
3. Additional measures shall be taken where necessary in order to avoid siltation into

the water. Such measures may include the use of staked hay bales, and/or silt fences.

E. Natural and man-made drainage ways and drainage outlets shall be protected from erosion from water flowing through them. Drainage ways shall be designed and constructed in accordance with the City of Portland *Technical Manual*.

11.4.5 Soils

All land uses shall be located on soils in or upon which the proposed uses or structures can be established or maintained without causing adverse environmental impacts, including severe erosion, mass soil movement, improper drainage, and water pollution, either during or after construction. Proposed uses requiring subsurface wastewater disposal and commercial or industrial development or other similar intensive land uses shall require a soils report based on an on-site investigation and prepared by state certified professionals. Certified persons may include Maine Certified Soil Scientists, Maine Registered Professional Engineers, Maine State Certified Geologists and other persons who have training and experience in the recognition and evaluation of soil properties. The report shall be based upon the analysis of the characteristics of the soil and surrounding land and water areas, maximum ground water elevation, presence of ledge, drainage conditions, and other pertinent data which the evaluator deems appropriate. The soils report shall include recommendations for a proposed use to counteract soil limitations where they exist.

11.4.6 Water quality

No activity shall deposit on or into the ground or discharge to the waters of the state any pollutant that by itself or in combination with other activities or substances will impair designated uses or the water classification of the water body, tributary stream or wetland.

11.4.7 Archaeological sites

Any proposed land use activity involving structural development or soil disturbance on or adjacent to sites listed on, or eligible to be listed on, the National Register of Historic Places, as determined by the Department of Planning and Urban Development, shall be submitted by the applicant to the Maine Historic Preservation Commission for review and comment at least 20 days prior to action being taken by the Planning Authority. The Planning Authority shall consider comments received from the commission prior to rendering a decision on the application. Such sites shall also comply with all applicable provisions of Article 17 of this chapter.

11.4.8 Installation of public utility service

No public utility of any kind shall install services to any new structure located in the Shoreland Zone unless written authorization attesting to the validity and currency of all local permits required under this Code has been issued by the appropriate municipal authorities. Following installation of service, the public utility shall forward the written authorization to the appropriate municipal authorities, indicating that installation has been completed.

11.4.9 Essential services

Where feasible, the installation of essential services shall be limited to existing public ways and existing service corridors. The installation of essential services, other than road-side distribution lines and within existing service corridors, is not allowed in a Resource Protection or Stream Protection Zone,

except where the applicant demonstrates that no reasonable alternative exists. Damaged or destroyed public utility transmission and distribution lines, towers, and related equipment may be replaced or reconstructed without a permit.

11.4.10 Roads and driveways

A. Roads and driveways shall be setback a minimum of 75 feet from the normal high-water or upland edge of a coastal wetland, freshwater wetland, river or tributary stream within a Shoreland Zone, except:
   1. In the EWPZ, WCZ, WPDZ, B-3, B-5/B-5b, I-L (on-peninsula) and I-M (on-peninsula) roads and driveways shall be setback as established for structures in those zones as specified in Subsection 11.4.1(A).
   2. If no other reasonable alternative exists, the Planning Board may reduce the road and/or driveway setback requirement to no less than 50 feet, horizontal distance, upon clear showing by the applicant that appropriate techniques will be used to prevent sedimentation of the water body, tributary stream or wetland. Such techniques may include, but are not limited to, the installation of settling basins, and/or effective use of additional ditch relief culverts and turnouts place so as to avoid sedimentation of the water body, tributary stream, or wetland.

B. Existing public roads may be expanded within the legal road right of way regardless of their setback from a waterbody, tributary stream, or wetland.

C. New roads and driveways are prohibited in a Resource Protection Zone except that the Planning Board may grant a permit to construct a road or driveway to provide access to permitted uses within the district. A road or driveway may also be approved by the Planning Board in a Resource Protection Zone, upon a finding that no reasonable alternative route or location is available outside the district. When a roadway or driveway is permitted in a Resource Protection Zone the road and/or driveway shall be setback as far as practicable from the normal high-water line of a water body, tributary stream, or upland edge of wetland.

D. Road and driveways banks shall be no steeper than slope of two horizontal to one vertical and shall be graded and stabilized in accordance with the provisions for erosion and sedimentation control contained in Subsection 11.4.4.

E. Road and driveway grades shall be no greater than 10% except segments of less than 200 feet.

F. In order to prevent road and driveway surface drainage from directly entering water bodies, tributary streams, or wetlands, roads and driveways shall be designed, constructed, and maintained to empty onto an unscarified buffer strip at least 50 feet plus two times the average slope, in width between the outflow point of the ditch or culvert and the normal high-water line of a water body, tributary stream, or upland edge of a wetland. Surface drainage which is directed to an unscarified buffer strip shall be diffused or spread out to promote infiltration of the runoff and to minimize channelized flow of the drainage through the buffer strip.

G. Ditch relief (cross drainage) culverts, drainage dips, and water turnout shall be installed in a manner effective in directing drainage onto

unscarified buffer strips before the flow gains sufficient volume or head to erode the road, driveway, or ditch. To accomplish this, the following shall apply:

1. Ditch relief culverts, drainage dips, and associated water turnouts shall be spaced along the road or driveway at intervals no greater than indicated in Table 11-B.
2. Drainage dips may be used in place of ditch relief culverts only where the grade is 10% or less.
3. On sections having slopes greater than ten 10%, ditch relief culverts shall be placed at approximately a 30 degree angle downslope from a line perpendicular to the centerline of the road or driveway.
4. Ditch relief culverts shall be sufficiently sized and properly installed in order to allow for effective functioning, and their inlet and outlet ends shall be stabilized with appropriate materials.
5. Ditches, culverts, bridges, dips, water turnouts, and other storm water runoff control installations associated with roads and driveways shall be maintained on a regular basis to assure effective functioning.

TABLE 11-B: DRAINAGE SPACING

Grade (%)	Spacing
0-2	250 ft.
3-5	200-135 ft.
6-10	100-80 ft.
11-15	80-60 ft.
16-20	60-45 ft.
21+	40 ft.

11.4.11 Parking areas

Parking areas shall be set back a minimum of 75 feet from the normal high-water or upland edge of a coastal wetland, freshwater wetland, river, or tributary stream within a Shoreland Zone except:

A. In the EWPZ, WCZ, WPDZ, B-3, B-5/B-5b, I-L, and I-M zones, parking setbacks shall be as established for structures in those zones, as specified in Subsection 11.4.1(A).

B. Where the Planning Board finds that no other reasonable alternative exists further from the shoreline or tributary stream, the board may reduce the parking setback requirement to no less than 50 feet in the R-OS and I-B zones to the least amount necessary for construction, provided that the applicant proves by a preponderance of the evidence that appropriate techniques will be used to prevent sedimentation of the water body.

11.4.12 Septic waste disposal

All subsurface sewage disposal systems shall be installed in conformance with the State of Maine Subsurface Wastewater Disposal Rules and the following:

A. Clearing or removal of woody vegetation necessary to site a new system and any associated fill extensions, shall not extend closer than 75 feet, horizontal distance, from the normal high-water line of a water body or the upland edge of a wetland.

B. A holding tank is not allowed for a first-time residential use in the Shoreland Zone.

11.4.13 Stormwater runoff

All new construction and development shall be designed to be in compliance with the City of Portland *Technical Manual* to minimize stormwater

runoff from the site in excess of the natural predevelopment conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces, and wooded areas shall be retained in order to reduce runoff and encourage infiltration of stormwater. Stormwater runoff control systems shall be maintained as necessary to ensure proper functioning.

11.4.14 Agriculture

A. All spreading or disposal of manure shall be accomplished in conformance with the Manure Utilization Guidelines published by the Maine Department of Agriculture on November 1, 2001, and the Nutrient Management Law (7 M.R.S. §§ 4201-4209).
B. Manure shall not be stored or stockpiled within 75 feet, horizontal distance, of water bodies, tributary streams, or wetlands. All manure storage areas within the Shoreland Zone must be constructed or modified such that the facility produces no discharge of effluent or contaminated stormwater.
C. Agricultural activities involving tillage of soil greater than 40,000 square feet in surface area within the Shoreland Zone shall require a conservation plan to be filed with the Planning Authority.
D. There shall be no new tilling of soil within 75 feet, horizontal distance, from water bodies and coastal wetlands or within 25 feet, horizontal distance, of tributary streams and freshwater wetlands when such new tilling, by itself or combined with all other contiguous tillage, shall exceed 40,000 square feet in surface area. Operations in existence on the effective date of this section and not in conformance with these provisions may be maintained but shall not be expanded. When the new tilling, by itself or combined with all other contiguous tillage, shall total 40,000 square feet or less, the tillage shall be set back a minimum of 25 feet from all water bodies, tributary streams, or wetlands.
E. Newly established livestock grazing areas shall not be permitted within 75 feet, horizontal distance, of water bodies and coastal wetlands or within 25 feet, horizontal distance, of tributary streams and wetlands. Livestock grazing associated with ongoing farm activities and which are not in conformance with the above setback provisions may continue, provided such grazing is conducted in accordance with a soil and water conservation plan filed with the Planning Authority.

11.5 SUPPLEMENTAL SITE PLAN STANDARDS

11.5.1 Site plan standards

The Planning Board or Planning Authority shall approve a site plan located within a Shoreland Zone if it finds that the following standards, in addition to the standards set forth in Article 14, are met:

A. The proposal will maintain safe and healthful conditions.
B. The proposal will not result in water pollution, erosion, or sedimentation to surface waters.
C. The proposal will adequately provide for the disposal of all wastewater.
D. The proposal will not have an adverse impact on spawning grounds, fish, aquatic life, bird, or other wildlife habitat.
E. The proposal will conserve shore cover and visual, as well as actual, points of access to inland and coastal waters.
F. The proposal will protect archaeological and historic resources.



G. The proposal will not adversely affect existing commercial fishing or maritime activities.

H. The proposal will avoid problems associated with flood plain development and use.

I. The proposal is in conformance with the standards set forth in this article.

12 FLOODPLAIN MANAGEMENT

12.1 PURPOSE

Certain areas of the City of Portland, Maine are subject to periodic flooding, causing serious damage to properties within these areas. Relief is available in the form of flood insurance as authorized by the National Flood Insurance Act of 1968. Therefore, the City of Portland, Maine has chosen to become a participating community in the National Flood Insurance Program and agrees to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-448), as amended from time to time an as delineated in this article. It is the intent of the City of Portland to require the recognition and evaluation of flood hazards in all official actions relating to land use in the floodplain areas having special flood hazards.

The National Flood Insurance Program, established in the aforesaid act, provides that areas of the city having a special flood hazard be identified by the Federal Emergency Management Agency and that floodplain management measures be applied in such flood hazard areas. This article establishes a Flood Hazard Development Permit system and review procedure for development activities in the designated flood hazard areas of the city. The purposes of this article are to reduce future flood risks and losses, protect against financial and human loss resulting from flood disasters, and to control the placement of structures, construction materials, and methods used to minimize potential property damage due to flooding. The City of Portland has the legal authority to adopt land use and control measures to reduce future flood losses pursuant to Title 30-A M.R.S. § 2001-3007, 4352, 4401-4407, and Title 38 M.R.S. § 440.

12.2 APPLICABILITY

This article applies to all land areas, uses, structures, and land use activities lying in the special flood hazard areas, Zones A, AE, AO, AH, and VE, as identified by the Federal Emergency Management Agency in a report entitled *Flood Insurance Study - Cumberland County, Maine,* with accompanying "Flood Insurance Rate Map," dated June 20, 2024. This *Flood Insurance Study* with accompanying maps, and any subsequent amendments thereto, including Letters of Map Revision approved by FEMA, is hereby adopted by reference and declared to be a part of this Land Use Code.

12.3 STRUCTURE AND DEVELOPMENT TYPES

12.3.1 Structure types

A. For the purposes of this article, structure shall mean a walled and roofed building. A gas or liquid storage tank that is principally above ground is also a structure.

B. Accessory structure shall mean a structure which is on the same parcel of property as a principal structure and the use of which is incidental to the use of the principal structure.

C. The following types of structures shall have the following meanings:

1. *Agricultural structure*. Structures that are used exclusively for agricultural purposes or uses in connection with the production, harvesting, storage, raising, or drying of agricultural commodities and livestock. Structures that house tools or equipment used in connection with these purposes or uses are also considered to have agricultural purposes or uses.
2. *Elevated building*. A non-basement building that is:

a. Built, in the case of a building in Zones A, AE, AO, or AH, so that the top of the elevated floor, or in the case of a building in Zones VE or Coastal AE, to have the bottom of the lowest horizontal structural member of the elevated floor, elevated above the ground level by means of pilings, columns, posts, or piers; and,

b. Adequately anchored to not impair the structural integrity of the building during a flood of up to two feet above the magnitude of the base flood.

In the case of Zones A, AE, AO, or AH, elevated building also includes a building elevated by means of fill or solid foundation perimeter walls with hydraulic openings sufficient to facilitate the unimpeded movement of flood waters, as required in Subsection 12.4.5(N) In the case of Zones VE or Coastal AE, elevated building also includes a building otherwise meeting the definition of elevated building, even though the lower area is enclosed by means of breakaway walls, if the breakaway walls meet the standards of subsection 12.4.5(R)(2)(c)(iii).

3. *Historic structure*. Any structure that is:

a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary of the Interior to qualify as a registered historic district;

c. Individually listed on a Maine state inventory of historic places at such time that one is created; or,

d. Designated as a local landmark or identified as a contributing property under Article 17.

4. *Manufactured home*. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term manufactured home also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

5. *Manufactured home park or subdivision*. A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale. Existing manufactured home park or subdivision shall mean a manufactured home park or subdivision that was recorded in the deed registry prior to July 17, 1986.

12.3.2 Development classifications

A. **Development.** Any human-made change to improved or unimproved real estate. This includes, but is not limited to, buildings or other structures; mining, dredging, filling, grading, paving, excavation, drilling operations or storage

of equipment or materials; and the storage, deposition, or extraction of materials.

B. **New construction.** Structures for which the "start of construction" commenced on or after July 17, 1986 and includes any subsequent improvements to such structures. For purposes of this article, start of construction shall mean the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, or modification of any construction element, whether or not that alteration affects the external dimensions of the building.

C. **Minor development.** All development that is not new construction or a substantial improvement, such as repairs, maintenance, renovations, or additions, whose value is less than 50% of the market value of the structure. It also includes, but is not limited to: accessory structures as provided in subsection 12.4.5(L), mining, dredging, filling, grading, paving, excavation, drilling operations, storage of equipment or materials, deposition or extraction of materials, public or private sewage disposal systems or water supply facilities that do not involve structures; and non-structural projects such as bridges, dams, towers, fencing, pipelines, wharves, and piers

D. **Substantial damage.** Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed 50% of the market value of the structure before the damage occurred.

E. **Substantial improvement.** Any, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before start of construction of the improvements. This term includes structures which have incurred substantial damage, regardless of the actual work performed. The term does not, however, include:

   1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
   2. Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued

designation as a historic structure, and a variance is obtained from the Zoning Board of Appeals.

12.4 FLOOD HAZARD DEVELOPMENT PERMIT

12.4.1 Permit required

A. The Zoning Administrator shall be designated as the local floodplain administrator. The floodplain administrator shall have the authority to implement the commitment made to administer and enforce the requirements for participation in the National Flood Insurance Program.

B. Before any construction or other development as defined Subsection 12.3.2, including the placement of manufactured homes, begins within any areas of special flood hazard, a Flood Hazard Development Permit shall be obtained from the Building Authority, except as established in Section 12.5. This permit shall be required prior to issuance of a building permit, if one is required, and shall be in addition to any other permit, site plan, and subdivision review which may be required pursuant to the codes and ordinances of the City of Portland. If only a site plan is required for a development, the Flood Hazard Development Permit shall be obtained prior to approval of the site plan.

12.4.2 Filing of application

The application for a Flood Hazard Development Permit shall be submitted in writing to the Building Authority and shall include the following:

A. A final site plan, where applicable, showing information as required by Article 14.

B. A final subdivision plat, where applicable, providing information as required in Article 15.

C. The name, address, and phone number of the applicant, owner, and contractor.

D. A map with address indicating the location of the development site.

E. A plan showing the location of existing and proposed development, including but not limited to specific dimensions of existing and proposed structure(s), wastewater disposal facilities, water supply facilities, areas to be cut and filled, and the dimensions of the lot.

F. A statement of the intended use of any structure and/or development.

G. A statement of the cost of the development including all materials and labor.

H. A statement of the type of wastewater disposal system proposed.

I. Specification of dimensions of the proposed structure and/or development.

J. For new construction and substantial improvements, the elevation in relation to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD), or to a locally established datum for Zone A only, of the:

1. Base flood at the proposed site of all new or substantially improved structures, which is determined:
   a. In Zones AE, AO, AH, , and VE from data contained in the *Flood Insurance Study — Cumberland County, Maine*.
   b. In Zone A:
      i. From any base flood elevation data from federal, state, or other technical sources (such as FEMA's Quick-2 model, FEMA 265), including information obtained pursuant to Subsection 12.4.5(M) and 12.4.4.(B)4, or
      ii. In the absence of all data described in Subsection

12.4.2(J)(1)(b)(i), information to demonstrate that the structure shall meet the elevation requirement in Subsections 12.4.5(H)(4)(b), 12.4.5(I)(4)(b), or 12.4.5(J)(4)(b).

2. Highest and lowest grades at the site adjacent to the walls of the proposed building.
3. Lowest floor, including basement, and whether or not such structures contain a basement.
4. Lowest machinery and equipment servicing the building.
5. Level, in the case of nonresidential structures only, to which the structure will be floodproofed.

K. For new construction and substantial improvements, a description of an elevation reference point established on the site of all new developments for which elevation standards apply as required in Subsection 12.4.5.

L. For new construction and substantial improvements, a written certification by:

1. A professional land surveyor that the grade elevations shown on the application are accurate.
2. A professional land surveyor, registered professional engineer or architect that the base flood elevation shown on the application is accurate

M. For new construction and substantial improvements, the following certifications as required in Subsection 12.4.5 by a registered professional engineer or architect:

1. A floodproofing certificate (FEMA form FF-206-FY-22-153, as amended) to verify that the floodproofing methods for any nonresidential structures will meet the floodproofing criteria of Subsection 12.4.5(I); and other applicable standards of Subsection 12.4.5.
2. A V-Zone Certificate to verify that the construction in coastal high hazard areas, Zones VE and Coastal AE, will meet the criteria of Subsection 12.4.5(R); and other applicable standards in Subsection 12.4.5.
3. A Hydraulic Openings Certificate to verify that engineered hydraulic openings in foundation walls will meet the standards of Subsection 12.4.5(N)(2)(a)

N. A certified statement from a registered professional engineer or architect that bridges will meet the standards of Subsection 12.4.5(O)

O. A certified statement from a registered professional engineer or architect that containment walls will meet the standards of Subsection 12.4.5(P).

P. A description of the extent to which any watercourse will be altered or relocated as a result of the proposed development.

Q. A statement of construction plans describing in detail how each applicable development standard in Subsection 12.4.5 will be met.

R. Cross section(s) of the site acceptable to the Public Works Authority.

12.4.3 Fee

A nonrefundable Flood Hazard Development Permit fee as established by the City Council for all minor development and for all new construction and substantial improvements shall be paid to the Building Authority, and a copy of a receipt for the same shall accompany the application. An

additional fee may be charged if the Code Enforcement Officer, Planning Board, and/or Board of Appeals needs the assistance of a professional engineer or other expert. The expert's fee shall be paid in full by the applicant within 10 days after the City submits a bill to the applicant. Failure to pay the bill shall constitute a violation of the ordinance and be grounds for issuance of a stop work order. An expert shall not be hired by the City at the expense of an applicant until the applicant has either consented to such hiring in writing or been given an opportunity to be heard on the subject. An applicant who is dissatisfied with a decision to hire expert assistance may appeal that decision to the Board of Appeals.

12.4.4 Review procedure

A. Upon determination by the Building Authority that an application is complete, the Building Authority shall coordinate review of the application by the City to assure that proposed developments are reasonably safe from flooding. No permit shall be issued until the Building Authority finds that the development proposal is in compliance with the standards of this article. Compliance with the provisions of this article shall be required prior to beginning any development as defined herein.

B. The Building Authority shall, when reviewing subdivisions under Article 15 and other proposed developments that require review under Article 14 or federal law, state law, or local ordinances or regulations and all projects on five or more acres, or in the case of manufactured home parks divided into two or more lots, assure that:
   1. All such proposals are consistent with the need to minimize flood damage.
   2. All public utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damages.
   3. Adequate drainage is provided so as to reduce exposure to flood hazards.
   4. All proposals include base flood elevations, flood boundaries and, in a riverine floodplain, floodway data. These determinations shall be based on engineering practices recognized by the Federal Emergency Management Agency.
   5. Any proposed development plan must include a condition of plan approval requiring that structures on lots in the development be constructed in accordance with Subsection 12.4.5 of this article. Such requirement shall be included in any deed, lease, purchase and sale agreement, or document transferring or expressing an intent to transfer any interest in real estate or structure, including but not limited to a time-share interest. The condition shall clearly articulate that the municipality may enforce any violation of the construction requirement. The construction requirement shall also be clearly stated on any map, plat, or plan as part of the approval process.

C. In the review of all Flood Hazard Development Permit applications for compliance with the standards herein:
   1. The Building Authority shall utilize:
      a. The base flood and floodway data contained in the *Flood Insurance Study – Cumberland County, Maine,* as described in Section 12.2.

b. In special flood hazard areas where base flood elevation and floodway data are not provided in the above cited study, the Building Authority shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from federal, state, or other technical sources, including information obtained pursuant to Subsection 12.4.2(J)(1)(b)(i), 12.4.5(M), and 12.4.4(B)(4), in order to administer this article.

c. When a base flood elevation is established in a Zone A by methods outlined in Section 12.4.2(J)(1)(b)(ii), that data shall be submitted to the Maine Floodplain Management Program.

2. The Building Authority shall make interpretations of the location of boundaries of special flood hazard areas shown on the maps described in Section 12.2.

3. Prior to approval of issuance of the Flood Hazard Development Permit, the Building Authority shall determine that all necessary permits have been obtained from those federal, state, and local authorities from which prior approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1344 as may be amended from time to time), provided, however, that conditional approval may be granted pending proof of receipt of any required permits, but no Flood Hazard Development Permit shall be finally issued until proof of issuance of all such other permits is received by the Building Authority.

4. The Building Authority shall notify adjacent municipalities, the Maine Department of Environmental Protection and the Maine Floodplain Management Program, prior to any alteration or relocation of a watercourse, and submit copies of such notifications to the Federal Emergency Management Agency.

5. The Building Authority shall maintain, as a permanent record, copies of all Flood Hazard Development Permit applications, corresponding permits issued, and data relevant thereto, including reports of the Board of Appeals on variances granted under the provisions of Section 12.7 of this article, and copies of elevation certificates, floodproofing certificates, certificates of compliance, and certifications of design standards required under the provisions of Sections 12.4 and 12.6.

12.4.5 Review standards

All development in areas of special flood hazard shall meet the following standards:

A. All development. All development shall:

1. Be designed or modified and adequately anchored to prevent flotation (excluding piers and docks), collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

2. Use construction materials that are resistant to flood damage.

3. Use construction methods and practices that will minimize flood damage.

4. Use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during flooding conditions.

B. **Water supply.** All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.

C. **Sanitary sewage systems.** All new and replacement sanitary sewage systems shall be designed and located to minimize or eliminate infiltration of flood waters into the system and discharges from the system into flood waters.

D. **On-site waste disposal systems.** On site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during floods.

E. **Altered or relocated watercourses.** All development associated with altered or relocated portions of a watercourse shall be constructed and maintained in such a manner that no reduction occurs in the flood carrying capacity of the watercourse.

F. **Utilities.** New construction or substantial improvement of any structure (including manufactured homes) located within:

1. Zones A, AE, AO, and AH shall have the bottom of all electrical, heating, plumbing, ventilation and air conditioning equipment, permanent fixtures and components, HVAC ductwork and duct systems, and any other utility service equipment, facilities, machinery, or connections servicing a structure, elevated to at least two feet above the base flood elevation.

2. Zone VE shall meet the requirements of Subsection 12.4.5(R)(2)(a).

G. **Physical changes to the natural landscape.** Certain development projects, including but not limited to, retaining walls, sea walls, levees, berms, and rip rap, can cause physical changes that affect flooding conditions.

1. All development projects in Zones AE and VE that cause physical changes to the natural landscape shall be reviewed by a professional engineer to determine whether or not the project changes the base flood elevation, zone, and/or the flood hazard boundary line.
   a. If the professional engineer determines, through the use of engineering judgement, that the project would not necessitate a Letter of Map Revision (LOMR), a certified statement shall be provided.
   b. If the professional engineer determines that the project may cause a change, a hydrologic and hydraulic analysis that meets current FEMA standards shall be performed.
2. If the hydrologic and hydraulic analysis performed indicates a change to the base flood elevation, zone, and/or the flood hazard boundary line, the applicant may submit a Conditional Letter of Map Revision (C-LOMR) request to the Federal Emergency Management Agency for assurance that the as-built project will result in a change to the Flood Insurance Rate Map. Once the development is completed, a request for a Letter of Map Revision (LOMR) shall be initiated.

3. If the hydrologic and hydraulic analysis performed show a change to the base flood elevation, zone, and/or the flood hazard boundary line, as soon as practicable, but no later than six months after the completion of the project, the applicant shall submit the technical data to FEMA in the form of a Letter of Map Revision request.

H. **Residential.** New construction or substantial improvement of any residential structure located within:

1. Zones AE, AO, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.
3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
   a. At least two feet higher than the depth specified in feet on the Flood Insurance Rate Map, or
   b. At least three feet if no depth number is specified.
4. Zone A shall have the lowest floor (including basement) elevated:
   a. To at least two feet above the base flood elevation utilizing information obtained pursuant to Subsections 12.4.2(J)(1)(b)(i))(), 12.4.4(C), or 12.4.4(B)(4), or
   b. In the absence of all data described above, to at least two feet above the highest adjacent grade to the structure.
5. Zones VE and Coastal AE shall meet the requirements of Subsection 12.4.5(R).

I. **Nonresidential.** New construction or substantial improvement of any nonresidential structure located within:

1. Zones AE, AO, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation, or together with attendant utility and sanitary facilities shall:
   a. Be floodproofed to at least two feet above the base flood elevation so that below that elevation the structure is watertight with walls substantially impermeable to the passage of water;
   b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy; and
   c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a Flood Hazard Development Permit, as required by Subsection 12.4.2(M)(N), and (O) and shall include a record of the elevation above mean sea level to which the structure is floodproofed.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.

3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
    a. At least two feet higher than the depth specified in feet on the Flood Insurance Rate Map; or
    b. At least three feet if no depth number is specified; or
    c. Together with attendant utility and sanitary facilities be floodproofed to meet the elevation requirements of this subsection and floodproofing standards of Subsection 12.4.5(I).
4. Zone A shall have the lowest floor (including basement) elevated:
    a. To at least two feet above the base flood elevation utilizing information obtained pursuant to Subsections 12.4.2(K)(1)(b)(i), 12.4.4(C), 12.4.4(B)(4); or
    b. In the absence of all data described in Subsection 12.4.5(I)(4)(a), to at least two feet above the highest adjacent grade to the structure, or
    c. Together with attendant utility and sanitary facilities, be floodproofed to two feet above the base elevation established in Subsection 12.4.5(I)(4)(a) or (b) above and meet the floodproofing standards of Subsection 12.4.5(I)(1)(a), (b), and (c).
5. Zones VE and Coastal AE shall meet the requirements of Subsection 12.4.5(R).

J. **Manufactured homes.** New or substantially improved manufactured homes located within:
1. Zones AE, AO, and AH shall:
    a. Be elevated such that the lowest floor is at least two feet above the base flood elevation;
    b. Be on a permanent foundation, which may be poured masonry slab or foundation walls, with hydraulic openings, or may be reinforced piers or block supports, any of which support the manufactured home so that no weight is supported by its wheels and axles; and
    c. Be securely anchored to an adequately anchored foundation system to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to:
        i. Over the top ties anchored to the ground at the four corners of the manufactured home, plus two additional ties per side at intermediate points (manufactured homes less than 50 feet long require one additional tie per side).
        ii. Frame ties at each corner of the home, plus five additional ties along each side at intermediate points (manufactured homes less than 50 feet long require four additional ties per side).
        iii. All components of the anchoring system shall be capable of carrying a force of 4,800 pounds.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.

3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
    a. At least two feet higher than the depth specified in feet on the Flood Insurance Rate Map, or
    b. At least three feet if no depth number is specified, and
    c. Meet the anchoring requirements of Subsection 12.4.5(J)(1)(c).
4. Zone A shall:
    a. Be elevated on a permanent foundation, as described in Subsection 12.4.5(J)(1)(b), such that the lowest floor (including basement of the manufactured home is at least two feet above the base flood elevation utilizing information obtained pursuant to Subsection 12.4.2(J)(1)(b)(i), 12.4.4(C), or 12.4.4(B)(4), or
    b. In the absence of all data described in Section 12.4.5(J)(4)(a), to at least two feet above the highest adjacent grade to the structure, and
    c. Meet the anchoring requirements of Subsection 12.4.5(J)(1)(c).
5. Zones VE and Coastal AE shall meet the requirements of Subsection 12.4.5(R).

K. **Recreational vehicles.** Recreational vehicles located within:
1. Zones A, AE, AO, and AH shall either:
    a. Be on the site for fewer than 180 consecutive days, and
    b. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only be quick disconnect type utilities and security devices, and has no permanently attached additions, or
    c. Be permitted in accordance with the elevation and anchoring requirements for manufactured homes in Subsection 12.4.5(J)(1).
2. Zones VE and Coastal AE shall meet the requirements of either Subsection 12.4.5(K)(1)(a) and(b), or 12.4.5(R).

L. **Accessory structures.** New construction or substantial improvement of accessory structures, as defined in Subsection 12.3.1, shall be exempt from the elevation criteria required Subsections 12.4.5(H) and (I) if all other requirements of Subsection 12.4.5 and all the following requirements are met.
1. Accessory structures located within Zones A, AE, AO, AH shall:
    a. Meet the requirements of Subsection 12.4.5(A)(1) to (4) as applicable.
    b. Be limited in size to a one-story two-car garage.
    c. Have unfinished interiors and not be used for human habitation.
    d. Have hydraulic openings, as specified in Subsection 12.4.5(N)(2), in at least two different walls of the accessory structure.
    e. Be located outside the floodway.
    f. When possible be constructed and placed on the building site so as to offer the minimum resistance to the flow of flood waters and be placed further from the source of flooding than is the primary structure.
    g. Have only ground fault interrupt electrical outlets. The electric service

disconnect shall be located above the base flood elevation and when possible outside the special flood hazard area.

h. Be located outside the Coastal AE Zone.

2. Accessory structures in Zones VE and Coastal A shall meet the requirements of Subsection 12.4.5(R).

M. Floodways

1. In Zone AE riverine areas, encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted within a regulatory floodway designated on the Flood Insurance Rate Map unless a technical evaluation certified by a registered professional engineer is provided demonstrating that such encroachments will not result in any increase in flood levels within the city during the occurrence of the base flood discharge.

2. In Zones A and AE riverine areas for which no regulatory floodway is designated, encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted in the floodway as determined in (3) below, unless a technical evaluation certified by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing development and anticipated development:

a. Will not increase the water surface elevation of the base flood more than one foot at any point within the city.

b. Is consistent with the technical criteria contained in FEMA's guidelines and standards for flood risk analysis and mapping.

3. In Zones A and AE riverine areas for which no regulatory floodway is designated, the regulatory floodway is determined to be the channel of the river or other watercourse and the adjacent land areas to a distance of 1/2 the width of the floodplain as measured from the normal high-water mark to the upland limit of the floodplain. Encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted unless a technical evaluation certified by a registered professional engineer is provided meeting the requirements of (2) above.

N. Hydraulic openings/flood vents. New construction or substantial improvement of any structure in Zones A, AE, AO, and AH that meets the development standards of Subsection 12.4.5, including the elevation requirements of Subsection 12.4.5(H), (I), or (J) and is elevated on posts, columns, piers, piles, or crawl spaces may be enclosed below the base flood elevation requirements provided all the following criteria are met or exceeded:

1. Enclosed areas are not basements as defined in Article 3.

2. Enclosed areas shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood water. Designs for meeting this requirement must either:

a. Be engineered and certified by a registered professional engineer or architect, or
b. Meet or exceed the following minimum criteria:
    i. A minimum of two openings having a total net area of not less than one square inch for every square foot of the enclosed area;
    ii. The bottom of all openings shall be below the base flood elevation and no higher than two feet above the lowest grade.
    iii. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the entry and exit of flood waters automatically without any external influence or control such as human intervention, including the use of electrical and other non-automatic mechanical means.

3. The enclosed area shall not be used for human habitation.
4. The enclosed areas are usable solely for building access, parking vehicles, or storing of articles and equipment used for maintenance of the building.

O. **Bridges**. New construction or substantial improvement of any bridge in Zones A, AE, AO, AH, and VE shall be designed such that:
1. When possible, the lowest horizontal member (excluding the pilings, or columns) is elevated to at least two feet above the base flood elevation.
2. A registered professional engineer shall certify that:
    a. The structural design and methods of construction shall meet the elevation requirements of this section and the floodway standards of Subsection 12.4.5(M).
    b. The foundation and superstructure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all structural components. Water loading values used shall be those associated with the base flood.

P. **Containment walls.** New construction or substantial improvement of any containment wall shall meet the following requirements by zone:
1. Zones A, AE, AO, AH, and VE shall:
    a. Have the containment wall elevated to at least two feet above the base flood elevation;
    b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
    c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a Flood Hazard Development Permit, as required by Subsection 12.4.2(M), (N), and (O).
2. Zones AO and AH shall have adequate drainage paths around containment walls

on slopes, to guide flood water away from the proposed walls.

3. Zone AO shall have the top of the containment wall elevated above the highest adjacent grade:
   a. At least two feet higher than the depth specified in feet on the Flood Insurance Rate Map, or
   b. At least three feet if no depth number is specified, and
   c. Shall meet the requirements of Subsection 12.4.5(P)(1)(b) and (c).

Q. **Wharves, piers, and docks.** New construction or substantial improvement of wharves, piers, and docks are permitted in and over water and seaward of the mean high tide if the following requirements are met:

1. In Zones A, AE, AO, and AH, wharves, piers, and docks shall comply with all applicable local, state, and federal regulations, or
2. In Zone VE, wharves, piers, and docks shall have a registered professional engineer develop or review the structural design, specifications, and plans for construction.

R. **Coastal floodplains**

1. All new construction located within Zones AE and VE shall be located landward of the reach of mean high tide except as provided in Subsection 12.4.5(R)(6).
2. New construction or substantial improvement of any structure located within Zones VE or Coastal AE shall:
   a. Have the bottom of all electrical, heating, plumbing, ventilation and air conditioning equipment, permanent fixtures and components, HVAC ductwork and duct systems, and any other utility service equipment, facilities, machinery, or connections servicing a structure, elevated to at least two feet above the base flood elevation. Systems, fixtures, equipment, and components shall not be mounted on or penetrate through walls intended to break away under flood loads.
   b. Be elevated on posts or columns such that:
      i. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to two feet above the base flood elevation.
      ii. The pile or column foundation and the elevated portion of the structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
      iii. Water loading values used shall be those associated with the base flood. Wind loading values used shall be those required by applicable state and local building standards.
   c. Have the space below the lowest floor:
      i. Free of obstructions, or
      ii. Constructed with open wood lattice work or insect screening intended to collapse under wind and water without causing collapse, displacement, or other structural damage to the elevated

portion of the building or supporting piles or columns, or

iii. Constructed with non-supporting breakaway walls which have a design safe loading resistance of not less than 10 or more than 20 pounds per square foot.

d. Require a registered professional engineer or architect to:

i. Develop or review the structural design, specifications, and plans for the construction, which must meet or exceed the technical criteria contained in the *Coastal Construction Manual* (FEMA-55).

ii. Certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the criteria of Subsections 12.4.5(R)(2)(b), (c), and (d).

3. The use of fill for structural support in Zones VE and Coastal AE is prohibited.
4. Human alteration of sand dunes within Zones VE and Coastal AE is prohibited unless it can be demonstrated that such alterations will not increase potential flood damage.
5. The area below the lowest floor may be used solely for parking vehicles, building access, and storage.
6. Lobster sheds and fishing sheds may be located seaward of mean high tide and shall be exempt from the elevation requirement in Subsection 12.4.5(I) only if reviewed and approved as a conditional use by the Zoning Board of Appeals, as provided in Section 12.5, and if all the following requirements of Subsections 12.4.5(A), (M), and (N) are met:

a. The conditional use shall be limited to low value structures such as metal or wood sheds 200 square feet or less and shall not exceed more than one story.

b. The structure shall be securely anchored to the wharf or pier to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.

c. The structure will not adversely increase wave or debris impact forces affecting nearby buildings.

d. The structure shall have unfinished interiors and shall not be used for human habitation.

e. Any mechanical, utility equipment and fuel storage tanks must be anchored and either elevated or floodproofed to two-feet above the base flood elevation.

f. All electrical outlets shall be ground fault interrupt type. The electrical service disconnect shall be located on shore above the base flood elevation and when possible outside the special flood hazard area. If a flood hazard permit application is granted, the applicant shall be notified in writing that flood insurance is not available for structures located entirely over water or seaward of mean high tide.

12.4.6 Permit

A. Upon determination that the development or substantial improvement plan is in compliance with this article, the Building Authority shall issue one of the following Flood Hazard Development Permits based on the type of development:

1. *Two-part Flood Hazard Development Permit for elevated structures*. Part I shall authorize the applicant to build a structure to and including the first horizontal floor only above the base flood level. At that time the applicant shall provide the Code Enforcement Officer with an "under construction" elevation certificate (FEMA form FF-206-FY-22-152) completed by a professional land surveyor based on the Part I permit construction, "as built," for verifying compliance with the elevation requirements of Subsections 12.4.5(H), (I), (J), or (R). Following review of the elevation certificate data, which shall take place within 72 hours of receipt of the application, or as soon as practicable thereafter, the Code Enforcement Officer shall issue Part II of the Flood Hazard Development Permit. Part II shall authorize the applicant to complete the construction project.
2. *Flood Hazard Development Permit for floodproofing of nonresidential structures*. This permit shall apply for nonresidential structures that are new construction or substantially improved nonresidential structures that are not being elevated but that meet the floodproofing standards of Subsection 12.4.5(I)(1). The application for this permit shall include a floodproofing certificate signed by a registered professional engineer or architect.
3. *Flood Hazard Development Permit for minor development*. This permit shall apply for all other development and building permits that are not new construction or a substantial improvement, such as repairs, maintenance, renovations, or additions, whose value is less than 50% of the market value of the structure. This includes, but is not limited to: accessory structures as provided for in Subsection 12.4.5(L), mining, dredging, filling, grading, paving, excavation, drilling operations, storage of equipment or materials, deposition or extraction of materials, public or private sewage disposal systems or water supply facilities that do not involve structures, and nonstructural projects such as bridges, dams, towers, fencing, pipelines, wharves, and piers.

B. For development that requires review and approval as a conditional use, as provided for in this article, the Flood Hazard Development Permit application shall be acted upon by the Zoning Board of Appeals as required under Section 12.5.

12.5 CONDITIONAL USE REVIEW

12.5.1. Review authority

The Zoning Board of Appeals shall hear and approve, approve with conditions, or disapprove all applications for conditional uses provided for in this article. An applicant informed by the Building Authority that a conditional use approval is required shall file an application for the permit with the Zoning Board of Appeals.

12.5.2 Review procedure

A. The Flood Hazard Development Permit application with additional information attached addressing how each of the conditional use criteria specified in this article will be satisfied may serve as the application for the conditional use review.

B. Before deciding any application, the Zoning Board of Appeals shall hold a public hearing on the application within thirty days of their receipt of the application.

C. If the Zoning Board of Appeals finds that the application satisfies all relevant requirements of this article, the Zoning Board of Appeals must approve the application or approve with conditions within 45 days of the date of the public hearing.

D. A conditional use approval issued under the provisions of this article shall expire if the work or change involved is not commenced within 180 days of the approval by the Zoning Board of Appeals.

E. The applicant shall be notified by the Zoning Board of Appeals in writing over the signature of the Chair of the Board of Appeals that flood insurance is not available for structures located entirely over water or seaward of mean high tide.

12.5.3 Expansion of conditional uses

No existing building or use of premises may be expanded or enlarged without approval under this section if that building or use was stablished or constructed under a previous conditional use approval or if it is a building or use which would require a conditional use approval if being newly-established or constructed under this article.

12.6 CERTIFICATE OF COMPLIANCE

A. A certificate of compliance shall be signed by the Building Authority stating that a structure is in compliance with all of the provisions of this article.

B. No land in an area of special flood hazard shall be occupied or used in violation of this article, and no structure in such an area which is developed or substantially improved shall be occupied until a certificate of compliance is issued by the Building Authority. Said certificate of compliance shall be issued only after the Building Authority has received all permits and certificates from the applicant as required by this article.

C. For new construction or substantial improvement of any elevated structure, the applicant shall submit to the Building Authority:

1. An elevation certificate (FEMA form FF-206-FY-22-152) completed by a professional land surveyor for compliance with Subsection 12.4.5(H), (I), (J), or (R).
2. For structures in Zones VE and Coastal AE, a written certification by a registered professional engineer or architect shall be provided to the Building Authority stating that the design and methods of construction used are in compliance with the applicable provisions of Subsection 12.4.5(R)(2)(b), (c), and (d).

D. The applicant shall submit written notification to the Building Authority that the development is complete and complies with the provisions of this article.

E. Within 10 working days, the Building Authority shall review the elevation certificate (FEMA form FF-206-FY-22-152) and the applicant's written notification and, upon determination

that the development conforms with the provisions of this article, shall issue a certificate of compliance.

12.7 VARIANCES AND APPEALS

12.7.1 Authority

A. The Zoning Board of Appeals of the City of Portland may, upon written application of an aggrieved party, hear and decide appeals where it is alleged that there is an error in any order, requirement, decision, or determination made, or failure to act, in the administration or enforcement of the provisions of this article.

B. The Board of Appeals may authorize variances, meaning the granting of relief from the provisions of this article, as authorized in Subsection 2.3.11 except:

1. As otherwise expressly provided in Subsection 2.3.11(E).
2. Variances shall not be granted within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.

12.7.2 Standards

Subsection 2.3.11 notwithstanding, variances from the requirements of this article shall be granted only upon:

A. A showing of good and sufficient cause.

B. A determination that should a flood comparable to the base flood occur, the granting of a variance will not result in increased flood heights, additional threats to public safety, or public expense, or create nuisances, cause fraud or victimization of the public, or conflict with existing local laws or ordinances.

C. A showing that the issuance of the variance will not conflict with other state, federal, or local laws or ordinances.

D. A determination that failure to grant the variance would result in "undue hardship," which in this subsection means:

1. That the land in question cannot yield a reasonable return unless a variance is granted.
2. That the need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood.
3. That the granting of a variance will not alter the essential character of the locality.
4. That the hardship is not the result of action taken by the applicant or a prior owner.

E. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief, and the Zoning Board of Appeals may impose such conditions to a variance as is deemed necessary.

12.7.3 Standards for specific variances

A. Variances may be issued for new construction, substantial improvements, or other development for the conduct of a functionally-dependent use provided that:

1. The criteria in Subsection 12.7.2 and 12.4.5(M) are met.
2. The structure or other development is protected by methods that minimize flood damage during the base flood and create no additional threats to public safety.

B. Variances may be issued for the repair, reconstruction, rehabilitation, or restoration of

historic structures upon the determination that:

1. The development meets the criteria of Subsection 12.7.2.
2. The proposed repair, reconstruction, rehabilitation, or restoration will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

C. Variances may be issued for new construction and substantial improvement of agricultural structures being used for the conduct of agricultural uses provided that:

1. The development meets the criteria of Subsection 12.7.2 and Subsection 12.4.5 are met.
2. The development meets the criteria of Subsection 12.4.5(M) and (N).

12.7.4 Notice to applicants

Any applicant who meets the criteria of Subsections 12.7.2 and 12.7.3(A), (B), or (C) shall be notified by the Board of Appeals in writing with the signature of the Chair of the Board of Appeals that:

A. The issuance of a variance to construct a structure below the base flood level will result in greatly increased premium rates for flood insurance up to amounts as high as $25 per $100 of insurance coverage.

B. Such construction below the base flood level increases risks to life and property.

C. The applicant agrees in writing that the applicant is fully aware of all the risks inherent in the use of land subject to flooding, assumes those risks and agrees to indemnify and defend the municipality against any claims filed against it that are related to the applicant's decision to use land located in a floodplain and that the applicant individually releases the municipality from any claims the applicant may have against the municipality that are related to the use of land located in a floodplain.

12.7.5 Record of variances

The Board of Appeals shall submit to the Building Authority a report of all variance actions, including justification for the granting of the variance and an authorization for the Building Authority to issue a Flood Hazard Development Permit, which includes any conditions to be attached to said permit.

12.7.6 Appeal procedure

A. An administrative appeal may be taken to the Board of Appeals by an aggrieved party within 30 days after receipt of a written decision of the Building Authority.

B. Upon being notified of an appeal, the Building Authority shall transmit to the Board of Appeals all of the documents constituting the record of the decision appealed from.

C. The Board of Appeals shall hold a public hearing on the appeal within 35 days of its receipt of an appeal request.

D. The person filing the appeal shall have the burden of proof.

E. The Board of Appeals shall decide all appeals within 35 days after the close of the hearing and shall issue a written decision on all appeals.

F. Any aggrieved party who participated as a party during the proceedings before the Board of Appeals may take an appeal to Superior Court in accordance with state laws within 45 days from the date of any decision of the Board of Appeals.

12.8 RECORDS & REPORTING

A. The Building Authority shall maintain, as a permanent record, copies of all Flood Hazard Development Permits issued, certificates of compliance and data relevant thereto, including reports of the Board of Appeals on variances granted hereunder.

B. The Building Authority shall be responsible for filing such annual reports regarding participation in the National Flood Insurance Program as may be required by FEMA. Said annual reports shall include, but not be limited to, a report on implementation of this article and on any variances granted hereunder. A copy of such annual reports shall also be sent to the Maine Floodplain Management Program.

12.9 PENALTIES

It shall be the duty of the Building Authority to enforce the provisions of this ordinance pursuant to Title 30-A M.R.S. § 4452. The penalties contained in Title 30-A M.R.S. § 4452 shall apply to any violation of this ordinance. In addition to any other actions, the Building Authority, upon determination that a violation exists, shall submit a declaration to the Administrator of the Federal Insurance Administration requesting a denial of flood insurance. The valid declaration shall consist of:

A. The name of the property owner and address or legal description of the property sufficient to confirm its identity and location.

B. A clear and unequivocal declaration that the property is in violation of a cited state or local law, regulation, or ordinance.

C. A clear statement that the public body making the declaration has authority to do so and a citation to that authority.

D. Evidence that the property owner has been provided notice of the violation and the prospective denial of insurance. A clear statement that the declaration is being submitted pursuant to Section 1316 of the National Flood Insurance Act of 1968, as amended.

12.10 DISCLAIMER OF LIABILITY

The degree of flood protection required by the ordinance is considered reasonable but does not imply total flood protection.

13 RESOURCE PROTECTION ZONE

13.1 USE

No building shall be erected, altered, enlarged, rebuilt or used, and no premises shall be used, in a Resource Protection Zone except for the following uses:

A. Non-intensive recreational uses not requiring structures, such as fishing and hiking.
B. Motorized and non-motorized vehicular traffic on existing roads, trails, and rails, as appropriate.
C. Bikeways, pedestrian trails, and walkways.
D. Fire prevention activities.
E. Wildlife management activities.
F. Soil and water conservation activities.
G. Surveying and natural resource analysis.
H. Emergency operations as defined in Article 3.
I. Harvesting of wild crops.
J. Nonresidential structures for educational, scientific, or nature interpretation purposes, containing a maximum floor area of not more than 10,000 square feet.
K. Public and private parks and recreational areas, including one or more structures containing a total maximum floor area of not more than 10,000 square feet.
L. Permanent and temporary piers, docks, wharves, bridges and uses projecting into water bodies, as allowed in Subsection 11.4.2.
M. Storehouses for fishermen's gear.
N. Essential services as defined in Article 3 accessory to the uses permitted herein.
O. Signs, as allowed in Article 20.
P. Road construction, in accordance with the provisions of Section 11.4.
Q. Parking facilities for uses permitted under this section.
R. Landfill and other earth-moving activity, as allowed in Subsection 11.4.4.

13.2 DIMENSIONAL REQUIREMENTS

No building or structure shall be erected, altered, enlarged, rebuilt, or used in a Resource Protection Zone which does not comply with the following requirements:

TABLE 13-A: RPZ DIMENSIONAL STANDARDS

Lot area (min.)		20,000 SF
Lot width (min.)		100 ft.
Lot frontage on street or shoreline (min.)		100 ft.
Front setback (min.)		25 ft.
Rear setback (min.)		75 ft.[1]
Side setback (min.)	**Principal**	15 ft.
	Accessory	5 ft.
Side setback on side street (min.)		20 ft.
Shoreline setback (min.)		75 ft.[2]
Structure height (max.)	**Principal**	2 stories or 25 ft.
	Accessory	1 story or 15 ft.
Building area (max.)		10% of lot area[3]

[1] Does not apply to boathouses or storehouses for fishing gear.
[2] Does not apply to permitted piers, docks, wharves, breakwaters, causeways, bridges, boathouses, and storehouses for fishing gear.
[3] For principal building or group of buildings.

13.3 OFF-STREET PARKING

Any off-street parking in a Resource Protection Zone is required as provided in Article 19.

13.4 SHORELAND AND FLOOD PLAIN MANAGEMENT REGULATIONS

Any lot or portion of a lot located in a Shoreland Zone as identified on the City zoning map or in a flood hazard area shall be subject to the requirements of Articles 11 and 12.



14 SITE PLAN

14.1 PURPOSE

Pursuant to Portland's Comprehensive Plan, this article advances the vision for a sustainable city with shared goals for the environment, community, and economy. This article complements the zoning and subdivision regulations of this Land Use Code.

14.2 APPLICABILITY

14.2.1 Site plan approval required

All development meeting the thresholds of Table 14-A shall require site plan approval prior to commencing any work or undertaking any alteration or improvement of the site. A final, approved site plan is a prerequisite to issuance of building, street opening, or certificate of occupancy permits for development subject to the provisions of this article. No such permit shall be issued until such permit is determined to be consistent with the final, approved site plan and any conditions of approval. In the event of any inconsistency between the approved site plan and any permit issued, the approved site plan shall control, provided, however, site plan approval shall not excuse failure to meet any independent requirement of any other law or ordinance. Neither the acceptance of any application nor any determination or approval hereunder shall authorize the issuance of a permit under Chapter 6 of the City of Portland Code of Ordinances for any use which would violate the provisions of Articles 6 and 7 of this Land Use Code.

14.2.2 Exceptions

The Planning Authority may grant written authorization for the release of a demolition or interior building permit for a development subject to this article upon written request of the applicant describing the extent of proposed work. Any exterior demolition requires a performance guarantee for site stabilization.

14.3 PROJECT CLASSIFICATION

14.3.1 Site plan classifications

The Planning Authority shall classify each development proposal as a major or minor site plan application according to the classifications in Table 14-A. The Planning Authority may, due to the scope or anticipated impacts of a project, classify any project a review level higher than otherwise indicated in Table 14-A.

14.3.2 Master development plan

A. An applicant may elect to submit a master development plan application for a large, multi-phase development program consisting of multiple buildings and site improvements on a site of one acre or more of total land area which is designed as a cohesive and integrated whole. The master development plan option shall not apply in residential zones, except for institutional, multi-family, congregate care, and intermediate, extended, and long-term care uses in the R-5a and R-6a zones.

B. A master development plan approval, including an approval of waivers, establishes the general parameters for the development, including the general development program, massing, open space plan, and infrastructure plan. A master development plan approval shall not be construed as final authorization of the development. Approval shall confer pending proceeding status upon the development with the effect of maintaining the applicability of regulations in effect at the time of approval for as long as the master development plan



SITE PLAN

TABLE 14-A: SITE PLAN CLASSIFICATIONS

	Minor[1]	Major
New construction or additions[2]	Single- or two-family structures 500 – 10,000 SF 500 – 20,000 SF in industrial zones 500 – 50,000 SF in IS-FBC zone	Multi-family development of 3 or more units[3, 4] > 10,000 SF > 20,000 SF in industrial zones > 50,000 SF in IS-FBC zone
Stripping, grading, grubbing, filling, or excavation	1,000 SF - 3 ac.	> 3 ac.
Site alterations	Alteration of watercourse or wetland	
Creation of impervious surface	1,000 SF – 1 ac.	> 1 ac.
Construction or paving of existing parking	5 – 75 parking spaces	> 75 vehicles
Construction of structures[5] in the Shoreland Zone	Rehabilitation, reconstruction or new construction	
Change of use[6]	10,000 – 20,000 SF	> 20,000 SF
Other	Auto service station	Development with drive-through facilities

[1] For purposes of fee assignment and submission requirements, the minor application includes two exceptions: "minor residential" and "low-impact site development." See Section 16 of the *Technical Manual* for more information.
[2] Includes cumulative expansion of building floor area within a three-year period.
[3] Includes any division of a new or existing structure into 3 or more dwelling units whether the division is accomplished by sale, lease, development, or otherwise.
[4] Addition of one or two units to any residential development shall trigger minor site plan review.
[5] Includes piers, docks, wharves, bridges, retaining walls, and other structures
[6] Includes any change in use of an existing building, whether or not alterations are involved, from any use in the following list to any other uses on the list:

A. Industrial
B. Residential
C. Institutional
D. Commercial/Service
E. Water-dependent use and marine use

approval remains valid, including permissible extensions if granted. Subsequent site plan approvals shall be required.

14.4 REVIEW AND APPROVAL AUTHORITY

The review and approval authority for site plans and master development plans shall be determined based on the classification of the project as shown in Table 14-B. At any point in the review process, the applicant may request that Planning Authority reclassify the application to the next highest review level.

14.5 REVIEW PROCEDURES

14.5.1 Pre-application meeting

Applicants for site plan or master development plan review are encouraged to schedule a pre-application meeting. The purpose of this meeting is to familiarize the applicant with the City of Portland, site plan submittal requirements, review procedures, and applicable review standards. A pre-application meeting shall not confer pending proceeding status under Title 1 MRSA 302. No decisions relative to the plan shall be made at the pre-application meeting, nor shall any advice or information provided by the City be construed as a decision.

TABLE 14-B: REVIEW AND APPROVAL AUTHORITY

Plan Classification	Review Authority
Minor	Planning Authority
Major	Planning Board
Master Development Plan	Planning Board

14.5.2 Application, plans, and submittals

All applicants shall submit a site plan or master development plan application to the Planning Authority in such form as prescribed by the Planning Authority. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application.

14.5.3 Staff completion check

A. The Planning Authority shall determine whether the application, plans, and submittals meet the submittal requirements of the *Technical Manual*. If the application is deemed incomplete or not in compliance with Articles 6

TABLE 14-C: SITE PLAN REVIEW PROCEDURES

	Minor	Major	Master Development Plan	Public Notice Requirement
Pre-application meeting	◐	◐	◐	
Site plan, application, plans, and submittals	●	●	●	
Staff completion check	●	●	●	●
Staff review	●	●	●	
Neighborhood outreach		●	●	●
Planning Board workshop		◐	●	●
Revised plans and submittals	●			
Final staff review & recommendation	●*	●	●	
Planning Board public hearing		●*	●*	●

● Required ◐Recommended * Decision point: approve/approve with conditions/deny

or 7, the Planning Authority shall inform the applicant in writing of the finding and the additional plans or submittals required to complete the application. A review of the application will not be conducted until the application is found complete.

B. Once the application is determined to be complete, receipt of application notices shall be sent to all property owners within 500 feet of the subject property lines, unless the Planning Authority, in its discretion, chooses to notice a larger area and incur the additional expense for the expanded notification. Notices shall be sent to all others, including neighborhood organizations, as may be required by the Planning Authority.

14.5.4 Staff review

When the application is determined to be complete, the plans and submittals shall be reviewed by the Planning Authority and other departments of the City of Portland as appropriate against the review standards of this article. Written comments from reviewers shall be provided to the applicant and shall include a staff recommendation to either provide a revised plan and submittals, schedule a Planning Board workshop, or schedule a public hearing.

14.5.5 Neighborhood meeting

Applicants for major site plan and master development plan review shall conduct at least one neighborhood meeting in accordance with the following:

A. **Timing and location.** The meeting shall be conducted within 30 calendar days of an application being deemed complete and no less than seven calendar days before a public hearing. The meeting shall be held at a convenient location within the City of Portland neighborhood surrounding the proposed site. All costs associated with the neighborhood outreach shall be borne by the applicant.

B. **Notice.** The applicant shall mail notice to all property owners within 500 feet of the subject property lines, and to all others, including neighborhood organizations, as may be required by the Planning Authority at least 10 calendar days prior to the neighborhood meeting or event. The notice shall contain a brief description of the proposal and the date, time, and place of the neighborhood meeting or event. A digital copy of the neighborhood notice shall be sent to the Planning Authority, which shall be distributed to the City's list of interested citizens.

C. **Meeting procedures**

1. *Record of participants.* The applicant shall keep a record of neighborhood participants in the outreach. A copy of this record shall be submitted to the Planning Authority prior to final review.
2. *Record of presenters and/or representatives.* The applicant shall keep a record of all presenters and/or representatives of the applicant participating in the outreach.
3. *Content.* The neighborhood outreach shall include an explanation of the proposal and provide an opportunity for public questions and comment.
4. *Record of feedback.* The applicant shall keep a record of feedback generated through the neighborhood outreach. In addition to any comments, questions, data, or other feedback collected, this record

shall also include the start and end time(s) of the outreach and a list of the specific plans, documents, or drawings that were shared. A copy of this record shall be submitted to the Planning Authority prior to final review. Any other individual or entity also may submit comments on the neighborhood meeting to the Planning Authority.

14.5.6 Review costs

A. Applicants shall pay a fee to cover the review costs and administrative costs incurred by the City. The fee shall be based upon the actual hours of review time and prevailing hourly rate for reimbursement of City costs, and shall be invoiced periodically by the City.

B. No land use permits or applications of any kind shall be processed, reviewed or issued, and no building permits of any kind shall be issued, for any project whose permit fee is governed by this article unless all charges due under this article have been paid and the developer is otherwise in compliance with the City Code of Ordinances.

14.5.7 Notice of public meeting

A. For all applications that are subject to Planning Board review, the applicant shall be responsible for posting a notice of public meeting sign on the property where the development is to occur. The dimensions, construction, and content of the sign shall be in accordance with standards established by the Planning Authority.

B. The sign shall be posted at least ten days prior to the public workshop or hearing date, and shall be removed from the site no more than three days following the date of the meeting.

C. Once the required notice of public meeting signage is posted, the applicant shall submit a completed certification of posting form to the Planning Authority.

D. In the event that a required notice of public meeting sign is knocked over or made illegible, it shall be the responsibility of the applicant to promptly reset or replace the sign, though failure to do so shall not invalidate the review.

14.5.8 Planning Board workshop

Applicants for major site plan and master development plan review may request a workshop with the Planning Board. The workshop will be scheduled on a date that follows the neighborhood meeting and initial staff review. The workshop shall be informational and shall not result in any formal approval or disapproval of the project. At the workshop, the Planning Board shall discuss the plans and submittals, consider the staff review with respect to the review standards of this article, hear public comments and questions, and provide direction to the applicant regarding issues to be addressed.

14.5.9 Revised plans and submittals

All applicants shall provide revised plans and submittals to the Planning Authority. The Planning Authority shall determine whether the revised plans and submittals meet the submittal requirements of the City of Portland *Technical Manual*.

14.5.10 Final staff review and recommendation

When determined to be complete, the revised plans and submittals shall be reviewed by the Planning Authority and other City departments as

appropriate against the review standards of this article. Written comments from reviewers shall be provided to the applicant. In the case of a major site plan or master development plan review, comments shall include a staff recommendation to either approve, approve with conditions, or deny the revised site plan and submittals. In the case of a minor site plan application, following staff review, the Planning Authority shall approve, approve with conditions, or deny the revised site plan application based on the review standards of this article.

14.5.11 Planning Board public hearing

Applicants for major site plan or master development plan review must appear before the Planning Board for a public hearing. The hearing shall be scheduled on a date that meets all public noticing requirements contained in Article 2. At the hearing, the Planning Board shall approve, approve with conditions, or deny an application, based upon the review standards of this article.

14.5.12 Lapse in application

A site plan or master development plan application must be diligently pursued from the date of submission. Notwithstanding the submission of a complete application, any applicant shall provide additional information, studies, or reports from qualified professionals when determined by the Planning Board or the Planning Authority to be reasonably necessary to make any of the determinations required by this article. Failure to submit required information within 120 days of the date upon which the written request was made shall cause the application to expire and be deemed null and void.

14.6 SITE PLAN REVIEW STANDARDS

The reviewing authority shall not approve a site plan application unless the development proposal meets applicable standards of the City of Portland *Technical Manual* and the City of Portland *Design Manual* and the criteria below.

14.6.1 Transportation standards

A. **Impact on surrounding street systems.** The provisions for vehicular loading and unloading, parking, and vehicular and pedestrian circulation on the site and onto adjacent public streets and ways and the incremental volume of traffic will not:
   1. Create or aggravate any significant hazard to safety on the surrounding street network.
   2. Substantially increase congestion on any street which is already at a level of service below Level "D" without mitigation proportionate to the level of impact.

B. **Access and circulation**
   1. *In general*
      a. All development subject to this article shall provide safe and reasonable access and internal circulation for all users of the site and shall comply with the transportation systems and street design standards of the *Technical Manual*.
      b. Continuous internal walkways shall be provided between existing or planned public sidewalks adjacent to the site, transit stops and street crossings, and building entrances on the site.
      c. Points of access and egress shall be located to avoid conflicts with turning movements and traffic flows.



d. The site must have stacking capacity for vehicles waiting to use these service features without impeding on-site vehicular circulation or creating hazards to vehicular circulation on adjoining streets.

2. *Loading and servicing*. All developments served by delivery or other service vehicles shall provide access that permits safe turning and backing for all vehicles that would service the development. Loading and servicing access shall not impede vehicle circulation, bicycle or pedestrian movements, or parking.
3. *Curb and sidewalks*
   a. All development shall provide curb and sidewalks along all frontages, installed to specifications as described in the transportation systems and street design standards of the *Technical Manual*.
   b. Where sidewalks already exist but are in substandard condition, they shall be repaired or replaced in conformance with Chapter 25 of the City of Portland Code of Ordinances and the transportation systems and street design standards of the *Technical Manual*
   c. An applicant may request a waiver from sidewalk installation requirements if they meet two or more applicable waiver criteria as listed below:
      i. There is no reasonable expectation for pedestrian usage coming from, going to, and traversing the site.
      ii. There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of pedestrian-oriented infrastructure.
      iii. A safe alternative walking route is reasonably available, for example, by way of a sidewalk on the other side of the street that is lightly traveled.
      iv. The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program (CIP) or has been funded through an earlier CIP or through other sources.
      v. The street has been constructed or reconstructed without sidewalks within the last 24 months.
      vi. Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.
   d. An applicant may request a waiver from curb installation requirements if they meet two or more applicable waiver criteria as listed below:
      i. The cost to construct the curbing, including any applicable street opening fees, is in excess of 5% of the overall project cost.

ii. The reconstruction of the street is specifically identified and approved in the first or second year of the current CIP or has been funded through an earlier CIP or through other sources.
iii. The street has been rehabilitated without curbing in the last 60 months.
iv. Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.
v. Runoff from the development site or within the street does not require curbing for stormwater management.

C. Public transit access

1. All residential development consisting of 20 or more dwelling units and all commercial and institutional developments of at least 20,000 square feet gross floor area shall provide a transit shelter adjacent to or within the public right-of-way along its frontage when the following criteria are met:
   a. The development is proposed along an existing public transit route on a principal or minor arterial roadway, as shown in the Federal Street Classification Map.
   b. The nearest existing transit shelter on the route is more than ¼ mile from the site, measured along rights-of-way.
2. Transit facilities shall be connected to the public sidewalk system.
3. All or some of this standard may be waived if the review authority determines one or more of the following:
   a. That some or all of the required improvements cannot reasonably be made due to site constraints and/or insufficient right of way width.
   b. That the development is not anticipated to generate public transit usage due to particular characteristics of the development or proposed use.

D. Parking

1. *Vehicular parking*
   a. All developments shall provide off-street parking in accordance with the parking requirements of this Land Use Code.
   b. Where a parking study is required, the City encourages Transportation Demand Management (TDM) strategies to be employed.
   c. Developments proposing to exceed minimum parking requirements by 10% or more must demonstrate through a parking study that the amount of parking is appropriate for the proposed use of the site.
   d. Parking spaces and aisles shall meet applicable dimensional standards as detailed in the transportation systems and street design standards of the *Technical Manual*.
2. *Bicycle parking*
   a. All development shall provide secure bicycle parking in accordance with the parking requirements of this Land Use Code and the transportation systems

and street design standards of the *Technical Manual*.

b. Waiver: The review authority may reduce the required number of bicycle parking spaces if it is determined, based on evidence submitted by the applicant, that the proposed development is expected to generate reduced demand for bicycle parking due to particular site characteristics or proposed uses.

3. *Snow storage*
   a. All developments shall include areas for snow storage or provide an acceptable snow removal plan.
   b. Snow storage areas may not encroach on areas designed to meet minimum parking requirements or on pedestrian walkways and shall not be located where they would adversely impact the functionality of stormwater management systems. Landscaping in designated snow storage areas shall be such that it can withstand the snow pile.
4. *Electric Vehicle (EV) charging*
   a. All development shall adhere to applicable EV standards as provided in Section 1 of the *Technical Manual*.

E. Transportation Demand Management (TDM)

1. The following types of development shall design and implement a Transportation Demand Management (TDM) plan:
   a. All major site plan triggering development in the B-7 zone.
   b. All commercial, institutional, or mixed-use developments of 50,000 square feet or more total floor area.
   c. All commercial or institutional uses designed to accommodate 100 or more employees or, for educational institutions, 100 or more students.
2. The TDM Plan shall comply with the transportation systems and street design standards of the *Technical Manual*.

14.6.2 Environmental quality standards

A. Preservation of significant natural features

1. All development shall preserve and protect significant natural features by incorporating them into site design. Significant natural features shall be defined as:
   a. Populations of trees and plants listed on the Official List of Endangered and Threatened Plants in Maine, published by the Maine Natural Areas Program.
   b. Habitat for species appearing on the official state or federal list of endangered or threatened animal species.
   c. High and moderate value waterfowl and wading bird habitat including nesting and feeding areas, as defined by the Department of Inland Fisheries and Wildlife.
   d. Aquifers on islands in Casco Bay, as identified in the City of Portland Island Groundwater Management Study and/or by the Maine Geological Survey.
   e. Waterbodies including wetlands, watercourses, significant vernal pools and floodplains.
2. Where areas set aside for preservation are part of a larger existing habitat block

extending beyond the boundaries of the site, the contiguity of these features shall be preserved where possible.

3. Waiver: Where complete preservation of significant natural features substantially compromises development of the site as otherwise permitted by zoning, the review authority may reduce the requirement to accommodate development provided that the applicant demonstrates compliance with applicable state and federal regulations and implements preservation measures to the extent practicable.

B. Landscape preservation

1. Site development shall be designed to incorporate, limit disturbance to, and limit removal of existing trees.
2. The site plan shall include adequate measures to protect vegetation to be preserved from construction impacts, in accordance with the landscaping and landscape preservation standards of the *Technical Manual*.
3. All development subject to zoning setbacks shall preserve a minimum of 30% of existing trees 10 inches DBH or greater within the required setback area unless trees are non-native invasive species, as identified in the landscaping and landscape preservation standards of the *Technical Manual*, or are deemed unsalvageable by the Portland City Arborist or their designee.
4. Waiver: Where the applicant can demonstrate that preservation of existing vegetation would compromise development of the site, the review authority may permit the substitution of landscaping in other areas of the site as described in Table 14-D and/or a financial contribution to the City of Portland Tree Fund for an amount proportionate to the cost of trees removed. Replacement trees shall be of a species identified on the City of Portland Recommended Tree List as described in the landscaping and landscape preservation standards of the *Technical Manual*.

TABLE 14-D: TREE REPLACEMENT REQUIREMENTS

Size of Tree Removed	Replacement Requirement
10 – 16" DBH	1 tree
> 16" DBH	2 trees

5. Where the planting of replacement trees on the site is not feasible, the applicant shall contribute an amount proportionate to the cost of required replacement trees to the City of Portland Tree Fund, as described in the Landscaping and landscape preservation standards of the *Technical Manual*.

C. Site landscaping and buffers

1. *Landscaping*. All development subject to required zoning setbacks shall include a minimum of one shade tree or six plantings per 30 linear feet of all frontages as measured along the property line. A planting shall be defined as one shrub, one ornamental grass, and/or three perennials. Required plantings may be installed anywhere on the site, including a green roof, if proposed, and may be planted in any arrangement. Existing vegetation to be preserved on the site may be counted towards this requirement as described in the landscaping and landscape

preservation standards of the *Technical Manual*.

2. *Buffers*
   a. Loading and servicing areas, trash and recycling areas, storage areas, and roof- and ground-mounted utility structures, except for renewable energy systems, shall be screened from view from public sidewalks, streets and adjacent properties by dense evergreen landscaping, fencing, architectural screening products, masonry walls, building walls, or a combination thereof.
   b. For nonresidential development abutting a residential zone, an evergreen, densely landscaped buffer of not less than 10 feet wide and six feet tall is required along the side abutting the residential zone. Where site constraints prevent such a buffer from being established, the width of the landscaped buffer may be reduced but shall include architectural fencing of not less than six feet tall and a mix of evergreen and deciduous trees spaced no further than 20 feet apart abutting the residential zone.
   c. All residential development shall provide and/or preserve evergreen vegetated buffers where necessary to buffer the development from detrimental impacts of existing surrounding development.
3. *Parking and vehicle display lot landscaping*
   a. Developments shall include at least two trees (or one tree and three shrubs) per five parking spaces planted in landscaped islands to screen, shade, and break up parking. Trees and shrubs in parking lots may be in informal groups, straight rows, or concentrated in clusters as described in the landscaping and landscape preservation standards of the *Technical Manual*.
   b. Landscaped islands shall be distributed so that uninterrupted pavement does not exceed forty parking spaces.
   c. Where site constraints prevent implementation of all or a portion of required parking lot landscaping, as determined by the review authority, the requirements may be all or partially waived and the applicant shall contribute an amount proportionate to the cost of required parking lot trees to the City of Portland Tree Fund.
4. *Street trees*
   a. All development shall include street trees in numbers and locations as specified in the Landscaping and landscape preservation standards of the *Technical Manual*. Street trees are intended to benefit public spaces by providing green and natural elements that contribute to the streetscape and the urban forest ecosystem, provide health benefits, and increase the tree canopy to maximize shade and reduce energy use. Street trees shall be of a species identified on the City of Portland Recommended Tree List, unless otherwise approved by the City

Arborist or his/her designee. The provision of measures to enhance tree survival (such as raised planters, irrigation, and structural soils as recommended by the City Arborist) shall be required.

b. Where the applicant can demonstrate that site constraints prevent the planting of required street trees in the city right-of-way, the review authority may permit the following to be counted towards the street tree requirement, subject to the standards set out in the *Technical Manual*:
   i. The preservation of existing healthy trees that are six inches or more DBH on the site within twenty feet of the property line, and visible from the right-of-way.
   ii. The planting of street trees on the site within 20 feet of the property line where visible from the right-of-way.
   iii. The installation of other planted features in the right-of-way or within 10 feet of the right-of-way and visible from the right-of-way, which are documented to the satisfaction of the City Arborist and Planning Authority to meet the objectives of the street tree requirement.
   iv. The planting of new street trees on public land or public facilities in the neighborhood where a reasonable chance of good health and longevity is documented.
   v. Where other alternatives are not feasible, a contribution for each required street tree made to the City of Portland's Tree Fund. The contribution would primarily be for new trees in the neighborhood of the development, but would include an element of maintenance.
   vi. Where the proposed development includes the removal of an existing street tree determined by the City Arborist to be a heritage or feature tree, the applicant shall be required to contribute to the Tree Fund at the designated rate in the *Technical Manual* so that the total replacement cost is significantly higher than planting a new street tree/contributing for a new street tree.

D. Water quality, stormwater management, and erosion control

1. All development shall be designed to minimize total area of impervious surface on the site and both the volume and rate of runoff from the lot. Provisions for stormwater management shall demonstrate the following:
   a. Any stormwater draining onto or across the lot in its pre-improvement state will not be impeded or re-directed so as to create ponding on, or flooding of, adjacent lots.
   b. Any increase in volume or rate of stormwater draining from the lot onto an adjacent lot or City property

following the improvement can be handled on the adjacent lot or City property without creating ponding, flooding or other drainage problems and that the owner of the lot being improved has the legal right to increase the flow of stormwater onto the adjacent lot or City property.

c. Any increase in volume or rate of stormwater draining from the lot into the City's separated storm sewer system can be accommodated in the system without creating downstream problems or exceeding the capacity of the storm sewer system.

2. All development shall comply with the Stormwater management standards of the *Technical Manual*.

3. Development shall not pose a risk of groundwater contamination either during or post-construction, as described in the stormwater management and water supply standards of the *Technical Manual*.

14.6.3 Public infrastructure and community safety standards

A. Consistency with City master plans

1. All developments shall be designed so as to be consistent with City Council-approved master plans and facilities plans and with off-premises infrastructure.

2. The site plan shall include suitable easements, rights, and improvements to connect or continue off-premises public infrastructure as may be required by the review authority.

B. Public safety and fire prevention

1. All development shall incorporate the following public safety principles for Crime Prevention through Environmental Design (CPTED) into site design to enhance the security of public and private spaces and to reduce the potential for crime:

   a. Natural surveillance that promotes visibility of public spaces and areas.

   b. Access control that promotes authorized and/or appropriate access to the site.

   c. Territorial reinforcement that promotes a sense of ownership and responsibility through environmental design.

2. All developments shall be designed to provide adequate emergency vehicle access to the site and comply with the Public Safety standards of the *Technical Manual*.

C. Public utilities

1. The development shall not overburden sanitary sewers and storm drains, water lines or supply, or other public infrastructure and utilities. Development shall provide adequate utility infrastructure on-site and in connection to surrounding locations and facilities.

2. Electrical service shall be underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost, the need to retrofit properties not owned by the applicant or complexity of revising existing overhead facilities.

3. All sanitary sewer lines, storm drains, water lines, and other utilities proposed as part

of the development shall be designed to conform with the sanitary sewer and storm drain and water supply standards of the *Technical Manual*.

4. All development within 200 feet of a public sanitary collection and treatment system shall connect sanitary sewer lines into the nearest available public sewer. If a public sanitary collection and treatment system is not available, a private wastewater system may be used according to the requirements of Chapter 24 of the City Code and the sanitary sewer and storm drain standards of the *Technical Manual*.
5. All residential development of 20 units or more, commercial development, and industrial development shall provide for the temporary storage and timely removal of all trash and recyclable materials including, at a minimum, paper, corrugated cardboard, plastics, and metals. Storage containers for recyclable materials shall be separated from trash containers. All exterior storage of trash and recyclables shall be screened from view from public sidewalks, streets, and adjacent properties.

14.6.4 Site design standards

A. Massing, ventilation, and wind Impact

1. The bulk, location, or height of proposed buildings and structures shall not result in health or safety problems from a reduction in ventilation to abutting structures or changes to the existing wind climate that would result in unsafe wind conditions for users of the site and/or adjacent public spaces.
2. The bulk, location, or height of proposed buildings and structure shall minimize, to the extent feasible, any substantial diminution in the value or utility to neighboring structures under different ownership and not subject to a legal servitude in favor of the site being developed.
3. Development shall locate all HVAC venting mechanisms to direct exhaust away from public spaces and residential properties directly adjacent to the site.

B. Shadow. All development outside the B-3, B-5, B-6 and B-7 zones shall be designed to avoid and/or mitigate the adverse impacts of shadows cast by new structures or building additions from falling on publicly accessible open space in accordance with the shadow standards of the *Technical Manual*.

C. Snow and ice loading. All development shall be designed to prevent significant amounts of accumulated snow and ice from loading or falling onto adjacent properties or public ways.

D. View corridors. The massing, location, and height of development shall not substantially obstruct public view corridors identified in the *Downtown Vision View Corridor Protection Plan.*

E. Historic resources

1. When developments affect designated landmarks or lie within designated historic districts or historic landscape districts, such development shall be required to obtain a Certificate of Appropriateness under Article 17.
2. When any part of a proposed development is within 100 feet of any designated landmark, historic district, except the India



Street Historic District, or historic landscape district, such development shall be generally compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity of the proposed development. Character-defining elements of landmarks and historic districts are identified in the historic resources inventory and respective historic district designation reports. For the purposes of this provision, "compatible" design shall be defined as design which respects the established building patterns and visual characteristics that exist in a given setting and, at the same time, is a distinct product of its own time. To aid the review authority in its deliberations, Historic Preservation staff shall provide a written analysis of the proposed development's immediate context, identifying the major character-defining elements and any established building patterns that characterize the context.

3. All development shall document and protect state or local archaeological resources known to exist or discovered on the site.
   a. Protection shall include leaving archaeological resources untouched beneath a new development through adaptation of foundation design or architectural layout.
   b. Where the applicant can demonstrate that complete protection is not feasible, the applicant shall excavate and document archeological resources. Such measures shall be conducted in consultation with the City's historic preservation program and Maine Historic Preservation Commission. For resources of state significance, excavation and documentation shall be conducted by a qualified professional, in coordination with Maine Historic Preservation Commission. Local archeological resources may or may not be recognized by the Maine Historic Preservation Commission as significant and shall include the following:
      i. Original seawall structure located landward of Commercial Street.
      ii. Inactive historic family cemetery plots.
      iii. Historic railroad beds including but not limited to the Portland-Lewiston interurban railroad.
      iv. Original structure and/or landforms associated with the Cumberland and Oxford Canal.
      v. Buried portions of colonial and post-colonial period structures or built features located on the Portland Peninsula predating the Great Fire of 1866.
      vi. Pre-colonial occupation sites identified by shell middens or other evidence.
      vii. Sites listed or eligible for listing on the National Register of Historic Places.
   c. In order to preserve archeological resources, the review authority may

waive standards listed in the City of Portland *Technical Manual* where necessary if it is determined that such a waiver would not jeopardize the health, safety, or welfare of the development's occupants, the public, or the natural environment.

F. Exterior lighting

1. *Site lighting*
   a. All exterior site lighting shall be full cutoff with no light emitted above the horizontal plane or spilled onto adjacent properties and streets. Illumination levels shall be adequate but not excessive for the safety, comfort, and convenience of occupants and users of the site, and shall conform to the lighting standards of the *Technical Manual*.
   b. Where light from a proposed development may adversely impact adjacent residential properties, exterior lighting shall employ house-side shielding.
2. *Architectural and specialty lighting.*
   a. Architectural and specialty lighting of such features as architectural details, monuments, public art, or other site features shall be designed to illuminate specific details or attributes only and shall meet the lighting standards of the *Technical Manual*.
   b. Up-lighting by any method is prohibited except for public buildings and parklands; clock towers and steeples; landscape features; designated historic landmarks; flags of state, federal, or national jurisdictions; and public art. Such light fixtures, brackets, conduits, and all other components shall be designed by a lighting professional and shall be scaled and placed to minimize their visibility and installed in accordance with the lighting standards of the *Technical Manual*.
3. *Street lighting.* All development shall provide municipal street lighting adequate for the safety and comfort of pedestrians and motorists and, where applicable, conforming to specific lighting district requirements as specified in the street lighting standards of the *Technical Manual*.

G. Noise and vibration. All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment shall meet applicable state and federal emissions requirements and shall be located to the interior of the site, away from abutting residential properties

H. Signage and wayfinding

1. The size, scale, proportions, design, materials, placement, and source and intensity of illumination of all permanent building or freestanding signs shall be designed to complement the subject building and its immediate context, as follows:
   a. Signage shall not conceal architectural features such as window sills, lintels or cornices from view.
   b. Signs shall be designed and sized to fit the scale and proportions of the building and the feature or area of the building to which it is affixed.



c. Freestanding signs shall not adversely affect visibility at intersections or access drives.
d. Sign lighting shall be downwardly directed, internally-illuminated and/or shielded to avoid glare and light spillover towards the sky.
e. Signs shall not be affixed to rooftop mechanicals, mechanical penthouses or other rooftop appurtenances unless those appurtenances have been screened and integrated into the architecture of the development.

2. On-site directional traffic signage may be provided to enable users to safely and easily navigate into, around and out of the site. Directional signage shall not adversely affect visibility at intersections on or off the site.

I. Design standards

1. Development of certain types and/or proposed in certain zones, as specified below, are subject to the design standards of the City of Portland *Design Manual* in order to ensure that building and site design contribute to and enhance the goals and policies for specific zones within the City. The City of Portland design standards are listed in the City of Portland *Design Manual*, which is incorporated by reference as part of the City of Portland Land Use Code. If the development is located in a historic district or associated with a historic landmark, City of Portland Historic Preservation standards shall supersede:
   a. Development in the B-3, B-5, B-5b, and B-7 zones and in the B-6 and EWPZ zones shall be designed to support the development of dense, mixed-use neighborhoods with attractive, safe, and convenient street-level pedestrian environments. New development along the Eastern Waterfront should avoid large monolithic massing along all street frontages and should promote permeability through and within the development at a scale compatible with the existing street networks of the Eastern Waterfront. Where new structures are larger than buildings characteristically found in Portland's waterfront, horizontal and vertical variation should be used to break large expanses of building into components that are in scale with the context to which they most closely relate.
   b. Development in the R-P Residential Professional Zone, where there is a discernable architectural style or character to existing structures in the immediate vicinity in which the development is proposed, shall not be incongruous to that established style or character.
   c. Development in the B-1/B-1b, B-2, and B-2b zones shall provide an established street wall with entrances and public portions of the building oriented to and directly accessible from the public sidewalk and shall be designed and scaled to be compatible with surrounding residential and commercial development.
   d. Development in the University of Southern Maine (USM) Overlay Zone shall be designed to support a cohesive

campus environment that integrates with and respects the residential character of surrounding neighborhoods.

e. Residential developments, as listed below, shall integrate with and respect the character of surrounding residential development in terms of architectural form, landscaping and open space, façade materials, roof pitch, massing, and height.
   i. Planned Residential Unit Developments (PRUDS) in the R-3, R-5, and R-5a residential zones.
   ii. Multiple family and multiplex developments in the R-5 zone.
   iii. Small residential lot development of single-family homes in the R-5 zone.
   iv. All residential development in the R-6 zone.
   v. Residential development of the following types: manufactured housing parks, two-family and multiple family housing not already specified above, special needs independent dwelling units, lodging houses, bed and breakfasts, and emergency shelters.

14.7 MASTER DEVELOPMENT PLAN REVIEW STANDARDS

The Planning Board shall not approve a master development plan unless the development proposal meets the review standards below.

14.7.1 In general

A. **Integration with the surrounding context.** A master development plan shall be designed to integrate with the surrounding context with respect to land use, architecture, open space and pedestrian networks, vehicular access and circulation, off-site public facilities and all other infrastructure.

B. **Consistency with City plans.** A master development plan shall be consistent with the objectives of this ordinance, consistent with the City's Comprehensive Plan, and consistent with City Council-approved master plans and facility plans for off-premise infrastructure.

14.7.2 Natural features and open space

A. **Preservation of natural features.** A master development plan shall locate buildings and improvements in a manner that considers the existing topography, provides usable open space, preserves significant natural features as defined in Subsection 14.6.2, and preserves existing trees to the maximum extent possible.

B. **Provisions for open space.** A master plan shall include provisions for the ownership and maintenance of usable open space as appropriate

14.7.3 Historic Preservation

A. A master development plan shall be developed so as to conform with standards for designated landmarks or for properties within designated historic districts or historic landscape districts as found in Article 17.

B. When proposed adjacent to or within 100 feet of a designated landmark, historic district, or historic landscape, the master development plan shall be developed so as to be generally

compatible with the major character-defining elements of the landmark or portion of the district in the immediate vicinity of the proposed development.

14.7.4 Infrastructure

A. **Adequacy of infrastructure capacity.** A master development plan shall be designed with sizing of street and other infrastructure systems to accommodate the overall service demand of the plan.

B. **Continuation of street grid.** A master development plan shall be designed to create a street grid pattern that reflects average city block sizes of the surrounding neighborhood.

14.7.5 Design

A. **Creation of a cohesive identity.** A master development plan shall be designed to create a cohesive identity through building scale, massing, and articulation; use of quality exterior materials and architectural detailing at pedestrian scale; consistency of design and materials for streetscape and pedestrian amenities; framing of outdoor open space and linkages; a clear conveyance of the function and significance of various buildings, entrances, and features; and to generally comply with design and development standards of the zone in which it is located.

14.8 WAIVERS

14.8.1 Waiver requests

An applicant may request a waiver with respect to the submittal requirements or review standards of this article. If a waiver is requested, the applicant shall document the rationale for the waiver request within the application.

14.8.2 Waiver criteria

Except for where waiver criteria are provided for individual review standards, the review authority, if it finds that extraordinary conditions exist or that undue hardship may result from strict compliance with the submittal requirements or review standards of this article, may vary these regulations so that substantial justice may be done and the public interest secured, provided that such variation will not have the effect of nullifying the intent of this article.

14.9 PHASING

14.9.1 Site plan

A major site plan may be divided into up to three phases. Each phase must be at least 20% of the total development and in addition, show the entire tract or parcel. Each phase of such project shall be independent of subsequent phases and shall conform to all standards of this article in the event that subsequent phases do not go forward.

14.9.2 Master development plan

An applicant proposing a master development plan is seeking approval for an overall concept of development that may subsequently be brought for site plan approval in two or more phases and in a phase sequence that extends beyond the timeframes allowed for site plan approvals. Site plans for each phase of a master development plan shall generally conform with the master development plan. For areas proposed as future development phases, the proposed interim conditions shall be managed and maintained to ensure stable, safe, and attractive site conditions. One or more phases of the master development plan may be reviewed as a site plan concurrently

with the review and approval of the master development plan.

14.10 CONDITIONS OF APPROVAL

Notwithstanding the review standards of this article, the review authority may impose any condition upon its approval of any site plan or master development plan to minimize or abate any adverse impact of the proposed development on the value or utility of other private property, or public property or facilities, to the extent feasible; to bring the development into compliance with the review standards of this article; or to minimize any other adverse environmental effects of the proposed development.

14.11 POST-APPROVAL PROCEDURES

14.11.1 Advanced site work

No alterations shall be made to a site with a pending or approved site plan until:

A. The performance guarantee has been posted and final site plans have been submitted to the Planning Authority.

B. Written permission has been received from the Planning Authority. Such permission shall be granted only after submission of a written request describing the proposed scope of work to be conducted on the site and a determination by the Planning Authority that the request is reasonable, time is imperative, and the work will not compromise any aspect of the ensuing review process. All such work shall be done in compliance with information provided with the site plan application including, but not limited to, an erosion control plan. Such written permission shall not be required if the only work proposed is the digging of test pits.

14.11.2 Final plans

Following final site plan approval and prior to issuance of any building permit, the developer shall submit final plans meeting all the conditions of the site plan approval, including without limitation all streets, sewers, drainage structures, and landscaping. Thereafter, limited and minor departures from the approved site plan shall be approved by the Public Works Authority and/or Planning Authority as field changes pursuant to Section 14.14. Amendments or revisions to the approved site plan shall be reviewed by the Planning Authority pursuant to Section 14.14.

14.11.3 Performance and defect guarantees

The following performance and defect guarantee requirements shall apply:

A. **Performance guarantee required.** Following approval of site plan applications and prior to the issuance of a building permit, the developer shall post with the City a performance guarantee in the form and amount specified herein, specifying the completion of the required site plan improvements within two years from the origination date of such guarantee. In no case shall the term of such guarantee be for a period of less than one year, nor shall any performance guarantee expire between October 20 and April 15 of the following year.

B. **Inspection fees.** At the same time that the developer posts a performance guarantee, the developer shall also pay to the City an inspection fee as determined by the City Council. If a performance guarantee is extended beyond its original expiration date, then an additional inspection fee in an amount to be determined by the City shall be required.

C. **Minor residential development.** All minor residential development, which for the purposes of this section shall be defined as single- or two-family development and any associated site improvements, is exempt from performance guarantee requirements except when those projects complete construction in the winter, and site work is incomplete due to weather conditions. A performance guarantee will then be required that is sufficient to complete the remaining site work as approved on the site plan. The performance guarantee must be reviewed and approved by the Planning Authority prior to the release of a certificate of occupancy. All minor residential development is subject to inspection fees, as specified herein.

D. **Performance guarantee amount**

1. The performance guarantee shall be equal in value to 100% of the estimated cost of the required site improvements as shown on the approved site plans, as a condition of planning approval, as required in the City of Portland Code of Ordinances, and/or as required by the City of Portland *Technical Manual*.
2. The performance guarantee amount shall be estimated by the applicant or representative using the cost estimate spreadsheet provided by the City and shall be submitted for review and approval to the Planning Authority. Costs to be included in the estimate, and which shall be covered by the performance guarantee, include but are not limited to: street and sidewalk improvements including street lights, monuments, curbing, ramps and detectible warning panels, and striping; earth work and grading; utilities infrastructure and connections including sewer, stormwater, and water service; exterior site lighting; erosion control measures as shown on the approved erosion and sedimentation control plan; open space and recreation amenities; and final site stabilization and landscaping.
3. The Planning Authority may waive all or any portion of this requirement if it determines that the developer has a proven record of satisfactory performance and sufficient financial capability.

E. **Phased projects.** If a project is reviewed and approved as a phased project, the corresponding performance guarantee may also be phased. A separate performance guarantee shall be posted for each phase. Each phase of such project shall be independent of subsequent phases and shall conform to all standards of this article in the event that subsequent phases do not go forward.

F. **Advanced site work**

1. No public utility, water district, sanitary district or any utility company of any kind shall install services to any lot in a subdivision which has not received Planning Board approval.
2. On a case-by-case basis, permission for advanced site work may be granted by the Director of Planning and Urban Development. Such permission is solely within the discretion of the Director of Planning and Urban Development and shall be granted only after submission of a written request setting forth the work proposed to be done on the site. Such written permission shall not be required

when the only work proposed is the digging of test pits.

G. **Acceptable forms of performance guarantee.** The performance guarantee, in the amount approved by the Planning Authority, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland Finance Department and shall be in conformance with the templates and forms made available by the City. If the performance guarantee is a deposit to the City, the City shall hold such funds in a noninterest bearing account until criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the corporation counsel as to proper form and legal sufficiency.

H. **Performance guarantee reductions.**

1. Up to three times during the construction of a project, upon request of the developer, a performance guarantee may be reduced by the value equal to the estimated cost of the completed improvements. In no case shall any performance guarantee be reduced by any line item on the cost estimate spreadsheet where improvements remain to be completed. Requests shall be submitted on the cost estimate spreadsheet for review and approval by the Planning Authority.
2. In no case shall any performance guarantee be reduced to an amount equal to or less than the required defect guarantee until all criteria set forth for converting to the defect guarantee have been met, as approved by the Planning Authority.

I. **Extension of the performance guarantee.** If the Planning Authority and/or the Public Works Authority has reasonable doubt concerning the stability or proper construction of the required site improvements, the developer shall be required to reconstruct or otherwise address the issues to the City's satisfaction. If the performance guarantee is scheduled to expire before the extent or necessity for such further work can be determined, the developer shall be required to extend the performance guarantee covering such improvements, or secure a new guarantee, for a period and amount deemed necessary by the Planning Authority and/or the Public Works Authority.

J. **Performance guarantee release/conversion to defect guarantee.**

1. No performance guarantee shall be released until all fees generated by the project are paid to the City, including but not limited to engineering, inspection, and administrative fees. The guarantor shall not be released from the guarantee except and until authorized in writing by the Planning Authority.
2. For roadway extension projects, no performance guarantee shall be released until the Department of Public Works has performed a final inspection of the roadway and determined satisfactory completion of the required improvements. Additionally, no performance guarantee shall be released until the City in receipt of a petition for street acceptance, deemed complete and satisfactory by Corporation Counsel and/or the Department of Public

Works. The petition for street acceptance must include a warranty deed (with metes and bounds description) to the property within each street of the subdivision or roadway extension and any other improvements intended for City maintenance.

3. Upon the satisfactory completion of the required site improvements and compliance with all conditions of approval including the submission of as-built drawings as applicable, the Planning Authority will authorize in writing, conversion to the defect guarantee. The defect guarantee shall be 10% of the original performance guarantee amount and shall remain in place for a period of one year. The defect guarantee shall ensure the workmanship and the durability of all materials used in the construction of the required site improvements. The Planning Authority may authorize the defect guarantee to be released at any time within the one-year period, provided all required site improvements have been constructed and in-place for one year or more and the workmanship and the durability of all materials has been inspected and confirmed to be satisfactory.

K. **Acceptable forms of defect guarantee.** The defect guarantee, 10% of the original performance guarantee amount approved by the Planning Department, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland finance department and shall be in conformance with the templates and forms made available by the City. If the defect guarantee is a deposit to the City, the City shall hold such funds in a noninterest bearing account until the criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the corporation counsel as to proper form and legal sufficiency.

L. **Abandoned site**. In the event that a development site is abandoned or the site improvements do not meet City standards as approved in the site plan, the performance guarantee may be utilized to stabilize, secure, complete construction, and/or restore the site as may be necessary, including, but not limited to, revegetation of areas, grading, and fencing.

14.11.4 Inspection fee

At the same time that the developer posts a performance guarantee, the developer shall also pay to the City a site plan improvement inspection fee equal to two percent of the estimated costs of required site improvements for which a performance guarantee is to be posted. At the conclusion of the project, and before a temporary or permanent certificate of occupancy is issued, the developer shall pay to the City the balance of any inspection fees actually incurred by the City in its review of the project.

14.11.5 As-built plans

Upon completion of a development (excluding minor residential and low-impact site development as specified in Section 16 of the *Technical Manual*), the applicant shall submit the as-built plans as specified in the *Technical Manual*.

14.11.6 Certificates of occupancy

No certificate of occupancy shall be issued to any portion of development where, in the opinion of the Planning Authority, the site conditions or work required to complete the development will endanger the health or safety of persons visiting or inhabiting the completed portion. Certificates of occupancy may be granted as follows:

A. Temporary certificates of occupancy

1. Notwithstanding any other provision of the Land Use Code, a certificate of occupancy may be issued for a development or portion of a development which has otherwise been completed in accordance with final site plan approval and all applicable provisions of this Land Use Code where the applicant submits a written request to the Planning Authority stating those improvements which remain to be completed, the reasons why such improvements have not been completed, and the cost and time to complete the remaining work. In no event shall any temporary or permanent certificate of occupancy be issued where:
    a. Conditions exist which would justify denial of a certificate of occupancy under Chapter 6 of the City of Portland Code of Ordinances.
    b. Required improvements to the City right-of-way remain to be completed by the developer.
    c. All access roads and any other roads and driveways required for the building or building(s) for which the certificate(s) are requested have not been improved to a passable condition.
    d. A remaining balance for fees incurred by the City exists.
    e. The developer otherwise is in violation of the City Code of Ordinances.
2. Where a temporary certificate of occupancy is sought for a portion of any development prior to the completion of the entire development, the following standards shall be met, in addition to all applicable requirements set forth above, prior to the issuance of any certificate of occupancy:
    a. Those parking areas required for the portion of the development for which a certificate of occupancy is sought shall be available for use. Alternative arrangements must be made on-site for parking for any periods during which such parking areas will not be available for use.
    b. All foundation plantings and other landscaping required for the portion of a development for which a certificate of occupancy is sought shall be installed prior to the issuance of a certificate of occupancy. This requirement may only be waived where, in the opinion of the Public Works Authority, landscaping improvements cannot practically be completed due to seasonal weather conditions.
    c. A performance guarantee shall be in place and in an amount sufficient to cover all remaining required improvements and not less than 10% of the initial performance guarantee amount.

B. **Final certificate of occupancy.** All improvements which are not completed prior to the issuance of any temporary certificate of occupancy must be completed prior to the completion date specified in the performance guarantee or in the temporary certificate of occupancy, whichever occurs first, in order for a final certificate of occupancy to be issued by the City. Where any person accepts a temporary certificate of occupancy and does not complete the improvements as specified in the certificate, the City is authorized to enter upon such property itself or through its agents or contractors to complete such improvements with no liability therefore and may recover the costs thereof through the mechanic's lien procedure for the improvement of real property to the extent that the performance guarantee may be inadequate.

14.12 EXPIRATION OF APPROVALS

14.12.1 Site plan

Site plans approved under this article shall expire 12 months from the date of approval unless development has been undertaken in accordance with the approved site plan and site work or building construction is ongoing. Any lapse in construction for a period in excess of 12 months shall result in an expiration of the site plan.

14.12.2 Master development plan

Master development plans approved under this article shall expire six years from the date of approval if no site work or building construction has commenced.

14.13 EXTENSION OF APPROVALS

14.13.1 In general

Extension requests must be made in writing by the applicant prior to the expiration of the approval. An extension may not be granted if changes to the City's zoning, subdivision, or site plan ordinance, the *Technical Manual* or the *Design Manual* would render the development nonconforming in any respect or significantly impact the approved site plan or master development plan as determined by the Planning Authority.

14.13.2 In case of appeal

Where the approval or any related land use approval granted to the same applicant by any agency of the City with respect to the same development is appealed to any court by an opponent of the development, the applicant shall be granted extensions, beyond the expiration of said approval, where the applicant has exercised due diligence with respect to defending such appeal, which extensions shall not last beyond one year from entry of final judgment.

14.13.3 Site plan

Site plan approvals may be extended by the Planning Authority for up to three years from the date of approval.

14.13.4 Master development plan

Master development plan approvals may be extended by the Planning Authority up to two times, for up to two years from the date of expiration of the original master development plan approval.

14.14 AMENDMENTS TO APPROVED PLANS

14.14.1 Field changes

Changes associated with unforeseen difficulties that arise during the course of construction and involving such technical detail as utility location and substitution of equivalent plantings shall be approved by the Public Works Authority and/or the Planning Authority. Field changes shall not involve substantial alteration of the approved plan or conditions imposed by the review authority.

14.14.2 Minor amendments

The Planning Authority is authorized to approve minor amendments to site plans and master development plans. An applicant may request a minor amendment to an approved site plan or master development plan by submitting a written statement of the proposed amendments and proposed amended plans to the Planning Authority. Minor amendments:

A. Are generally consistent with the approved plan.
B. Do not impact the layout of buildings and open space.
C. Do not propose new uses.
D. Do not increase building ground coverage, floor area ratio, or residential density.
E. Do not substantially change access, circulation, or infrastructure on or adjacent to the site.
F. Do not involve new waiver requests.
G. Do not affect any condition or requirement of the Planning Board.

14.14.3 Major amendments

An applicant may request approval by the review authority of a major amendment to an approved site plan or master development plan by submitting an application for the amendment to the Planning Authority. Major amendments include changes that exceed the limited criteria for a minor amendment under Subsection 14.14.2. Review procedures shall follow those for major site plan review.

14.15 CONSISTENCY WITH APPROVED SITE PLANS

A. Sites shall be developed and maintained as depicted in the approved final site plan and the written submission of the applicant. Any deviations from an approved site plan, including, but not limited to, changes in topography, vegetation and impervious surfaces as shown on the final site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or the Planning Authority pursuant to the terms of this article. Any such parcel lawfully altered prior to the enactment date of these revisions shall not be further altered without approval as provided herein. Modification or alteration shall mean and include any deviations from the approved site plan including, but not limited to, topography, vegetation, and impervious surfaces shown on the site plan.
B. All construction or alterations to the site performed under authorization of building permits or certificates of occupancy issued for development within the scope of this Land Use Code shall be in conformance with the approved final site plan or an amendment thereto under Section 14.14. The Planning Authority shall institute or cause to be instituted any and all actions, legal or equitable, that may be appropriate or necessary for the enforcement of this article.

C. Where work is required pursuant to the terms of Chapters 24 or 25 as part of an approval granted under this article, such work shall be accomplished in the sequence established by the Public Works Authority. Where the Public Works Authority determines that work has been completed prior to the receipt of all approvals required by this article or which is out of sequence or is not in compliance with the standards of Chapters 24 and 25 of the City of Portland Code of Ordinances, a stop work order may be issued. Work shall recommence only after such order has been lifted by the Department of Public Works or the Building Authority on the basis of an approved mitigation plan or action by the developer.

D. Where construction, alteration, or modification to a site is performed without a valid site plan approval, an after-the-fact review shall be performed by the Planning Board or Planning Authority, as applicable.

14.16 APPEALS

14.16.1 Site plan

A. When the Planning Authority has approved, approved with conditions, or disapproved a minor site plan, any person aggrieved may appeal the decision to the Planning Board within 30 calendar days of the date of the written decision of the Planning Authority. Upon the taking of such an appeal, the application shall be reviewed as a new application.

B. When the Planning Board has approved, approved with conditions, or disapproved a major site plan, any person aggrieved or the City may appeal the decision to the Superior Court, pursuant to Rule 80B of the Maine Rules of Civil Procedure and 30-A M.R.S §§ 2691 & 4483. Decisions of the Planning Board are final as of the date the written decision is issued.

15 SUBDIVISIONS

15.1 PURPOSE

This article is adopted pursuant to the terms and provisions of 30-A M.R.S. § 3001 and 4403, as amended. The purpose of this article is to provide for the harmonious and economic development of the city; for the orderly subdivision of land and its development; for the orderly development of the general area surrounding such subdivision; for the coordination of streets within the general area; for adequate provisions for drainage, flood control, light, air, and other public purposes; for the adequate and proper installation of streets, drainage, sanitary sewers, water, and other utilities and facilities; for the dedication to the City of land for streets, alleys, or other public purposes or the transfer to the City of easements or other rights or privileges; for the reservation for the City of land to be acquired for public facilities; and to protect public safety.

15.2 APPLICABILITY

15.2.1 Jurisdiction

A. This article shall govern each and every subdivision of land as defined under 30-A M.R.S. § 4401 and 4402 within the limits of the city unless specifically exempted under this article.

B. When application is made for the resubdividing of a previously recorded subdivision under the provisions of these regulations, it shall be treated as a new subdivision provided the applicant is the owner of rights in the recorded subdivision.

15.2.2 Enforcement, conveyance, markers, and recording

A. No person may sell, lease, develop or build upon, or convey for consideration, offer or agree to sell, lease, develop or build upon, or convey for consideration any land in a subdivision unless the subdivision has been approved by the Planning Board, and unless a recording plat showing permanent marker locations at all lot corners has been recorded in the county registry of deeds.

B. No subdivision plan shall be recorded by the registry of deeds which has not been approved as required by this article. Approval for the purpose of recording shall appear in writing on the recording plat.

C. No public utility, water district, sanitary district, or any utility company of any kind shall install services to any lot in a subdivision which has not received Planning Board approval.

D. Any person who sells, leases, develops or builds upon, or conveys for consideration any land in a subdivision which has not been approved as required by this article shall be punished by a fine of not more than $500 for each such occurrence. The City may institute proceedings to enjoin any violation of this section.

15.3 REVIEW PROCEDURES

15.3.1 Application

To obtain approval of a proposed subdivision the subdivider or applicant shall submit an application to the Planning Authority in such form as prescribed by the Planning Authority. The application shall meet the submission requirements of the City of Portland *Technical Manual,* including the provisions for a subdivision plat for presentation to the Planning Board and public, all engineering data and

plans necessary for the completion of the required improvements, supplemental submission items, a recording plat, and written submittals demonstrating compliance with the review criteria of this article. A payment of a nonrefundable application fee, as established by the City Council to cover administrative costs and costs of a hearing, shall accompany each application.

15.3.2 Receipt of application notice

A. When an application for subdivision is received or generated by the Planning Authority, it shall give a dated receipt to the applicant and shall notify, by mail, the following, where applicable.
   1. All property owners within 500 feet of the proposed subdivision, except that for subdivisions within industrial zones, the notice range shall be 1,000 feet.
   2. The clerk and the reviewing authority of municipalities that abut or include any portion of a proposed subdivision.
   3. A public drinking water supplier if the subdivision is within its source water protection area.

B. The notice hereunder shall include a brief description of the application, the address or location of the property involved and a telephone number at the City where additional information may be obtained. The cost of noticing shall be charged to the applicant.

15.3.3 Neighborhood meeting

An applicant for the subdivision of five or more lots shall conduct a neighborhood meeting according to the provisions of Subsection 14.5.5.

15.3.4 Notice of public meeting

A. Prior to any Planning Board workshop or hearing on the subdivision application, the applicant shall be responsible for posting a notice of public meeting sign on the property where the subdivision is to occur. The dimensions, construction, and content of the sign shall be in accordance with standards established by the Planning Authority.

B. The sign shall be posted at least ten days prior to the public workshop or hearing date, and shall be removed from the site no more than three days following the date of the meeting.

C. Once the required notice of public meeting signage is posted, the applicant shall submit a completed certification of posting form to the Planning Authority.

D. In the event that a required notice of public meeting sign is knocked over or made illegible, it shall be the responsibility of the applicant to promptly reset or replace the sign, though failure to do so shall not invalidate the review.

15.3.5 Review costs

A. The subdivider shall pay a fee to cover the engineering review costs and administrative costs to be incurred by the City. The fee shall be based upon the actual hours of review time and prevailing hourly rate for reimbursement of City costs, and shall be invoiced periodically by the City.

B. No land use permits or applications of any kind shall be processed, reviewed, or issued, no signed subdivision plats shall be released or recorded, and no building permits of any kind shall be issued, for any project whose permit fee is governed by this article unless all charges due have been paid and the developer is

otherwise in compliance with the City of Portland Code of Ordinances.

15.3.6 Timing of subdivision review

A. Within 30 days of receiving an application, staff shall notify the applicant in writing either that the application is complete or, if it is determined to be incomplete, the specific additional materials needed to make it a complete application. After the review authority has determined that a complete application has been filed, it shall notify the applicant and begin its full evaluation of the proposed subdivision.

B. A public hearing shall be commenced within 30 days following the receipt of a complete subdivision application by the review authority. The Planning Board shall render its decision on any application submitted to it within 30 days of a public hearing or such other time as may be mutually agreed to by the Planning Board and the applicant.

15.3.7 Subdivision approval

The Planning Board shall approve, approve conditionally, or disapprove such subdivision application at a public hearing. If approved conditionally, the conditions and reasons shall be stated and given in writing to the subdivider and, if necessary, the Planning Board may require the subdivider to submit a revised subdivision plat. If the Planning Board should disapprove the subdivision plat, the reasons for such action shall be stated and given in writing to the subdivider, and the board may state the conditions under which the proposed subdivision would be approved.

15.3.8 Effect of subdivision approval

Receipt of the approved copy of the subdivision plat of the subdivider is not authorization that the developer may proceed with the construction of any improvements. No construction will proceed until the recording plat, meaning a completed subdivision plat in form for approval and recording, including all waivers and a surveyor's stamp, has been approved by the Planning Board and has been properly recorded as required in Subsections 15.3.9 and 15.3.10.

15.3.9 Recording plat approval

Consideration of the recording plat shall not take place until the subdivision plat is approved.

15.3.10 Recording

A. Prior to the release of a signed, approved recording plat, all current charges due under this article shall be paid.

B. When the recording plat, meeting the requirements of the City of Portland *Technical Manual,* is approved, the subdivider shall pay the actual cost of recording and reproduction.

C. The recording plat shall be recorded in the office of the Cumberland County Registry of Deeds by the subdivider.

D. The registry book and page numbers shall be transcribed on one mylar copy of the recording plat to be sent to the Public Works Authority. Unless the subdivider shall record his or her approved recording plat within three years after the Planning Board has approved the subdivision plat, the recording plat approval shall become null and void. The preceding sentence notwithstanding, if the Planning Board's initial approval of a subdivision is based in part upon the granting of a waiver from any

of the applicable subdivision approval standards, no such waiver shall be valid unless that fact shall be expressly noted on the face of the recording plat and shall be noted in a certificate, each of which shall conform to 30-A M.R.S. § 4406, and such recording plat or such certificate or both of them are recorded in the Cumberland County Registry of Deeds within two years of final subdivision approval.

15.3.11 Sectional recordings

Following subdivision plat approval, the Planning Board may permit the subdivision to be divided into two or more sections for recording purposes subject to any conditions that the board deems necessary in order to insure the orderly development of the plan. The applicant may seek approval of and record a sectional recording plat with the Cumberland County Registry of Deeds only if the section constitutes at least 20% of the total number of lots contained in the approval plat and, in addition, shows the entire tract or parcel. For the purposes of this article, tract or parcel shall mean all contiguous land in the same ownership, provided that lands located on opposite sides of a public or private road shall be considered each a separate tract or parcel of land unless such road was established by the owner of land on both sides thereof. In these circumstances, if the first section of the plat has been recorded within three years after Planning Board approval, subdivision plat approval of the remaining sections of the plat shall remain in effect for five years after Planning Board approval.

15.4 REVIEW STANDARDS

15.4.1 Standards of review

Before granting approval, the Planning Board shall determine that the proposed subdivision:

A. Will not result in undue water or air pollution. In making this determination the Planning Board shall at least consider the elevation of land above sea level and its relation to the flood plains, the nature of soils and subsoils and their ability to adequately support waste disposal, the slope of the land and its effect on effluents, the availability of streams for disposal of effluents, and the conformity to the applicable state and local health and water resources regulations.

B. Has sufficient water available for the reasonably foreseeable needs of the subdivision.

C. Will not cause unreasonable burden on an existing water supply.

D. Will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result.

E. Will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highway or public roads existing or proposed.

F. Will provide for adequate sanitary waste and storm water disposal and will not cause an unreasonable burden on municipal services if they are utilized.

G. Will not cause an unreasonable burden on the ability of the City to dispose of solid waste and sewage if municipal services are to be utilized.

H. Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the Department of Inland Fisheries

and Wildlife or by the City, rare and irreplaceable natural areas, or any public rights for physical or visual access to the shoreline. For subdivisions within local historic districts, the Planning Board shall apply the standards of Subsection 17.8.3(C). The Planning Board may request that the Historic Preservation Board prepare an evaluation of the proposed subdivision based upon the standards of Subsection 17.8.3(C).

I. Is in conformance with the Comprehensive Plan or its successor.

J. The subdivider has adequate financial and technical capacity to meet the standards of this subsection.

K. Whenever situated, in whole or in part, within the watershed of any pond or lake or within 250 feet of any wetland, great pond, or river as defined in Title 38, Chapter 3, Subchapter I, Article 2B, will not adversely affect the quality of such body of water or unreasonably affect the shoreline of such body of water.

L. Will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.

M. Is or is not in a flood prone area, based on the Federal Emergency Management Agency's flood boundary and floodway maps and flood insurance rate maps, and information presented by the applicant. If the subdivision, or any part of it, is in such an area, the subdivider shall determine the 100-year flood elevation and flood hazard boundaries within the subdivision. The proposed subdivision plan must include a condition of plan approval requiring that principal structures in the subdivision will be constructed with their lowest floor, including the basement, at least one foot above the 100-year flood elevation.

N. Will provide for adequate stormwater management.

O. Will not have lots with a lot depth-to-shore frontage ratio greater than 5 to 1 if any lots in the proposed subdivision have shore frontage on a river, stream, brook, great pond, or coastal wetland as these features are defined in Title 38 § 480-B.

P. For any proposed subdivision that crosses municipal boundaries, will not cause unreasonable traffic congestion or unsafe conditions with respect to the use of existing public ways in an adjoining municipality in which part of the subdivision is located.

15.5 TECHNICAL AND DEVELOPMENT STANDARDS

15.5.1 Technical standards

All subdivisions and associated improvements, excluding subdivisions exempted under Section 15.12 of this article, shall, in addition to the criteria listed herein, adhere to all applicable standards of the City of Portland *Technical Manual*, unless formally waived by the Planning Board.

15.5.2 Timing of subdivision improvements

The Department of Public Works shall establish the sequence in which work is to be accomplished. Where it is determined by the Public Works Authority that work has been completed prior to the receipt of all approvals required by this article or which is out of sequence or is not in compliance with the standards of this section and of Chapter 25, the Director of Public Works or an inspector from the Public Works Authority may issue a stop work order. Work shall recommence only after the stop

work order has been lifted by the Director of Public Works or an inspector from the Public Works Authority. Violation of the stop work order shall be considered an offense.

15.5.3 Subdivision names

Subdivision names for plats shall be subject to approval by the Planning Board and not duplicate the name of any plat already recorded.

15.5.4 Streets

A. All streets shall be platted along contour elevations which result in minimum grades and greatest visibility whenever practicable, with consideration given for anticipated use of the land. Street grades in all proposed subdivisions shall be subject to the approval of the Public Works Authority.

B. The proposed street layout shall be coordinated with the street system of the surrounding areas. All streets must provide for the continuation or appropriate projection of streets in surrounding areas and provide means of ingress and egress for surrounding tracts.

C. When connecting streets within residential neighborhoods, new streets shall contribute to a neighborhood street system characterized by a network of interconnected streets, which minimizes through-traffic in residential neighborhoods. The layout of subdivision lots, streets, and pedestrian ways shall promote multiple paths of travel to get to destinations within and between neighborhoods by foot and bicycle, as well as auto.

D. The interconnection of new and existing streets is further subject to the following provisions to minimize and mitigate through-traffic in residential neighborhoods:

1. Where a determination is made that a proposed street connection will result in substantial increases in traffic volume and speed on the effected public streets, the Planning Board may require appropriate traffic calming solutions as set forth in Chapter 28 of the City of Portland Code of Ordinances. The Public Works Authority may by regulation and amendment to the *Technical Manual* establish standards for determining what is a "substantial increase in traffic volume and speed."
2. In any circumstances where a street connection is allowed, the Planning Board may condition subdivision approval to require the developer to monitor future traffic patterns to determine whether, using existing traffic calming standards, new or additional traffic calming measures should be employed. The extent and design of traffic calming shall be determined by the Public Works Authority to mitigate the post development impact of connecting new and existing streets.
3. In cases where post-development monitoring shows that increased traffic volume and speed is such that further traffic calming would be insufficient to mitigate traffic negative impacts of through-traffic, the DPW may require that the connection be modified to exclude regular vehicular traffic, while retaining bicycle, pedestrian, and where needed, emergency vehicle connections. The Public Works Authority shall develop typical standards and specifications for bicycle, pedestrian, and emergency vehicle connections and/or turnarounds.

4. Where a determination is made by the Public Works Authority that a proposed street connection will result in substantial increases in traffic volume and speed on the affected public streets, the Planning Board may disallow a proposed street connection for vehicular purposes in favor of a connection for non-vehicular purposes in situations where a proposed residential street connection meets all of the following criteria:
    a. The new street would result in the connection of two arterials.
    b. The street would be located in a neighborhood where there is no existing public through-street network connecting the same arterials.
    c. There is no likelihood that other public street connections will be developed in the future that would connect the arterials, whether because of topography limitations, existing development patterns, or other similar reason.
5. In circumstances where vehicular connections are disallowed, the Planning Board shall require that adequate right-of-way is reserved to permit the extension of the street for pedestrian, bicycle, emergency use, and potential vehicle connections as may develop in the future.

E. Reserve strips or spite strips for unspecified or unacceptable purposes are prohibited.

F. Street right-of-way widths shall be as provided in Chapter 25 of the City of Portland Code of Ordinances and the City of Portland *Technical Manual.* However, private streets within PRUDs shall be exempt from the street right-of-way and roadway width requirements established in the City's *Technical Manual*, provided that no such street shall be accepted by the City unless it is first improved to City standards at the expense of those persons requesting the street acceptance. Private streets within a PRUD or a shall meet specifications established by the Public Works Authority. All private streets shall be designed by a professional engineer and shall be built according to accepted engineering standards.

G. Proposed subdivisions along existing, or dedicated, or platted streets where rights-of-way are inadequate shall provide additional land to meet the minimum standards.

H. Streets shall not occupy more land than needed to provide access nor create unnecessary fragmentation of the subdivision into small blocks. Streets will be designed to discourage outside traffic from traversing the development.

I. All dead-end streets shall provide for a cul-de-sac or, in the case of a dead-end street which will be extended, a temporary turn around at the end of the street, subject to the approval of the Public Works Authority.

J. Sidewalks shall be constructed on each side of each street in accordance with Chapter 25 of the City of Portland Code of Ordinances. Sidewalks to be used by pedestrians are to be so located as to minimize contacts with normal automotive traffic, with preference given to interior walks away from streets in common open space in block interiors.

K. Curbs shall be constructed on each side of each street. The curbing shall be constructed as provided in Chapter 25 of the City of Portland Code of Ordinances.

L. Street names for all subdivisions shall appear on the subdivision plat and be subject to approval by the Planning Board.

15.5.5 Sewers and storm drains

A. All subdivisions shall be provided with adequate storm drain systems within the subdivision separate from any sanitary sewer system required in Chapter 25 of the City of Portland Code of Ordinances. The design of all sewers and storm drains shall be subject to approval by the Public Works Authority.

B. Any natural or manmade areas, systems or facilities designated for stormwater control purposes and intended for City maintenance shall, except for detention or retention ponds or basins and regularly free flowing watercourses, be structurally enclosed in accordance with the standards of the Public Works Authority, and shall be dedicated with sufficient land for maintenance purposes. Warranty deeds to such areas shall be submitted for acceptance by the City Council at the same time as the acceptance of streets. All such areas as are not intended for City maintenance shall be permanently protected and maintained by private agreement, deed covenant or restriction, as appropriate, in form approved by the Corporation Counsel.

C. The subdivider shall be responsible for the construction of all sewers and storm drains including manholes, catch basins and any other appurtenances as may be deemed necessary by the Public Works Authority. All work shall be in accordance with public works specifications.

15.5.6 Blocks

A. A maximum block length of 800 feet, measured from the nearest street lines of intersecting streets, shall be observed except where, in the opinion of the Planning Board, conditions justify a departure from this standard. In general, block size should be the maximum consistent with the use and shape of the site and the convenience and safety of the occupants.

B. In blocks exceeding 800 feet in length, measured from the nearest street lines of intersecting streets, the Planning Board may require where feasible the reservation of a 20 foot wide easement to the City through the block to provide for the crossing of underground utilities and pedestrian traffic where needed or desirable and may further specify, at its discretion, that a four foot wide paved foot path be included.

C. The length, width and shape of blocks shall be determined on the basis of:

1. Provision of adequate building sites suitable to the special needs of the type of use contemplated.
2. Zoning requirements as to lot sizes, setbacks and dimensions.
3. Needs for convenient access, circulation, control and safety of street traffic.
4. Limitations and opportunities of topography.

D. Blocks with lots having double frontage on streets shall be avoided.

E. The foregoing dimensions may be adjusted by the Planning Board where type of use or topography requires such modification.

15.5.7 Lots

A. Lots shall conform to the provisions of Article 7 and all other relevant provisions of the City of Portland Code of ordinances.

B. Where easements for public utilities, storm drains, or sanitary sewers are contemplated, the lot lines shall be located in such a manner as to facilitate construction of such facilities and the maintenance thereof.

C. Lots which are reserved or laid out for business, commercial, or industrial purposes shall have sufficient width and depth to accommodate the off-street parking and loading facilities required for the type of use and development contemplated, as established in Article 19.

D. Where feasible, side lot lines shall be at right angles to street lines (or radial to curving street lines).

15.5.8 Public open space

A. In all subdivisions open space may be provided for parks, recreational and other public areas. Where no public open space or recreational areas exist in close proximity to the subdivision, or where a lack of such areas in the subdivision would require its disapproval under Section 15.4, the Planning Board may require provision of land for park or recreational purposes. Such lands may be designated for public or private ownership in accordance with the conditions stated in this subsection, subject to the approval of the Planning Board.

B. If a tract or parcel is intended for public ownership and is so designated on the subdivision plat, the acceptance of such land shall be first recommended by the various departments and the Planning Board and sent to the City Council for final determination.

C. If a tract or parcel is designed or intended to be owned and used in common for recreational or other public or semi-public purposes and such intent is so designated on the subdivision plat, appropriate documents in form approved by the Corporation Counsel shall be submitted to the Planning Board. Such documents shall clearly:

1. Set forth the nature of the permanent organization under which common ownership is to be established, including its purpose, how it shall be governed and administered, the provisions made for permanent care and maintenance of the common property for its share of the cost of administering and maintaining such common property.
2. Set forth the extent of common interest held by the owner of each individual parcel in the tract held in common with others.

15.5.9 Access to shoreline

A. In all subdivisions having shore frontage on the island of Casco Bay, existing legal rights of public access to the shoreline shall be preserved. The proposed street layout and circulation plan shall be suitably integrated with such existing public access in a manner that reasonably promotes the public use of such access. The proposed street layout and circulation plan shall also be designed to preserve any legal rights to any significant water views and scenic vistas from such rights-of-way.

B. In all subdivisions having any lots within the Shoreland Zone, legal rights of private access to

waters shall, to the extent reasonably feasible, be established for the benefit of all lots within the subdivision not otherwise having such access.

15.5.10 Additional requirements for nonresidential subdivisions

All nonresidential subdivisions, meaning subdivisions not intended for human habitation, such as a commercial or industrial subdivision, must meet the following additional requirements, except as waived by the Planning Board due to the commercial or industrial nature of the development:

A. Proposed industrial parcels shall be suitable in area and dimensions to the commercial or industrial development anticipated.

B. Street rights-of-way and pavement shall be adequate to accommodate the type, weight, and volume of traffic anticipated to be generated.

C. The design and installation of public utilities including water, sewers, and storm water drainage, shall be adequate to accommodate the anticipated usage.

D. Streets carrying truck traffic shall not normally be extended to the boundaries of adjacent existing or potential residential areas.

15.6 WAIVERS

15.6.1 Request for waivers

A waiver of plat requirements or technical standards shall be applied for in writing by the subdivider. The decision of the Planning Board on such request shall be final.

15.6.2 Waiver standards

A. Except for the requirements set forth Subsection 15.5.4 pertaining to the provision and construction of curbs and sidewalks, the Planning Board, if it finds that extraordinary conditions exist or that undue hardship may result from strict compliance with these regulations may vary the regulations so that substantial justice may be done and the public interest secured, provided that such variation will not have the effect of nullifying the intent and purpose of the Comprehensive Plan and the regulations of this article.

B. Where the Planning Board or Planning Authority finds that, for each of the requirements listed in (1) and (2) below, two or more of the conditions exist with respect to compliance with the requirements set forth Subsection 15.5.4 pertaining to the provision and construction of curbs and/or sidewalks, it may waive, in whole or in part, the regulations so that substantial justice may be done and the public interest secured.

1. *Sidewalks*
   a. There is no reasonable expectation for pedestrian usage coming from, going to and traversing the site.
   b. There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of a pedestrian oriented infrastructure.
   c. A safe alternative-walking route is reasonably and safely available, for example, by way of a sidewalk on the other side of the street that is lightly traveled.
   d. The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program or has

been funded through an earlier CIP or through other sources.

e. The street has been constructed or reconstructed without sidewalks within the last 24 months.

f. Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.

2. *Curbing*

a. The cost to construct the curbing, including any applicable street opening fees, is in excess of 5% of the overall project cost.

b. The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program or has been funded through an earlier CIP or through other sources.

c. The street has been rehabilitated without curbing in the last 60 months.

d. Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.

e. Runoff from the development site or within the street does not require curbing for stormwater management.

C. In no event shall the waiver have the effect of creating potentially hazardous vehicle and pedestrian conflict or nullifying the intent and purpose and policies of the Comprehensive Plan relating to transportation and pedestrian infrastructure and the regulations of this article.

D. At its discretion, the Planning Authority may refer any petition for a waiver from the curb and sidewalk requirement to the Planning Board for decision.

15.6.3 Modifications for Planned Unit Developments

The standards and requirements of this article may be modified by the Planning Board in the case of a plan and program for a planned unit development which in the judgment of the Planning Board provides adequate public spaces and improvements for the circulation, recreation, light, air, and service needs of the tract when fully developed and populated, and which also provides such covenants or other legal provisions as will assure conformity to and achievement of the Comprehensive Plan.

15.6.4 Modifications approved by Public Works

If at any time before or during the construction of the required improvements the subdivider demonstrates to the satisfaction of the project engineer and the Public Works Authority that unforeseen conditions make it necessary or preferable to modify the design of the required improvements, the Public Works Authority may authorize modifications provided that the modifications do not amount to a waiver or substantial alteration of the function of any improvements required by the Planning Board.

15.6.5 Conditions

In granting waivers and modifications, the Planning Board and City Council may require such conditions as will, in their judgment, secure substantially the

objectives of the standards or requirement so waived or modified.

15.7 GUARANTEES AND ASSOCIATED FEES

15.7.1 Performance guarantee required

Following subdivision approval and prior to the release of the signed recording plat, the subdivider shall post with the City a performance guarantee in the form and amount specified herein, specifying the completion of the required subdivision improvements within two years from the origination date of such guarantee. In no case shall the term of such guarantee be for a period of less than one year, nor shall any performance guarantee expire between October 30 and April 15 of the following year.

15.7.2 Inspection fees

At the same time that the developer posts a performance guarantee, the developer shall also pay to the City an inspection fee as determined by the City Council. If a performance guarantee is extended beyond its original expiration date, then an additional inspection fee in an amount to be determined by the City shall be required.

15.7.3 Establishing the performance guarantee amount

A. The performance guarantee shall be equal in value to 100% of the estimated cost of the required subdivision improvements as shown on the approved subdivision plat, as a condition of Planning Board approval, as required in the City of Portland Code of Ordinances, and/or as required by the City of Portland *Technical Manual*.

B. The performance guarantee amount shall be estimated by the applicant or representative on a form provided by the City and shall be submitted for review and approval to the Planning Authority. Costs to be included in the estimate, and which shall be covered by the performance guarantee, include but are not limited to: street and sidewalk improvements including street lights, monuments, curbing, ramps, detectible warning panels, and striping; earth work and grading; utilities infrastructure and connections including sewer, stormwater, and water service; exterior site lighting; erosion control measures as shown on the approved erosion and sedimentation control plan; open space and recreation amenities; and final site stabilization and landscaping.

C. The Planning Authority may waive all or any portion of this requirement if it determines that the subdivider has a proven record of satisfactory performance and sufficient financial capability.

15.7.4 Phased projects

If a project is reviewed and approved as a phased project, the corresponding performance guarantee may also be phased. A separate performance guarantee shall be posted for each phase. Each phase of such project shall be independent of subsequent phases and shall conform to all standards of this article in the event that subsequent phases do not go forward.

15.7.5 Advanced site work

On a case-by-case basis, permission for advanced site work may be granted by the Planning Authority. Such permission is solely within the discretion of the Director of Planning and Urban Development and shall be granted only after submission of a written request setting forth the work proposed to

be done on the site. Such written permission shall not be required when the only work proposed is the digging of test pits.

15.7.6 Alterations to pending subdivisions

Alterations may be made to a site with a pending subdivision application if:

A. At minimum, a performance guarantee for the proposed site alterations has been posted and final plans have been submitted to the Planning Authority.

B. Written permission has been received from the Planning Authority or his/her designee that such site alterations may proceed pending subdivision approval. Such permission is solely within the discretion of the Planning Authority and shall be granted only after submission of a written request setting forth the work proposed to be done on the site. All such work shall be done in compliance with information provided with the subdivision application. An erosion control plan shall also be submitted when deemed necessary by the Planning Authority. Such written permission shall not be required when the only work proposed is the digging of test pits.

15.7.7 Acceptable forms for the performance guarantee

The performance guarantee, in the amount approved by the Planning Authority, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland Finance Department and shall be in conformance with the templates and forms made available by the City. If the performance guarantee is a deposit to the City, the City shall hold such funds in a noninterest-bearing account until criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the Corporation Counsel as to proper form and legal sufficiency.

15.7.8 Reductions of the performance guarantee

A. Up to three times during the construction of a project, upon request of the subdivider, a performance guarantee may be reduced by the value equal to the estimated cost of the completed improvements. In no case shall any performance guarantee be reduced by any line item on the cost estimate where improvements remain to be completed. Requests shall be submitted on a form provided by the City for review and approval by the Planning Authority.

B. In no case shall any performance guarantee be reduced to an amount equal to or less than the required defect guarantee until all criteria set forth for converting to the defect guarantee have been met, as approved by the Planning Authority.

15.7.9 Extension of the performance guarantee

If the Planning Authority and/or the Public Works Authority has reasonable doubt concerning the stability or proper construction of the required site improvements, the developer shall be required to reconstruct or otherwise address the issues to the City's satisfaction. If the performance guarantee is scheduled to expire before the extent or necessity for such further work can be determined, the developer shall be required to extend the performance guarantee covering such improvements, or secure a new guarantee, for a period and amount deemed necessary by the

Planning Authority and/or the Public Works Authority.

15.7.10 Release of the performance guarantee

A. No performance guarantee shall be released until all fees generated by the project are paid to the City, including but not limited to engineering, inspection, and administrative fees. The guarantor shall not be released from the guarantee except and until authorized in writing from the Planning Authority.

B. For subdivisions, no performance guarantee shall be released until the Public Works Authority has performed a final inspection of the roadway and determined satisfactory completion of the required improvements. Additionally, no performance guarantee shall be released until the City is in receipt of a petition for street acceptance, deemed complete and satisfactory by Corporation Counsel and/or the Public Works Authority. The petition for street acceptance must include a warranty deed (with metes and bounds description) to the property within each street of the subdivision or roadway extension and any other improvements intended for City maintenance.

C. Upon the satisfactory completion of the required site improvements and satisfactory compliance with all conditions of approval including the submission of as-built drawings as applicable, the Planning Authority shall authorize, in writing, conversion to the defect guarantee. The defect guarantee shall be 10% of the original performance guarantee amount and shall remain in place for a period of one year. The defect guarantee shall ensure the workmanship and the durability of all materials used in the construction of the required site improvements. The Planning Authority may authorize the defect guarantee to be released at any time within the one-year period, provided all required site improvements have been constructed and in-place for one year or more and the workmanship and the durability of all materials has been inspected and confirmed to be satisfactory.

15.7.11 Improvements required prior to release of guarantee

Prior to the release of the performance guarantee, the subdivider shall have completed the following improvements:

A. All streets shall be graded in conformity with the requirements set out Section 15.5 and in accordance with Chapter 25 of the City of Portland Code of Ordinances.

B. On all streets, side streets, and alleys, a suitable hard surfaced permanent pavement shall be installed meeting the requirements set forth in Chapter 25 of the City of Portland Code of Ordinances.

C. Water, gas, sanitary sewer mains, and storm drains shall be constructed prior to the installation of paving with all mains being extended from all lots having sufficient stub outs to avoid subsequent breaking of pavement.

D. Sidewalks and curbs shall be constructed as required in Section 15.5.

E. Adequate storm drains shall be constructed subject to the provisions of Section 15.5 and in accordance with the Public Works Authority specifications.

F. A total of two trees per lot, which shall be street trees, shall be planted near the street line in full public view on private property, as

directed by the City Arborist. Existing healthy trees may be credited toward this requirement, subject to the approval of the City Arborist.

G. Permanent markers shall be set as prescribed by the Public Works Authority.

H. All utility lines shall be placed underground unless otherwise approved by the Planning Board.

I. Street lighting shall be installed in accordance with the standards of the Public Works Authority.

J. A public water supply shall be installed subject to the approval of the Portland Water District.

K. Erosion control measures shall be taken both during and after construction in accordance with the standards of the Public Works Authority.

15.7.12 Acceptable forms for the defect guarantee

The defect guarantee, 10% of the original performance guarantee amount approved by the Planning Authority, shall be a letter of credit, an escrow account with a responsible financial institution, or the deposit to the City of Portland finance department and shall be in conformance with the templates and forms made available by the City. If the defect guarantee is a deposit to the City, the City shall hold such funds in a noninterest-bearing account until criteria for performance guarantee release have been satisfied. The performance guarantee shall be in the name of the City and shall be approved by the finance director as to financial sufficiency and the Corporation Counsel as to proper form and legal sufficiency.

15.7.13 Abandoned site

In the event that a development site is abandoned or the site improvements do not meet City standards as approved in the subdivision plat, the performance guarantee may be utilized to stabilize, secure, complete construction, and/or restore the site as may be necessary, including, but not limited to, revegetation of areas, grading, and fencing.

15.8 CONSTRUCTION RECORDS AND INSPECTION

15.8.1 Inspection of construction

The project engineer and City Engineer shall have the right to enter and inspect the construction site during all phases of the project to ensure compliance with this article.

15.8.2 Required construction records

After approval of the subdivision plat and prior to the construction of any of the subdivision's public improvements, the subdivider shall supply the City Engineer with a complete set of engineering drawings showing all streets, sanitary sewers, and surface water drains, and all appurtenant work within the subdivision.

15.9 TRANSFER OF OWNERSHIP

The purchasing party or other succeeding owner of a subdivision for which a recording plat has received prior approval, but which has not yet been accepted by the City, shall assume full responsibility for completion of the subdivision's improvements until the subdivision street or streets are accepted by the City. The purchaser or other succeeding owner of an unaccepted subdivision shall be required to comply with all the provisions of this article as if he were the original subdivider, and shall become responsible for completing such improvements in the same manner as the original subdivider.

15.10 PLAT AMENDMENTS

The Planning Authority may approve alterations to an approved recording plat when all of the following conditions are met. Otherwise, a new subdivision plat must be submitted to the Planning Board:

A. The rearrangement of lot lines does not increase the number of lots within a block or other subdivision unit or area.
B. The alteration will not affect any street, alley, utility easement or drainage easement.
C. The alteration meets all of the minimum requirements of this Land Use Code and other applicable state and local codes.
D. The alteration is approved by the Public Works Authority and the Fire Department.

Such approved alterations shall be properly recorded in the registry within 30 days thereof or they shall be null and void. Recording of approved alterations also shall be in accordance with the requirements of 30 A M.R.S. § 4406.

15.11 VACATION OF PLATS

Any such plat recorded, or any portion thereof, may be vacated with the consent of the City Council as follows:

A. At any time before the sale of any lot therein, by written instrument, signed by the City and the owners of such subdivision, declaring the same to be vacated and describing therein the part or portion to be so vacated.
B. At any time after the sale of any lot therein and by written instrument, signed by the City and all owners of record of lots shown on the plat, declaring the same to be vacated and describing therein the part or portion to be so vacated.
C. Any instrument so executed vacating all or a portion of any plat shall be duly filed and recorded in the Cumberland County Registry of Deeds. The execution and recording of the instrument described in (B) above shall vest fee simple title to the centerline of the street, alley or easement for public passage so vacated in the owners of abutting properties. Title to property located within the vacated streets, alleys, or easements for public passage shall pass to abutting property owners free and clear of any rights of the public or other owners of lots shown in the plan, but subject to the rights of the owners of any public utility installations which have been previously erected therein.

15.12 EXEMPTIONS

15.12.1 Subdivisions prior to 1979

This article does not apply to subdivisions approved prior to June 6, 1979, nor to subdivisions in existence prior to June 6, 1979, nor to subdivisions which have been legally recorded in the Registry of Deeds prior to June 6, 1979.

15.12.2 Division by demise, condemnation, order, or gift

A division accomplished by devise; condemnation; order of court; gift to a person related to the donor by blood, marriage, or adoption, unless the intent of such gift is to avoid the objectives of this article; or by transfer of any interest in land to the owner abutting thereon shall not be considered to create a lot or lots for purposes of this article.

15.13 APPEALS

An appeal from any final decision of the Planning Board regarding subdivision approval may be taken by the applicant or his or her authorized agent to superior court in accordance with Rule 80B of the Maine Rules of Civil Procedure.

16 IMPACT FEES

16.1 PURPOSE

The purpose of this article is to ensure that new development in the City of Portland bears a proportional or reasonably-related share of the cost of new, expanded, or replacement infrastructure necessary to service that development through the payment of impact fees dedicated to funding improvements made necessary by development, or the construction of improvements as provided for herein. This ordinance is enacted pursuant to the authority of 30-A M.R.S. § 4354 and 30-A M.R.S. § 3001.

16.2 APPLICABILITY

The following shall be subject to impact fees, with the exception of municipal buildings, which shall be considered exempt:

A. Any new building or addition to existing buildings which results in net new residential dwelling units, nonresidential building square footage, or water/wastewater meters, and

B. Any change of use which results in a net increase in impact fee per Subsection 16.3.6.

16.3 CALCULATION OF IMPACT FEE

16.3.1 In general

Impact fees shall be calculated based on the impact fee schedule in effect at the time of submittal of a complete application for a building permit.

16.3.2 Determination of use

The determination of the applicable land use category in the impact fee schedule shall be made by the Department of Permitting and Inspections with reference to the City of Portland's most recent *Impact Fee Study*. If the proposed development is of a type not listed in the impact fee schedule, then the impact fees applicable to the most nearly comparable type of land use listed in the impact fee schedule shall be used.

16.3.3 Mixed use development

In the event that there is more than one use within a building, impact fees shall be calculated separately for each use.

16.3.4 Redevelopment

In calculating the impact fee for a new building that involves the full or partial demolition of a building housing an existing, legally established use or uses, such new building shall be credited with an amount equal to the fee that would have been charged to the use or uses which occupied the structure at the time of demolition permit. If the impact fee calculation for the post-development condition is greater than the credit, the applicant shall pay the difference. If the impact fee calculation for the post-development condition is less than the credit, then the applicant shall not be required to pay an impact fee. The City shall not grant credits for demolitions for which a permit was issued more than 10 years prior to the complete application for a building permit.

16.3.5 Building additions

In calculating the impact fee for building additions, each developed property shall be credited with an amount equal to the fee that would have been charged to the existing use at the time of the addition of floor area. If the impact fee calculation for the post-development condition is greater than

the credit, the applicant shall pay the difference. If the impact fee calculation for the post-development condition is less than the credit, then the applicant shall not be required to pay an impact fee.

16.3.6 Changes of use

In calculating the impact fee for changes of use, each developed property shall be credited with an amount equal to the fee for the use in the highest fee category that has existed on the developed property within the previous 10 years. If the impact fee calculation for the proposed use is greater than the credit, the applicant shall pay the difference. If the impact fee calculation for the proposed use is less than the credit, then the applicant shall not be required to pay an impact fee.

16.4 ANNUAL ADJUSTMENT OF IMPACT FEE

To account for inflation, there shall be an automatic annual increase in the impact fee schedule reflected in this ordinance every January 1 based on the change in the construction cost index as published by *Engineering News Record*. The fee adjustment shall be calculated by dividing the index amount published on January 1 of the current year by the index amount published on January 1, 2018 and multiplying the resulting ratio by each fee amount. Annual adjustments shall be made available for public reference.

TABLE 16-A: PARKS & RECREATION AND TRANSPORTATION IMPACT FEE SCHEDULE[1]

Land Use Type	Unit of Measure	Parks/Recreation Impact Fee	Transportation Impact Fee
Single-family/Two-family	per unit	$1,126	$2,159
Multi-family	per unit	$752	$1,023
Retail/Service	per 1,000 SF GFA	$534	$8,248
Office	per 1,000 SF GFA	$677	$2,800
Industrial	per 1,000 SF GFA	$363	$1,130
Institutional	per 1,000 SF GFA	$645	$3,082
Hotel/Motel	per room	$875	$2,404

[1] Land use types included impact fee schedule correspond to those in the City's most recent *Impact Fee Study*.

TABLE 16-B: WASTEWATER IMPACT FEE SCHEDULE

Meter Size	Capacity Ratio	Impact Fee
⅝ inch	1.00	$1,886
¾ inch	1.50	$2,829
1 inch	2.50	$4,715
1 ½ inches	5.00	$9,430
2 inches	8.00	$15,088
3 inches	16.00	$30,176
6 inches	50.00	$94,300
8 inches	80.00	$150,880

16.5 MODIFICATION OF IMPACT FEES

16.5.1 Equivalent improvements

A. A required impact fee may be modified, in whole or in part, by formal vote of the Planning Board in cases when an applicant is otherwise before the Planning Board, or by the Planning Authority in all other cases, if the reviewing authority finds that:

1. The developer or property owner who would otherwise be responsible for the payment of the impact fee voluntarily agrees to make infrastructure improvements for which the impact fee would be collected or an equivalent improvement approved by the reviewing authority, or
2. The developer or property owner is required, as part of a development approval by the City or a state or federal agency, to make or to pay for infrastructure improvements for which the impact fee would be collected or an equivalent improvement.

B. Credit amounts shall be determined based on plans, details, and cost estimates for the proposed infrastructure improvements for which the credit is requested. Such plans, details, and cost estimates shall be prepared by a licensed professional engineer and submitted at the time of site plan, subdivision, or building permit application. The applicant shall pay for any third-party review of plans, details, or cost estimates. On-site or immediately adjacent improvements providing direct service to a site as required under subdivision or site plan regulations shall not be considered eligible under this subsection.

16.5.2 Substantially-reduced demand

The Planning Board may by formal vote modify the payment of a required impact fee, in whole or in part, if it finds that documentation is provided to demonstrate that a proposed use will impose no or substantially-reduced demands on capital facilities for which impact fees have been adopted. Such documentation shall be prepared by a licensed professional engineer or other qualified professional and include a written analysis of the demand for capital facilities generated by the proposed use based on industry standards and the most recent *Impact Fee Study*. Documentation shall be submitted at the time of site plan, subdivision, or building permit application. The applicant shall pay for any third-party review of plans, details, or cost estimates.

16.6 REDUCTION IN FEES FOR AFFORDABLE HOUSING

Any residential development including low-income or workforce housing units and qualifying as an eligible project under Subsection 18.2.2 shall receive a reduction of fees in accordance with Subsection 18.2.2.

16.7 COLLECTION OF IMPACT FEE

The City of Portland shall not issue any certificate of occupancy required under the Land Use Code until the applicant has paid any impact fees required by this ordinance.

16.8 SEGREGATION OF IMPACT FEES FROM GENERAL REVENUES

Impact fees collected pursuant to this ordinance shall be maintained in separate, non-lapsing impact fee accounts for each of the facilities for which impact fees are assessed, and shall be segregated from the City's general revenues. These accounts

shall be dedicated for funding of the improvements for which the fee is collected, as determined through the City's most recent *Impact Fee Study*. Funds from these accounts shall be distributed to City departments solely for the purpose of capital projects identified in the City of Portland's most recent *Impact Fee Study*.

16.9 USE OF IMPACT FEES

Impact fees collected by the City pursuant to this ordinance may be used only for financing facility improvements which the City Council, through the City of Portland's most recent *Impact Fee Study*, has determined are made necessary by new development. The City Council has determined that fees imposed by schedules in this ordinance are reasonably related to the demands created by new development. Impact fees collected pursuant to this ordinance shall be used exclusively for capital improvements, and the City of Portland shall expend funds collected from impact fees solely for the purposes for which they were collected.

16.10 REFUND OF UNUSED IMPACT FEES

Impact fees collected pursuant to this ordinance shall be used by the City according to the schedules for the completion of specific capital improvements as specified in the City of Portland's most recent *Impact Fee Study*, but in no event later than ten years after the date upon which the impact fee was collected. Any impact fees which are not so used and any impact fees collected which exceed the City's actual costs of implementing the infrastructure improvements for which such fees were collected shall be refunded. Refunds shall be paid to the owner of record of the property for which the impact fee was collected, determined as of the date the refund is made.

16.11 REVIEW AND REVISION

The impact fees established in this ordinance are based upon the best estimates of the costs of the construction of the facilities for which the fees are collected as determined through the City's most recent *Impact Fee Study*. The Council may, by amendments to this ordinance, change the amounts of the impact fees from time to time as warranted by new information or changed circumstances.

16.12 ADMINISTRATIVE RULES AND REGULATIONS

The Planning Board is hereby authorized to develop rules and regulations governing the administration of impact fees collected pursuant to this ordinance.

16.13 EFFECTIVE DATE

The provisions of this article shall apply to all building permit applications submitted following December 19, 2018, with the exception that any development for whom site plan approval has been granted as of December 19, 2018 shall be considered exempt. Master development plan approval prior to the effective date shall not confer exempt status.

17 HISTORIC PRESERVATION

17.1 PURPOSE

The purpose of this article is to promote the educational, cultural, economic, and general welfare of the City of Portland by:

A. Creating a mechanism to identify, preserve and enhance distinctive areas, sites, structures, and objects that have historic, cultural, architectural, and archaeological significance.

B. Providing a resource of information and expertise to help those interested in rehabilitation or new construction in a district or restoring a landmark.

C. Applying review standards in a reasonable and flexible manner to prevent the unnecessary loss of the community's historical features and to ensure compatible new construction and rehabilitation in historic districts while not stifling change and development or forcing modern recreations of historic styles.

D. Fostering civic pride in the city's history and development patterns as represented in such distinctive areas, sites, structures, and objects.

E. Protecting and enhancing neighborhood character.

F. Stabilizing and improving the values of designated properties and areas.

G. Protecting and enhancing the attractiveness of the city to its home buyers, home owners, residents, tourists, visitors, businesses and shoppers.

H. Fostering and encouraging preservation, restoration, and rehabilitation that respects the historic, cultural, architectural, and archaeological significance of distinctive areas, sites, structures, and objects.

17.2 DEFINITIONS

Alteration. Any act or process requiring a building permit and any other act or process not requiring a building permit but specifically listed in this article as a reviewable action, including without limitation the repair, reconstruction, demolition, or relocation of any structure or object, or any part of a structure or object.

Certificate of Appropriateness. A certificate issued by the Planning Authority evidencing approval of specific plans for alteration of a structure, site, or designated historic landscape or new construction on a site in accordance with this article.

Certificate of Economic Hardship. A certificate issued by the Planning Authority evidencing a hardship variance approved by the Zoning Board of Appeals in accordance with Article 2.

Certificate of Non-Applicability. A certificate issued by the Planning Authority evidencing a determination that specific plans for alteration of a structure, site, or designated historic landscape or new construction on a site do not require approval under this Article.

Contributing. A classification applied to a site, structure, or object within a historic district signifying that it contributes generally to the qualities that give the historic district cultural, historic, architectural, or archaeological significance as embodied in the criteria for designating a historic district.

Demolition. Any act or process that partially or totally destroys a structure or object.

District. A historic district or historic landscape district.

Historic district. A geographically definable area possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.

Historic landscape district. A geographically definable area possessing a significant concentration, linkage, or continuity of landscape components which are united by human use and past events or aesthetically by design, plan or physical development.

Historic Resources Design Manual. A manual including guidelines for meeting historic preservation ordinance review standards and other information.

Landmark. Any property, site, structure, or object of particular historic, architectural, or archaeological significance to Portland, the State of Maine and/or the United States relating to its cultural, social, economic, political, or architectural heritage, or which is associated with historic persons, important events or themes in local, state, or national history.

New construction. The adding to a structure by an addition, the erection or placement of any new structure on a lot or property, or the comprehensive redesign/renovation of an existing structure.

Noncontributing. A classification applied to a site, structure, object, or portion thereof, within a historic district signifying that: 1) it does not contribute generally to the qualities that give the historic district cultural, historic, architectural, or archaeological significance as embodied in the criteria for designating a historic district; 2) was built within 50 years of the date of district designation unless otherwise designated in the historic resources inventory; or 3) where the location, design, setting, materials, workmanship, and association have been so altered or have so deteriorated that the overall integrity of the site, structure, or object has been irretrievably lost. A portion of an otherwise contributing or landmark structure may be determined by the Historic Preservation Board to be non-contributing if it meets one or more of the above conditions.

Object. Anything constructed, fabricated, or created, the use of which does not require permanent or semi-permanent location on or in the ground.

Ordinary maintenance. Acts of maintenance or repair which do not include a change in the design, material, or outer appearance of a structure, including without limitation repainting, replacement of materials or windows of the same scale, texture and color, and landscaping other than within an historic landscape district.

Preservation. The act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic

materials and features rather than the extensive replacement and new construction.

Rehabilitation. The act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural, and cultural value.

Relocation. Any removal or relocation of a structure on its site or to another site.

Restoration. The act or process of accurately depicting the form, features, and character of the property as it appeared at a particular period of time by means of the removal of features from other period in its history and reconstruction of missing features from the restoration period.

Site. The location of a significant event, an archaeological site, a landscape or traditional cultural property, or a building or structure, whether standing, ruined or vanished, where the location itself maintains historical or archaeological value regardless of the value of any existing structure.

17.3 ADMINISTRATIVE PROCEDURES

17.3.1 Costs

A. Any project may be subject to fees as established by the City Council to cover administrative costs and the costs of Historic Preservation Board review. Applicants shall also pay a fee to cover the professional and administrative costs for analysis associated with project review, including but not limited to planning, legal, or other services. The fee shall be based on the hours of review and processing time and prevailing hourly rate for reimbursement of City costs. The City shall periodically invoice the applicant for such costs incurred by the City, which invoice shall be paid promptly by the applicant.

B. Every applicant shall bear the entire expense of giving notice by mail and publication in accordance with this article.

C. No Certificate of Appropriateness, building, demolition, or other permit shall issue until all current charges due under this article have been paid. The balance of any remaining review and administrative costs invoiced or incurred after a permit has been issued shall be paid in full by the developer prior the issuance of any temporary or permanent certificate of occupancy.

17.3.2 Notice of public meeting

A. For all Certificate of Appropriateness applications that are subject to Historic Preservation Board review, the applicant shall be responsible for posting a notice of public meeting sign on the property where the development is to occur. The dimensions, construction, and content of the sign shall be in accordance with standards established by the Planning Authority.

B. The sign shall be posted at least 10 days prior to the public workshop or hearing date, and shall be removed from the site no more than three days following the date of the meeting.

C. Once the required notice of public meeting signage is posted, the applicant shall submit a completed certification of posting form to the Planning Authority.

D. In the event that a required notice of public meeting sign is knocked over or made illegible, it shall be the responsibility of the applicant to promptly reset or replace the sign, though failure to do so shall not invalidate the review.

17.3.3 Notices and public comment

A. Except as provided in Subsection 17.7.5, notice of proceedings upon any application for a Certificate of Appropriateness shall be given only when the proposed activity otherwise constitutes major site plan. Notice of such proceedings also shall be furnished to any persons interested in historic preservation who have registered with the Planning Authority, and to the Historic Preservation Board and/or the Planning Board when the proceeding is pending before a different body. The failure to give any notice required by this article shall not affect the validity of any action taken.

B. The Historic Preservation Board, the Planning Board, the Board of Appeals, and the City Council shall each invite public comment at a public meeting in accordance with their respective rules, prior to any final action being taken under this article.

C. The Planning Authority shall advise the Historic Preservation Board and the Planning Board of any demolition permit application received by the Planning Authority as to structures or objects that have been classified as noncontributing within nominated or designated districts, but there shall be no Historic Preservation Board review of such permit applications.

17.4 CATEGORIES AND CRITERIA FOR DESIGNATION

17.4.1 Minimum criteria for designation

A. The Historic Preservation Board shall limit its consideration to the following criteria in making a determination on a proposed nomination of an area, site, structure, or object for designation by ordinance as a landmark or district:

1. Its value as a significant example of the cultural, historic, architectural, archaeological, or related aspect of the heritage of the City of Portland, State of Maine, New England region, or the United States.
2. Its location as a site of a significant historic or prehistoric event or activity which may have taken place within or which involved the use of any existing structure on the property.
3. Its identification with a person or persons who significantly contributed to the cultural, historic, architectural, archaeological, or related aspect of the development of the City of Portland, State of Maine, New England region, or the United States.
4. Its exemplification of a significant architectural type, style, or design distinguished by innovation, rarity, uniqueness, or overall quality of design, detail, materials, or craftsmanship.
5. Its identification as the work of an architect, designer, engineer, or builder whose individual work is significant in the history or development of the City of Portland, the State of Maine, the New England region, or the United States.

6. Its representation of a significant cultural, historic, architectural, archaeological, or related theme expressed through distinctive areas, sites, structures, or objects that may or may not be contiguous.

B. In the case of a nominated historic district, the Historic Preservation Board shall also determine whether there is an interrelationship of resources within it which creates an identifiable entity, even if composed of a wide variety of resources. A district must convey a visual sense of the overall historic environment or be a grouping of historically or functionally related properties. A historic district can comprise both individually distinctive historic resources and historic resources that may lack individual distinction but which contribute to the significance and visual character of the district as a whole.

C. In the case of a nominated historic landscape district, the Historic Preservation Board shall also consider its significance as a geological, natural, or designed landscape associated with the development, heritage, or culture of the City of Portland, State of Maine, New England region, or the United States.

D. The Planning Board and City Council shall apply the criteria of (A), (B), and (C) above as well as historic preservation goals included in the Comprehensive Plan, but shall also consider the effect of such designation on other aspects of the Comprehensive Plan of the City.

17.4.2 Integrity of landmarks and historic districts

Any area, structure, or object that meets the criteria in Section 17.4.1 must also have sufficient integrity of location, design, condition, materials, and workmanship to make it worthy of preservation or restoration.

17.4.3 Designation of historic landscape districts

An historic landscape district may be nominated and considered for designation only if the entire area of the district is owned by a unit of federal, state, or local government, or any combination of such ownership.

17.5 NOMINATION, CONSIDERATION AND DESIGNATION

17.5.1 Procedure

The provisions of this section shall govern the nomination, consideration, and designation of landmarks and districts.

17.5.2 Initiation of nomination

A. Nomination of an area, site, structure, or object for consideration of designation as a landmark, historic district, or historic landscape district shall be submitted to the Planning Authority by the following:

1. Any two members of the Historic Preservation Board on their own initiative, by written notice to the Planning Authority, or
2. By written petition of any owner, in the case of a landmark, or
3. By written petition of one or more owners of affected property in the case of a district, provided two members of the Historic Preservation Board must sponsor the petition.

B. A nomination shall be completed and filed with the Planning Authority with all required signatures for the nomination to be pending.

C. Upon nomination, the Planning Authority shall notify the owner or owners of the nomination and shall transmit the nomination to the Historic Preservation Board for its preliminary consideration at a scheduled meeting, which in no event shall be held later than 60 days following nomination.

D. If documentation and analysis that is necessary for the consideration of a given designation has not been provided at the time of nomination, such documentation shall be completed prior to further consideration by the Historic Preservation Board of the nominated landmark, district, or historic landscape.

E. At any time after a complete nomination is filed for an historic district, the owner of a structure who seeks a permit for demolition may apply to the Historic Preservation Board for a determination that the structure to be demolished is noncontributing and eligible for a demolition permit. The determination of the Historic Preservation Board that the structure is eligible for a permit shall be conclusive.

17.5.3 Notification of nomination and public hearing

A. A public hearing on the nomination shall be held by the Historic Preservation Board following one or more preliminary workshops of the Historic Preservation Board.

B. The hearing shall be conducted in accordance with procedures adopted by the Historic Preservation Board. The Historic Preservation Board shall consider all testimony or evidence relating to the designation criteria in Section 17.4 from any person who makes written submissions or appears at the public hearing. The owner of a nominated landmark or of property within a nominated district shall be allowed reasonable opportunity to present testimony or evidence concerning the applicability of the designation criteria in Section 17.4.

17.5.4 Recommendation by Historic Preservation Board

A. Within 45 days following the close of the public hearing, the Historic Preservation Board shall make recommendation to the City Council in the case of a landmark, or to the Planning Board in the case of a district, upon the evidence as to whether the nominated landmark or district meets the criteria for designation in Section 17.4. Such recommendation shall be approved by at least four members of the Historic Preservation Board and shall be accompanied by a report to the City Council and/or Planning Board containing the following information:

1. Explanation of the significance or lack of significance of the nominated landmark or district as it relates to the criteria for designation.
2. Explanation of the integrity or lack of integrity of a nominated landmark or historic district.
3. Proposed design guidelines for review of alteration or construction may be recommended. The specific design guidelines may provide explanation by text and/or schematic examples of visual compatibility for purposes of complying with Section 17.8.
4. Relationship of the nominated landmark or district to the ongoing effort by the Historic Preservation Board to identify and

nominate areas, sites, structures, and objects that meet the criteria for designation.

5. A map showing the location of the nominated landmark and/or the boundaries of the nominated district.
6. A list, including the address, of every site, structure, and object in each nominated historic district indicating their degree of cultural, historic, architectural, or archaeological significance by classification as a landmark, contributing, or noncontributing,

B. Where a motion either in favor of a recommendation or in opposition to a recommendation results in a vote of fewer than four members, the item shall automatically be tabled to the next regularly scheduled meeting.

17.5.5 Notification of Historic Preservation Board recommendation

A. The recommendation of the Historic Preservation Board, including a copy of the report, shall be transmitted to the City Council in the case of a landmark and to the Planning Board in the case of a district. Notice of the recommendation shall be sent by mail to the owner of a nominated landmark and to all owners within a nominated district within 14 days following adoption of the recommendation and report.

B. If the recommendation of the Historic Preservation Board is that the property or district not be designated, the nomination process shall terminate and no new nomination shall be submitted for the identical property or area for a period of one year from the date of termination, except upon a showing of substantial and material newly discovered information.

17.5.6 Determination by Planning Board

A. The Planning Board, upon receipt of a recommendation and a report from the Historic Preservation Board concerning nomination of a district, may hold one or more workshops pursuant to the provisions of Article 2. After review of the Historic Preservation Board recommendation and report, the Planning Board shall hold a public hearing.

B. All meetings, hearings, and deliberations of the Planning Board to consider the recommendation and report of the Historic Preservation Board shall be held in conformity with Article 2.

C. The Planning Board may request the chair of the Historic Preservation Board, or a member designated by the chair, to appear at any meeting, hearing or deliberation to explain any recommendation or report.

D. A public hearing shall be scheduled within 30 days of the Planning Board's final workshop. At the conclusion of the public hearing, the Planning Board shall make its final determination including written findings as to whether the nominated district meets the criteria for designation in Section 17.4. A copy of the determination of the Planning Board shall be sent by regular mail to all owners within a nominated district within 14 days following the determination.

17.5.7 Planning Board recommendation to City Council

The recommendation of the Planning Board regarding a nominated district shall be filed with the

City Clerk within 14 days. It shall be accompanied by a copy of the report and recommendation of the Historic Preservation Board, including any specific proposed design guidelines applicable to the nominated landmark or district. The recommendation of the Planning Board may include proposed changes in other City ordinances, policies, infrastructure, or recommendations with respect to the Comprehensive Plan of the City relating to the proposed designation.

17.5.8 Action by City Council

A. Within 60 days after the filing of a Planning Board recommendation, or Historic Preservation Board recommendation in the case of a landmark, on the nomination with the City Clerk pursuant to Section 17.5.6, the City Council shall designate the landmark or district or reject designation. Any designation may include specific design guidelines for the designated landmark or district.

B. Designation of a district shall be accompanied by a list, including the address, of every site, structure and object in the district. Every site, structure, or object shall be assigned a classification of landmark, contributing, or noncontributing, indicating their degree of cultural, historic, architectural, or archaeological significance. This list may be amended thereafter by the City Council upon recommendation from the Historic Preservation Board and Planning Board under the same procedures as set forth above. Where there are no express findings by the City Council in the designation ordinance, there shall be a presumption that the City Council found that all requirements of Section 17.4 were met.

C. Notice of the proposed action of the City Council shall be provided by mail to the nominator and the owner of the nominated landmark and/or of all properties adjacent thereto prior to City Council action.

D. Notice of City Council action to the same persons shall be sent within 14 days following the City Council action. A copy of each designation and any design guidelines shall be sent to the Planning Board, the Historic Preservation Board, and the Planning Authority.

E. A complete schedule of all landmarks and districts, including design guidelines and a listing of landmark and contributing structures, shall be maintained by the Planning Authority and shall be available online or for public inspection and copying during ordinary business hours.

17.5.9 Amendment or rescission of designation

Amendment or rescission of any designation shall be upon the request of a person or persons authorized to nominate the property or properties affected, or upon request of the City Council, and shall follow the procedure set forth in Section 17.5 for designation. The City Council may rescind or amend a designation only after all of these procedures have been followed. The standards for rescission or amendment applied by the Historic Preservation Board, Planning Board, and City Council shall be limited to those provided in Subsections 17.4.1(A) and (B) and Subsection 17.4.2. Amendments may include reclassification of a portion of a contributing property to noncontributing status, refinement or correction of design guidelines, maps, and other parts of any designation.

17.5.10 Time limits

If any time limit in the nomination and designation process as provided in Sections 17.4 or 17.5 is not met, the validity of any designation and the interim protection provided by Section 17.6 shall not be affected, provided the Historic Preservation Board, Planning Board or City Council announce the delay and the basis for such in a public meeting, as well as the date to which the matter will be rescheduled.

17.6 INTERIM PROTECTION FOR NOMINATIONS

17.6.1 Nominated landmarks and districts

A. From the time of nomination until the Historic Preservation Board acts upon such nomination, a site, structure, object or area nominated but not yet designated as a landmark or district shall be subject to all of the provisions of Sections 17.9 and 17.10 governing demolition and minimum maintenance, to the same extent as if designated. Upon final action of the Historic Preservation Board recommending designation, the site, structure, object, or area nominated shall be subject to all of the protections of this article until a final decision on designation by the City Council becomes effective. If the City Council rejects designation or fails to designate a property, that property shall no longer be subject to the provisions of Sections 17.9 and 17.10 of this article.

B. Alteration or new construction commenced pursuant to a building permit issued prior to nomination shall not require a Certificate of Appropriateness, unless such permit has expired, been canceled or revoked. No project for which any application is pending and which has received substantive review by the Planning Board prior to nomination shall be affected by nomination. Substantive review, as used in this paragraph, shall include workshop review of any completed application under Article 14 and Article 15 of the Land Use Code.

17.6.2 National Register of Historic Places

Upon notice to the City that a property or area has been listed in the national register after the adoption of this article, a nomination shall be deemed submitted to the Historic Preservation Board for designation of such property or area as a landmark, historic district, or historic landscape district under this article, and the procedures of Section 17.6 shall be applicable thereto.

17.6.3 Properties eligible for listing on national register or for local designation

A Certificate of Economic Hardship shall be obtained prior to demolition of any structure which has not been designated in accordance with this article but which has been determined by the Maine Historic Preservation Commission as eligible for listing in the National Register of Historic Places under the criteria established by 16 U.S.C. Section 470(a) or its successor statute and/or regulations made thereunder or which has been determined to be eligible for local listing under the criteria for designation of this article. The determination of eligibility for listing shall be made by the Planning Authority, which may refer such a determination to the Historic Preservation Board, and by the Board of Appeals if an appeal is taken. Upon determination of eligibility, the structure so determined shall also be subject to the provisions of Section 17.10 until a final decision by the City Council on designation becomes effective. If the City Council rejects designation or fails to designate a structure which has been determined to be eligible under the terms of this section, that structure shall no longer be

subject to the provisions of Sections 17.9 and 17.10 of this article.

17.7 CERTIFICATES OF APPROPRIATENESS AND NON-APPLICABILITY

17.7.1 Certificate of Appropriateness

A. Except as provided in Subsections 17.7.2 and 17.7.3, a Certificate of Appropriateness shall be required before the following actions affecting any landmark, contributing or noncontributing structures, objects, sites, or property in a district may be undertaken and shall be a condition precedent to the issuance of any permit authorizing such work:

1. Any exterior alteration or new construction requiring a building permit from the City of Portland, including, but not limited to the following:
    a. Removal and replacement of architectural detailing including, but not limited to, porch spindles and columns, railings, window moldings, and cornices.
    b. Moving of structures or objects on the same site or to another site.
    c. Construction of rooftop additions or decks.
    d. Alteration of accessory structures such as garages.
    e. Porch replacement or new construction of porches.
    f. Installation of exterior access stairs.
    g. Window or door replacement requiring enlargement of openings.
    h. Installation of antennas and satellite receiving dishes.
    i. Installation of solar collectors.
2. Any exterior alteration that does not require a building permit but which involves any one of the following activities:
    a. Installation or replacement of either roofing or gutters where the roofing or gutters are a significant and integral feature of the structure including, but not limited to, mansard roofs, cupola roofs, ornamental slate roof features, and built-in gutter systems and the installation or replacement of siding.
    b. Window and door replacement whether or not it requires enlargement of openings.
    c. Masonry work including, without limitation, tuckpointing, sandblasting, chemical cleaning.
    d. Site features other than vegetation including, without limitation, fencing, walls, paving, and grading. However, required review for alterations to cemeteries designated under this article shall not include review of alterations to headstones made for the purpose of recognition of additional decedents or installation of grave markers and/or tombs.
    e. Streetscape and pedestrian improvements within historic districts, including but not limited to installation of pedestrian lighting, alteration to road or intersection alignment, installation of public signage (other than public-safety-related signage.
    f. Landscaping within an historic landscape district.
    g. Exterior lighting where proposed in conjunction with commercial and

institutional signage or awnings or architectural lighting.

h. Exterior utilities including mechanical, HVAC, plumbing, and electrical, where placed on elevations readily visible from a public way.

3. Installation or alteration of any exterior sign.

4. Any relocation of a landmark or contributing structure within a district.

B. There shall be a rebuttable presumption that all structures within a district shall be contributing unless the designation report and Historic Resources Inventory expressly identifies otherwise. Where the Planning Authority or the owner believes that the identification is erroneous, the Historic Preservation Board shall determine whether the structure is noncontributing.

17.7.2 Exceptions to requirement of Certificate of Appropriateness

A Certificate of Appropriateness is not required:

A. Where a Certificate of Non-Applicability has been issued within the previous 12 months.

B. Where the work consists solely of ordinary maintenance and/or restoration, provided that there is no substitution of materials or alteration of architectural details.

C. Where the work consists solely of emergency repair of a temporary nature.

D. Where a Certificate of Economic Hardship has been issued and remains valid.

E. In the case of either alteration of a structure (other than a landmark) or of new construction within a district, a Certificate of Appropriateness shall not be required where the Planning Authority determines that the proposed exterior changes to a structure are not readily visible at pedestrian heights from any public way or public open space. Where a Certificate of Appropriateness is required for such changes, it shall be limited to those portions of the structure or structures so visible.

17.7.3 Alterations or new construction within historic landscape districts

A Certificate of Appropriateness shall be obtained before any site alteration or new construction within a historic landscape district may be undertaken, except where a Certificate of Non-Applicability has been issued or where construction or alteration is pursuant to a master plan approved by a prior Certificate of Appropriateness within five years of commencement and where the master plan is sufficiently detailed to guide the specific work

17.7.4 Applications for Certificate of Appropriateness

A. Application for a Certificate of Appropriateness shall be made on a form prepared by the City and shall be submitted to the Planning Authority along with the applicable fee. Upon receipt of an application, the Planning Authority shall determine whether the application is complete. The Planning Authority shall determine whether the scope, nature, or scale of the proposed project requires review by the Historic Preservation Board or whether it is a minor or routine project that is appropriately reviewed at the administrative level.

B. If the Planning Authority determines that the project should be reviewed by the Historic Preservation Board, the item shall be scheduled for the next available Historic Preservation

Board meeting, provided that the notice requirements of this article can be met prior to that meeting. The Planning Authority shall transmit a copy of the complete application to the Historic Preservation Board at least four days prior to their next scheduled meeting. The Planning Authority shall not issue or act upon the application until the Historic Preservation Board has completed its review and approval process. An application for a Certificate of Appropriateness shall be treated as an application for a Certificate of Economic Hardship under Section 17.9 whenever the Historic Preservation Board or the Planning Board, as applicable, determines that the proposed alteration includes any demolition which would:

1. Have the effect of causing the structure to no longer meet the criteria for designation of Section 17.4, or
2. Materially impair the significance and integrity of the structure.

C. Where a determination under (B) above is made by the Historic Preservation Board, the Planning Board shall review that decision as a preliminary matter, whether the Historic Preservation Board has taken final action with respect to the application or not. Upon any final determination that an application for a Certificate of Appropriateness is required to be treated as an application for a Certificate of Economic Hardship, no further action shall be taken with respect to the application until that certificate is applied for and is granted.

D. Where the applicant has done work or caused work to be done on a structure or a property for which a Certificate of Appropriateness is sought and such work is either not done in compliance with an approval received under this article or was performed without the approvals required under this article, no application for such structure or property shall be considered by the Planning Authority or by the Historic Preservation Board until the work done without approval is brought into compliance with the requirements of this article. The Historic Preservation Board may waive this requirement if the Historic Preservation Board determines that the work does not alter the essential character of the structure or district and one or more of the following standards are also met:

1. The work was needed to bring a building into conformance with any building or safety code.
2. The applicant can demonstrate a good faith belief that necessary approvals had been received for the work at issue prior to the commencement of the work.
3. The applicant can demonstrate a good faith belief that the work done was not subject to review under this article.

E. Review of any application by the Planning Authority or by the Historic Preservation Board shall not constitute waiver of any future claims by the City concerning violations and shall not stop the City from prosecuting any violation.

F. Once a completed application has been submitted, it shall be diligently pursued. Failure of an applicant to attend two or more Historic Preservation Board meetings at which an application is scheduled for review shall cause the application to expire and to be deemed null and void, unless the Planning Authority determines that good cause is shown for the failure to attend. Where good cause is shown

for a failure to attend, the Historic Preservation Board shall table an application to a date mutually agreed upon in writing.

G. In determining the existence of the circumstances specified in this article, the Historic Preservation Board, Planning Board, or Board of Appeals may require such additional documentation or evidence as they may respectively determine to be necessary, including plans, drawings, and elevations, and notwithstanding any time limit for action or decision specified in this article, it may continue a proceeding for such additional time as it reasonably takes an applicant or any other party to comply with the request for additional relevant documentation or evidence and may draw a negative inference with regard to the content of any material evidence not produced upon reasonable request.

H. Prior to issuance of any Certificate of Appropriateness, any applicant shall demonstrate sufficient right, title, or interest in the property, technical capacity, and financial capacity to complete any change proposed to be undertaken under the Certificate of Appropriateness, upon reasonable request of the Planning Authority. If the Planning Authority determines that the applicant has failed or refused to demonstrate an ability to complete the proposed activity, it shall refer the issuance to the Planning Board which shall make a final determination as to whether the applicant has demonstrated a sufficient capability to complete the proposed activity. Notwithstanding any other provision of this article, the Historic Preservation Board or Planning Board may include reasonable conditions, including the provision of adequate financial security, to ensure that actions taken under a Certificate of Appropriateness will be successfully prosecuted to completion, as approved, in a timely manner.

17.7.5 Review process for Certificate of Appropriateness

The process for review of an application for a Certificate of Appropriateness shall be as follows, except to the extent specifically provided elsewhere in this Section 17.7:

A. **For administrative-level reviews.** An application for a Certificate of Appropriateness for installation or alteration of any exterior sign; minor or routine alterations; and temporary alterations, construction, or improvements shall be reviewed by the Planning Authority for compliance with the standards of Section 17.8 and the *Historic Resources Design Manual*. Where staff determines that such an application meets these requirements, the Certificate of Appropriateness shall be issued by staff without presentation to the Historic Preservation Board for approval. Staff shall provide the Historic Preservation Board with written notice of staff approvals on a quarterly basis.

   1. If staff approves an application with conditions, the applicant may request review by the Historic Preservation Board. The application shall then be subject to review by the Historic Preservation Board pursuant to Subsection 17.7.5(B).
   2. Staff may elect to forward to the board an application found by staff to meet review standards but for which board confirmation is sought. The application shall be placed upon the next consent

agenda of the Historic Preservation Board. Any member of the Historic Preservation Board may remove an application from the consent agenda for the purpose of giving it a public hearing.

3. If the Planning Authority determines that the application does not meet the requirements of Section 17.8 and the *Historic Resources Design Manual*, the application shall be scheduled for review by the Historic Preservation Board pursuant to Subsection 17.7.5(B), unless the applicant withdraws the application.
4. For purposes of this subsection only, temporary is defined as either a one-time occurrence that does not exceed 30 days or as an annual occurrence that does not exceed one 30-day period each year. Minor or routine alterations are defined as incidental changes or additions to a building, site features, or exterior utilities which require building permits but will neither result in substantial changes to any significant historic features nor obscure such features. In no event shall any change be deemed minor when, in the opinion of the Planning Authority, such change shall alter the historic character of the building or site.

B. **For Historic Preservation Board-level reviews.** The Planning Authority shall review the application and prepare a report for the Historic Preservation Board's consideration which addresses the proposed project's compliance with the review standards in Section 17.8. The Planning Authority may schedule one or more preliminary workshops on the application prior to a public hearing.

1. Following any preliminary workshop(s) and upon determination by the Historic Preservation Board that the application is complete, the application shall be scheduled for a public hearing at the next available meeting of the Historic Preservation Board which allows for adequate notice.
2. Following a public hearing, the Historic Preservation Board shall make a decision on the application.
3. The Historic Preservation Board shall enter findings of fact concerning the relationship between the application and the applicable standards of Section 17.8 immediately following a denial or conditional approval of any Certificate of Appropriateness. Written notice of the determination of staff or the Historic Preservation Board on the application, including a copy of the findings of fact, shall be sent by regular mail to the applicant.

C. **Review process involving major site plans.** The process for review of an application for alteration or new construction that is also a major site plan as defined in Article 14 shall be as follows:

1. Site plan review by the Planning Board and historic preservation review by the Historic Preservation Board shall, to the extent feasible, proceed concurrently. Any proposed major site plan required to obtain a Certificate of Appropriateness under this article shall be exempt from the design standards included in Article 14, and shall comply with the applicable design standards listed within Article 17.

2. Upon receipt of the application for a Certificate of Appropriateness, the Planning Authority shall review the application and schedule a workshop for preliminary review by the Historic Preservation Board. The Planning Authority shall prepare an analysis of the application based upon the standards in Section 17.8 for consideration at the workshop. Additional workshops may be scheduled by the Historic Preservation Board with the consent of the applicant.
3. Following preliminary workshop(s) and upon determination by the Historic Preservation Board that the application is complete, the Historic Preservation Board shall conduct a public hearing and make a final decision on the application.
4. If the Historic Preservation Board finds that the application meets the applicable standards of Section 17.8, it shall issue a Certificate of Appropriateness, with or without conditions. If the action by the Historic Preservation Board is a denial or conditional approval, the Historic Preservation Board shall make findings of fact concerning the relationship between the application and the applicable standards of Section 17.8.
5. Written notice of the determination of the Historic Preservation Board on the application, including a copy of the findings of fact, if any, shall be sent by regular mail to the applicant within 14 days following its determination.

17.7.6 Issuance of Certificate of Appropriateness

A. The Planning Authority shall issue the Certificate of Appropriateness within 14 days following a proposed affirmative decision by the Historic Preservation Board becoming final.

B. Unless work authorized by a Certificate of Appropriateness shall be commenced within six months of the date of issuance of the Certificate of Appropriateness, the Certificate of Appropriateness shall expire and shall become null and void. The Planning Authority may approve additional extensions of this six-month period, not to exceed a total of two years, provided that a written request for extension is received prior to the expiration date of the Certificate of Appropriateness. In the event of litigation arising out of the granting of a Certificate of Appropriateness, the certificate shall remain valid until one year after the entry of final judgment in the litigation or until the end of the two-year period, whichever is later.

C. An approval shall expire and become null and void upon the expiration of the authorization for the work, or for the development, under the applicable provisions of Chapter 6 of this Code of Ordinances or Articles 14 or 15.

17.7.7 Certificate of Non-Applicability

A. The Planning Authority shall issue a Certificate of Non-Applicability as to property subject to this article when requested to do so when:
   1. The Planning Authority determines that none of the proposed work requires a Certificate of Appropriateness.
   2. The Planning Authority determines that all of the proposed work is ordinary

maintenance, restoration, or a combination thereof.

3. In the case of the alteration of a structure other than a landmark or of new construction within a district, where the Planning Authority determines that the proposed exterior changes to a structure are not readily visible at pedestrian heights from any public way. Where a Certificate of Appropriateness is required for such changes, a Certificate of Non-Applicability shall be issued upon request for those portions of the structure or structures not visible at such heights, provided, however, this paragraph shall not apply to alteration of a landmark or to any demolition.
4. After any appeal where the Historic Preservation Board, Planning Board or any court determines that paragraphs (1), (2) or (3) of this subsection are applicable.

B. The Planning Authority shall act upon any application for a Certificate of Non-Applicability within 14 days of receiving a complete written description of all work to be undertaken.

17.7.8 Amendments to approved certificates of appropriateness

A. If at any time before or during work approved under the procedures set forth in this Section 17.7 the applicant requests minor amendments to approved work, the Planning Authority may approve such minor amendments under the procedures set forth in Subsection 17.7.5, provided that such amendments will not result in a waiver or substantial alteration of the approval or any condition attached to the approval. The applicant shall supply a written statement of the proposed amendment and amended plans or drawings to the Planning Authority. The decision of the Planning Authority as to whether an amendment may be reviewed under this subsection shall be final.

17.7.9 Review process for demolition of landmarks or contributing structures within a district

A. Any applicant seeking demolition of a landmark or contributing structure must apply for a Certificate of Economic Hardship to the Board of Appeals in accordance with Section 17.9 of this article. Said application must be approved by the Board of Appeals before a demolition permit can be issued.

B. Any applicant seeking demolition of a noncontributing building as defined in this article may apply directly for a demolition permit without receiving approval from the Historic Preservation Board or a Certificate of Economic Hardship from the Board of Appeals.

C. Any applicant seeking demolition of a portion of a contributing or landmark structure may request that the Historic Preservation Board make a determination as to whether such portion of the structure is noncontributing based on the definition of that classification contained in this article. If the board determines the portion to be noncontributing, the applicant may apply directly for a demolition permit.

17.8 STANDARDS FOR REVIEW OF APPLICATION FOR CERTIFICATE OF APPROPRIATENESS

17.8.1 *Historic Resources Design Manual*

A. The Historic Preservation Board may provide further guidance on how to meet the standards

of this article in the *Historic Resources Design Manual*, which shall supplement this article. The *Historic Resources Design Manual* may include but need not be limited to maps and descriptions of landmarks and districts, a listing of properties which have been determined to be eligible for listing on the national register or for local designation, a glossary of terms and architectural styles, descriptions, and illustrations of how the standards of this article will be interpreted, and all designation ordinances, reports, and design guidelines. All provisions of the *Historic Resources Design Manual* shall be consistent with the standards of this article and any designation ordinance adopted hereunder.

B. Amendments to the *Historic Resources Design Manual* shall be forwarded to the City Council as a communication and shall become effective 45 days from the date on which said amendments are sent to the City Council, unless the City Council takes official action disapproving the amendments, in whole or in part, prior to the expiration of the 45-day period.

C. The *Historic Resources Design Manual* shall be maintained by the Planning Authority.

17.8.2 Standards for review of alteration

In considering an application for a Certificate of Appropriateness involving alteration, the Historic Preservation Board and the Planning Board shall apply the following general standards, as further described in the *Historic Resources Design Manual,* and any design guidelines accompanying the specific designation:

A. Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration to the character defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.

B. The distinguishing original qualities or character of a structure, object, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

C. All sites, structures, and objects shall be recognized as products of their own time, place, and use. Alterations that have no historical basis or create a false sense of historical development, such as adding conjectural features or elements from other properties, shall be discouraged.

D. Changes which may have taken place in the course of time are evidence of the history and development of a structure, object, or site and its environment. Changes that have acquired significance in their own right shall not be destroyed.

E. Distinctive features, finishes, and construction techniques or examples of skilled craftsmanship which characterize a structure, object, or site shall be treated with sensitivity.

F. Deteriorated historic features shall be repaired rather than replaced wherever feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature should match the feature being replaced in composition, design, texture, and other visual qualities and, where possible, materials. Repair or replacement of missing historic features should be based on accurate duplications of features, substantiated by documentary, physical, or pictorial evidence

rather than on conjectural designs or the availability of different architectural elements from other structures or objects.

G. The surface cleaning of structures and objects, if appropriate, shall be undertaken with the gentlest means possible. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be undertaken.

H. Every reasonable effort shall be made to protect and preserve significant archaeological resources affected by or adjacent to any project. If resources must be disturbed, mitigation measures shall be undertaken.

I. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, color, material, and character of the property, neighborhood or environment.

J. Wherever possible, new additions or alterations to structures and objects shall be undertaken in such a manner that, if such additions or alterations were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.

17.8.3 Standards for review of new construction

In considering an application for a Certificate of Appropriateness involving new construction, the Historic Preservation Board and the Planning Board shall apply the following general standards as may be applicable to the context of the proposed construction. The intent and application of the following standards are further described in the *Historic Resources Design Manual* and shall guide the board in its review.

A. Scale and form

1. *Height.* The proposed height shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.
2. *Width.* The width of a building shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.
3. *Proportion of principal facades.* The relationship of the width to the height of the principal elevations shall be visually compatible with structures, public ways, and open spaces to which it is visually related.
4. *Roof shapes.* The roof shape of a structure shall be visually compatible with the structures to which it is visually related.
5. *Scale of a structure.* The size and mass of structures in relation to open spaces, windows, door openings, porches, and balconies shall be visually compatible with the structures, public ways, and places to which they are visually related.
6. *Applicability to Congress Street Historic District.* In the Congress Street Historic District, for new construction within the B-3 zone, the Historic Preservation Board shall not impose conditions more restrictive than the dimensional requirements of the B-3 zone.
7. *Applicability to India Street Historic District.* For new construction within the

India Street Historic District, the Historic Preservation Board shall not impose conditions more restrictive than the dimensional requirements of the IS-FBC zone, except for in the case of a building addition which proposes to change the height of a contributing historic structure.

8. *Applicability to the Portland Company Historic District.* For new construction within the Portland Company Historic District, the height requirements of the B-6 Building Height Overlay & Building Envelopes map shall be controlling and the Historic Preservation Board shall not impose conditions more restrictive than the building height requirements of the B-6 zone.

B. Composition of principal facades

1. *Proportion of openings*. The relationship of the width to height of windows and doors shall be visually compatible with structures, public ways, and places to which the building is visually related.
2. *Rhythm of solids to voids in facades.* The relationship of solids to voids in the facade of a structure shall be visually compatible with structures, public ways, and places to which it is visually related.
3. *Rhythm of entrance porch and other projections*. The relationship of entrances and other projections to sidewalks shall be visually compatible with the structures, public ways, and places to which they are visually related.
4. *Relationship of materials.* The relationship of the color and texture of materials (other than paint color) of the facade shall be visually compatible with the predominant materials used in the structures to which they are visually related.
5. *Signs.* Any new sign, and any change in the appearance of an existing sign located on a landmark, within a historic district, or within an historic landscape district, which is readily visible from any street or open space shall not be incongruous to the historic character of the landmark or district and shall comply with the criteria and guidelines specified in the *Historic Resources Design Manual*.

C. Relationship to street

1. *Walls of continuity.* Facades and site structures, such as masonry walls, fences, and landscape masses, shall, when it is a characteristic of the area, form cohesive walls of enclosure along a street to ensure visual compatibility with the structures, public ways, and places to which such elements are visually related.
2. *Rhythm of spacing and structures on streets.* The relationship of a structure or object to the open space between it and adjoining structures or objects shall be visually compatible with the structures, objects, public ways, and places to which it is visually related.
3. *Directional expression of principal elevation*. A structure shall be visually compatible with the structures, public ways, and places to which it is visually related in its directional character, whether this be vertical character, horizontal character, or nondirectional character.
4. *Streetscape, pedestrian improvements.* Streetscape and pedestrian improvements and any change in the appearance thereof

located adjacent to or on a landmark, within a historic district, or within a historic landscape district which is readily visible from any street or open space shall not be incongruous to the historic character of the landmark or district and shall comply with the criteria and guidelines specified in the *Historic Resources Design Manual*.

D. Other standards

1. *Compatible use.* Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration to the character defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.
2. *Distinguishing original character.* The distinguishing original qualities or character of a structure, object, or site and its environment shall not be destroyed. The alteration of any historic material or distinctive architectural features should be avoided when possible.
3. *Archeological resources.* Every reasonable effort shall be made to protect and preserve significant archaeological resources affected by or adjacent to any project. If resources must be disturbed, mitigation measures shall be undertaken.
4. *Contemporary design.* Contemporary design for additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, material, and character of the property, neighborhood and environment.
5. *Additions.* Wherever possible, new additions to structures and objects shall be undertaken in such a manner that, if such additions were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

17.8.4 Standards for review of alterations to or redesign of noncontributing structures

A. In considering an application for a Certificate of Appropriateness involving alteration(s) to a noncontributing structure the standards for review of alterations set forth in Subsection 17.8.2 shall apply as applicable. The intent of the review shall be to ensure no further erosion of any existing architectural character of the subject structure determined to be significant by the Planning Authority or Historic Preservation Board and, where practicable, to guide projects toward a more compatible relationship with the surrounding context.

B. In considering an application for a Certificate of Appropriateness involving comprehensive redesign of a noncontributing structure, the standards for review of construction set forth in Subsection 17.8.3 shall apply.

17.8.5 Standards for review of relocation

In acting upon an application for a Certificate of Appropriateness involving relocation, the Historic Preservation Board and the Planning Board shall apply the following general standards and any design guidelines in the ordinance designating the landmark or district:

A. Whether the historic or urban design character and aesthetic interest of the structure or object contribute to its present setting.
B. If located within a district, whether there are definite plans for the area to be vacated and what the effect of those plans is on the character of the surrounding area. In such cases, consideration of additional design guidelines for construction to be imposed as a condition of approval is appropriate.
C. Whether the relocation of the structure or object can be accomplished without significant damage to its physical integrity.
D. Whether the proposed relocation area is compatible with the cultural, historical or architectural character of the structure or object.

17.8.6 Standards for review of signage

In considering an application for a Certificate of Appropriateness involving the installation or modification of sign(s), including awning(s) which incorporate signage, signs shall be compatible with the subject building and its surrounding context as detailed in the signage design guidelines included in the *Historic Resources Design Manual*. If there is a conflict between this standard and the requirements of Article 20, the stricter standard shall apply.

17.9 CERTIFICATE OF ECONOMIC HARDSHIP

17.9.1 Applicability

A. Any applicant seeking demolition of a landmark or a contributing structure within a district may make application for a Certificate of Economic Hardship from the Board of Appeals. The application shall be submitted to the Planning Authority, together with the applicable fee.
B. The Planning Authority shall transmit a copy of the application to the Board of Appeals, with copies to the Planning Board and the Historic Preservation Board, within 14 days following receipt of a properly completed application.

17.9.2 Standard to be applied

A. The Board of Appeals shall approve an application for a Certificate of Economic Hardship only upon a determination that the denial of approval of the proposed activity or of the proposed demolition will result in the loss of all reasonable use of the structure as required by Subsections 17.9.5 and 17.9.7.
B. In applying this standard, the Board of Appeals shall consider among other things any evidence presented concerning the following:
    1. Any opinions from a licensed engineer or architect with experience in renovation, restoration, or rehabilitation as to the structural soundness of the structure and its suitability for continued use, renovation, restoration, or rehabilitation.
    2. Any estimates of the cost of the proposed alteration, construction, demolition, or removal and an estimate of any additional cost that would be incurred to comply with the recommendations of the Planning Board for changes necessary for it to be approved.
    3. Any estimates of the market value of the property in its current condition; after completion of the proposed alteration, construction, demolition, or removal; after any expenditures necessary to comply with the recommendations of the Planning Board for changes necessary for it to approve a Certificate of Appropriateness;

and in the case of a proposed demolition, after renovation of the existing structure for continued use.

4. In the case of a proposed demolition, any estimates from architects, developers, real estate consultants, appraisers, or other real estate professionals experienced in rehabilitation as to the economic feasibility of restoration, renovation, or rehabilitation of any existing structures or objects.

17.9.3 Information to be supplied by applicant

A. The applicant shall submit by affidavit the following information for an application to be considered to be complete:

1. The assessed value of the property and/or the structure in the case of a demolition for the two most recent assessments.
2. Real property taxes paid for the previous two years.
3. The amount paid for the property by the owner, the date of purchase, and the party from whom purchased, including a description of the relationship, if any, between the owner and the person from whom the property was purchased.
4. The current balance of any mortgages or any other financing secured by the property and the annual debt service, if any, for the previous two years.
5. All appraisals obtained within the previous two years by the owner or applicant in connection with purchase, offerings for sale, financing, or ownership of the property, or state that none were obtained.
6. All listings of the property for sale or rent, price asked and offers received, if any, within the previous four years, or state that none were obtained.
7. All studies commissioned by the owner as to profitable renovation, rehabilitation, or utilization of any structures or objects on the property for alternative use, or a statement that none were obtained.
8. For income-producing property, itemized income and expense statements from the property for the previous two years.
9. Estimate of the cost of the proposed alteration, construction, demolition, or removal and an estimate of any additional cost that would be incurred to comply with the recommendations of the Planning Board for changes necessary for it to approve a Certificate of Appropriateness.
10. Form of ownership or operation of the property, whether sole proprietorship, for profit or not for profit corporation, limited partnership, joint venture, or other.

B. In the event that the information required to be submitted by the applicant is not reasonably available, the applicant shall file with the affidavit a statement of the information that cannot be obtained and shall describe the reasons why such information is unavailable.

C. Notwithstanding the submission of the above information, the Board of Appeals may require additional evidence as provided in Subsection 17.7.4(G).

17.9.4 Public hearing

A. The Board of Appeals shall hold a public hearing on the application within 30 days following receipt of the completed application form. Where the application requests the demolition of a landmark or a contributing

structure within a district, the public hearing shall not be held less than 90 days following receipt of the completed application, unless the applicant makes a clear showing that the delay will result in undue hardship of a unique or exceptional character which could not reasonably be or have been avoided. Upon such a showing, the Planning Authority may waive all or any part of the 90-day period and schedule the hearing before the board. Undue hardship shall not include mere inconvenience or incidental financial loss. No such waiver shall be granted without the Planning Authority giving best practical notice to all persons entitled to notice of the hearing.

B. Where the application requests the demolition of a landmark or a contributing structure within a district, the Planning Authority shall promptly notify any persons interested in historic preservation, who have registered in writing with him or her, give notice by mail to all owners of property within 500 feet of the structure, and shall require that the applicant immediately place a notice, to be supplied by the building official, in a prominent place on the structure and to maintain it there at all times during the pendency of the demolition application. The notice shall state that the structure has been proposed to be demolished by its owner and provide contact information for further information. The failure to give any notice required hereunder shall not affect the validity of any action taken by the Planning Authority or the Board of Appeals.

C. The Planning Board may provide a report or any other information, documentation or evidence or request the Historic Preservation Board to assist the Board of Appeals in considering the extent of variance necessary, an appropriate incentive plan, or reasonable condition to be imposed.

D. The Board of Appeals may continue a proceeding for such additional time as it reasonably takes an applicant, any other interested person, the Historic Preservation Board, or the Planning Board to comply with a request for additional information or evidence. The applicant shall be afforded the right to present rebuttal evidence.

17.9.5 Determination by the Board of Appeals

A. The determination by the Board of Appeals shall be made within 45 days following close of the public hearing and submission of all information, documentation, or evidence requested by the board. The determination shall be accompanied by findings of fact.

B. The Board of Appeals shall not grant approval of an application involving demolition unless the board determines, upon clear and convincing evidence, that one or more of the following circumstances apply:

1. The structure is not subject to this article.
2. Denial of a demolition permit would result in a hardship to the property owner so great that it would effectively deprive the owner of all reasonable use of the structure. The extent of any demolition permitted shall be limited to the amount necessary to allow reasonable use of the structure. Where the condition of the structure is claimed to prevent any reasonable use, the applicant shall establish that such condition is not the result of the acts or neglect of the owner or his

predecessors in title occurring in whole or in part after August 1, 1988.

17.9.6 Disapproval by Board of Appeals

If the determination of the Board of Appeals is to disapprove the application for a Certificate of Economic Hardship, the applicant shall be notified within five business days. The notice shall include a copy of the findings of fact and report.

17.9.7 Determination of no reasonable use

A. If the determination of the Board of Appeals is that the denial of the Certificate of Appropriateness has resulted in the denial of all reasonable use of the structure, or the entire property in the case of new construction, then the Certificate of Economic Hardship shall be issued by the Planning Authority 90 days following the determination unless during that time the City Council approves an incentive plan pursuant to Subsection 17.9.8.

B. A copy of the determination of the Board of Appeals, together with the findings of fact, shall be mailed to the applicant and filed with the City Clerk, the Planning Board, and the Historic Preservation Board within 14 days following the determination of economic hardship.

17.9.8 Incentive plan

The purpose of an incentive plan is to provide a mechanism to allow a reasonable use without the demolition of the complete structure or important architectural elements. The Planning Board, in cooperation with the Historic Preservation Board and the owner, may prepare a report and recommend to the Board of Appeals an incentive plan to assure reasonable use of the structure. This incentive plan may include, but is not limited to, loans or grants from the City of Portland or other public or private sources; acquisition by purchase or eminent domain; building and safety code modifications to reduce cost of maintenance, restoration, rehabilitation, or renovation; changes in applicable zoning regulations, including a transfer of development rights; or relaxation of the provisions of this article sufficient to allow reasonable use of the structure.

17.9.9 City Council consideration of incentive plan

A. Upon receipt of a report from the Board of Appeals recommending an incentive plan to assure reasonable use of the property, the City Council shall give prompt consideration to the determination of economic hardship and the report of the board, including the recommended incentive plan. The City Council shall approve or disapprove the incentive plan determined by the Board of Appeals to allow reasonable use of the structure within 90 days following the determination by the Board of Appeals.

B. A copy of the ordinance enacted by the City Council, together with the incentive plan, if any, shall be mailed to the applicant and transmitted to the Board of Appeals, the Planning Board, and the Historic Preservation Board within five business days following the enactment of the ordinance.

17.9.10 Issuance of Certificate of Economic Hardship

A. Upon receipt by the Board of Appeals of a copy of City Council action disapproving an incentive plan, or upon failure of the City Council to act to either approve or disapprove an incentive

plan within the time specified, the Board of Appeals shall approve a Certificate of Economic Hardship to the applicant within 30 days. The certificate may be subject to conditions including design guidelines for subsequent new construction not inconsistent with the standards set forth in this article and the *Historic Resources Design Manual*. The Certificate of Economic Hardship shall be valid for a period of 120 days from approval by the Board of Appeals, except as provided in Subsection 17.9.7 where an incentive plan has been proposed. Certificates of Economic Hardship shall not be transferable from the applicant to another subsequent owner of the same property.

B. Upon presentation by the applicant of a valid Certificate of Economic Hardship to the Planning Authority, the Certificate of Appropriateness shall be issued to the applicant within 14 days.

17.10 MAINTENANCE

17.10.1 Preservation of protected structures

A. All landmarks, and all contributing structures located in an historic district, shall be preserved against decay and deterioration by being kept free from the following structural defects by the owner and any other person or persons who may have legal custody and control thereof:

1. Deteriorated or inadequate foundation which jeopardizes its structural integrity.
2. Defective or deteriorated floor supports or any structural members of insufficient size to carry imposed loads with safety which jeopardize its structural integrity.
3. Members of walls, partitions, or other vertical supports that split, lean, list, or buckle due to defective material or deterioration which jeopardize its structural integrity.
4. Structural members of ceilings and roofs, or other horizontal structural members, which sag, split, or buckle due to defective materials or deterioration or are of insufficient size to carry imposed loads with safety which jeopardize its structural integrity.
5. Fireplaces or chimneys which list, bulge, or settle due to defective material or deterioration or are of insufficient size or strength to carry imposed loads with safety which jeopardize its structural integrity.
6. Lack of weather protection which jeopardizes the structural integrity of the walls, roofs, or foundation.

B. The owner or such other person shall repair such building, object, or structure within a specified period of receipt of a written order to correct defects or repairs to any structure as provided by (A) above, so that such structure shall be preserved and protected in accordance with the purposes of this article.

C. Any such order shall be in writing, shall state the actions to be taken with reasonable particularity and shall specify dates for compliance, which may be extended by the Planning Authority for reasonable periods to allow the owner to secure financing, labor or materials.

17.11 PENALTIES

17.11.1 Fines for violation

Failure to perform any act required by this article or performance of any act prohibited by this article or of any conditions or any certificate issued hereunder shall constitute a violation and be subject to a fine as provided in 30 A M.R.S. §4452. Each day on which there is failure to perform a required act or on which a violation exists shall constitute a separate violation for purposes of this section.

17.11.2 Additional penalties for willful violation or gross negligence

A. In addition to the penalties authorized by Subsection 17.11.1, a violation which is intentional, or occurs through gross negligence, shall be subject to the following provisions:
   1. No permit shall be issued under Chapter 6 of this Code of Ordinances for any alteration or new construction affecting such property for a period of five years following the last date of the violation, other than permits necessary to correct the violation. However, upon presentation of evidence satisfactory to the Planning Authority that the violation has been corrected, any remaining portion of the five-year prohibition on issuance of a permit may be waived.
   2. For a period of 25 years, any alteration or new construction on the property shall be subject to this article, whether or not any remaining structure or object on the property continues to have the cultural, historical, architectural, or archaeological character and integrity that caused it to be nominated or designated as a landmark or part of a district.
   3. As a condition for any new land use approval, the owner may be required to rebuild, reconstruct, restore, or replicate the structure or object on the property.

B. Paragraphs (A)(1) and (2) above shall not apply to violations which are limited to noncontributing structures.

17.11.3 Other remedies

Notwithstanding the provisions of Subsections 17.11.1 and 17.11.2, the City may institute appropriate proceedings in law and equity to prevent or remedy any violation of this article.

17.11.4 Liberal construction of article

This article shall be liberally applied and construed to effectuate the purpose of preservation set forth in Section 17.1.

17.11.5 Exception for dangerous buildings

This article shall not apply to any structure which has been ordered demolished by the municipal officers or a court, in accordance with 17 M.R.S. § 2851 et seq., its equivalent, as it may be amended from time to time, or to any structure which has been partially destroyed and is determined by the Planning Authority to represent an immediate hazard to the public health or safety, which hazard cannot be abated by reasonable measures specified by the Planning Authority, including without limitation securing apertures and/or erecting fencing.

17.12 APPEALS

The applicant, or any person who has participated in opposition to the application and demonstrates a particularized harm caused by the approval of any

application associated with this article, may appeal that decision in accordance with Article 2.

18 HOUSING

18.1 HOUSING PRESERVATION AND REPLACEMENT

18.1.1 Purpose

The purpose of the housing preservation and replacement ordinance is:

A. To promote and facilitate an adequate supply of housing, particularly affordable housing for all economic groups.

B. To limit the net loss of housing units in the city.

C. To preserve housing in zones where housing is permitted in the city for all residents in order to promote the health, safety, and welfare of its citizens.

18.1.2 Applicability

A. Except as otherwise provided in this section, the housing preservation and replacement ordinance shall apply to the loss of three or more dwelling units in a five-year period, provided that such dwelling units were a legally registered residential use as of July 1, 2002. For the purposes of this section, dwelling units shall be as defined in Article 3, but also include rooming units that people rent in or sleep in within lodging houses, dormitories, shelters, and sheltered care group homes.

B. Except as otherwise provided in this section, the housing preservation and replacement ordinance shall also apply to proposals that result in the loss of fewer than three dwelling units which were legally registered residential use as of July 1, 2002 for the purposes of creating surface parking.

C. For the purposes of this section, loss of dwelling units shall mean the elimination or conversion to nonresidential use of a dwelling unit and dwelling units that remain vacant for three years or more or are lost due to demolition unless the vacancy or demolition results from accidents outside of the owner's control, fire, natural disasters, or acts of war.

D. Determination of number of the dwelling units within a structure or structures and the number of units lost will be based on the records of the Building Authority indicating the legal, registered use of the property since July 1, 2002 through the time of application. The actual use of the property for purposes of applicability of this section may be rebutted by the owner by proof of documentary evidence including but not limited to photographs, letters, and sworn affidavits. The Planning Authority may conduct its own investigation of the actual use and shall determine the applicability of this section based on the totality of the evidence.

18.1.3 Exemptions

This section does not apply to:

A. Consolidation, elimination, or reconfiguration of one or more dwelling units within an existing structure, as long as all the resulting units remain as dwelling units after such consolidation, elimination, or reconfiguration, except as provided by (E) below. Conversion of a dwelling unit to a hotel or motel room shall not qualify for the exemption provided by the paragraph.

B. Proposals that result in a number of units equal to or greater than the number of units lost as determined by the Planning Authority.

C. Legally nonconforming dwelling units existing in zones which no longer permit residential uses.

D. Property which has been ordered demolished by the City, pursuant to 17 M.R.S. § 2851, et seq.,

as amended, except where it is determined by the Building Authority that the deterioration was caused by neglect or lack of maintenance.

E. Paragraph (A) above notwithstanding, the conversion to a nonresidential use of any dwelling units located on the ground floor of a building within a mixed-use zone.

18.1.4 Planning Authority approval required

Notwithstanding any other provision of this section, a proposal to demolish or to convert three or more dwelling units to a nonresidential use in a zone where such use is otherwise permitted must first obtain approval from the Planning Authority. In addition to any other requirements of the Land Use Code, the applicant must submit a statement certifying the number of dwelling units to be demolished or converted to nonresidential use, as well as a description of the characteristics of each of those units.

18.1.5 Tenant notification requirements

Prior to elimination as a result of demolition or conversion to nonresidential use, the owner shall:

A. Provide the Planning Authority a list containing the name of each tenant currently residing in the dwelling units to be demolished or converted to nonresidential use, as well as verification of compliance with tenant notice requirements of this subsection.

B. Deliver to each tenant who occupies such a dwelling unit a written notice to vacate the unit. The notice shall either be sent by certified mail, return receipt requested, or served in-hand. The notice will grant the tenant not less than 90 days from the date of receipt of the notice to vacate the unit.

C. File proof of service of the notice with the Planning Authority.

18.1.6 Housing replacement requirements

A. The Planning Authority shall require, as a condition of approval, that an owner shall replace any dwelling units that are demolished or converted to nonresidential use.

B. This requirement may be satisfied in any one of the following ways, which may be used in combination:

1. *Construction of units.* The construction of housing units within a new structure or a new addition either on site or off-site.
2. *Residential conversion.* The conversion of a nonresidential building to residential use.

18.1.7 Replacement unit requirement

In addition to the foregoing, all replacement units built pursuant to Subsection 18.1.6.B above shall:

A. Be located within the same United States census block group as the parcel from which the dwelling units are being removed or within 1,500 feet of the dwelling units being removed.

B. Not previously have been on the market as of the date of application.

C. Be situated within a development which has not been a candidate for site plan approval as of the date of the application.

D. Be comparable in size to the units replaced. For the purpose of this section, "comparable in size" means that the aggregate size of the replacement units will be no less than 80% of the size of the aggregate of the original units to be replaced.



18.1.8 Contribution to the Housing Trust Fund

A. The applicant may meet the requirements of this housing replacement ordinance by depositing $50,000 for each dwelling unit into the City's Housing Trust Fund.

B. Beginning on January 1, 2004 and annually thereafter, the amount of the contribution shall be adjusted by multiplying this amount originally deposited for each unit by a fraction, the denominator of which shall be the "Consumer Price Index for Urban Wage Earners and Clerical Workers ("CPI-W")," U.S. City Average, "All Items Index," as published by the United States Bureau of Labor Statistics ("the index") for January 1, 2003 year, and the numerator of which shall be the index for the same month in each subsequent year. In the event that the index is not then in existence, the parties shall use such equivalent price index as is published by any successor governmental agency then in existence, or, if none, then by such nongovernmental agency as may then be publishing an equivalent price index, in lieu of and adjusted to the index. If the index shall cease to use 1982-84 equals 100 as the basis of calculation, or if a substantial change is made in the terms or number of items contained in the index, the base index shall be adjusted to conform to such change, using such computation thereof, if available, as shall be employed by the United States Department of Labor in computing same. Notwithstanding anything herein to the contrary, contributions made after January 1, 2004 shall not be less than the amount originally required to be deposited for each rooming or dwelling unit.

18.1.9 Performance guarantee

Owners or affiliates must post a performance guarantee in the form of a letter of credit, or other security acceptable to the City attorney, in the amount equivalent to the amount the applicant would have been required to contribute to the City's Housing Trust Fund if the applicant had chosen that option pursuant to Subsection 18.1.8. Such a performance guarantee shall be valid for no more than three years, after which the full amount due shall be provided to the City's Housing Trust Fund if replacement units satisfying the conditions of this housing replacement ordinance do not have certificates of occupancy.

18.1.10 Partial waiver of replacement requirements

A. Any owner who has applied for site plan review for elimination or conversion to nonresidential use of dwelling units may apply to the Zoning Board of Appeals for a partial waiver from the housing replacement requirements of this section. Such waiver may be a downward adjustment of up to 50% of the owner's housing replacement obligation if the owner establishes to the board's satisfaction that:

1. The proposed development is consistent with the Comprehensive Plan.
2. The proposed development provides significant value and benefit to the immediate and surrounding neighborhood, including, but not limited to, community enhancement, social benefits or job creation.
3. The applicant demonstrates with objective evidence that the imposition of the requirements of this section would impose such an economic burden upon the

project relative to its scope that it renders the project impossible to develop.

4. The requested relief does not constitute a grant of a special privilege inconsistent with the limitations upon similar properties.

B. The Zoning Board of Appeals must make positive findings on each of the four criteria above in order for any such adjustment to be valid. An applicant aggrieved of a decision of the Zoning Board of Appeals may appeal a decision under this subsection pursuant to the provisions of Article 2.

18.1.11 Effect of other City ordinances

A. Nothing in this section shall permit the demolition or conversion to nonresidential use of dwelling units in residential property protected by Article 17, except as permitted by that ordinance.

B. A conditional zone may not be used to circumvent the application of this section. The terms of this section shall apply to any conditional zone which involves dwelling units affected by this section. Notwithstanding the foregoing, nothing herein shall be deemed to prevent the City and the applicant from agreeing to terms which exceed those imposed by this section by means of a conditional zone.

18.1.12 Appeals

Any applicant aggrieved by a decision of the Planning Authority under this section may appeal to the Zoning Board of Appeals within 30 days of that decision.

18.2 AFFORDABLE HOUSING

18.2.1 Purpose

It is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this section therefore is to offer incentives to developers to include units of affordable and workforce housing within development projects, thereby mitigating the impact of market rate housing construction, or the demonstrated increase in affordable housing needs resulting from the creation of new lower-income jobs, on the limited supply of available land for suitable housing, and helping to meet the housing needs of all economic groups within the city. The City believes that this section will assist in meeting the City's comprehensive goals for affordable housing, in the prevention of overcrowding and deterioration of the limited supply of affordable housing, and by doing so promote the health, safety, and welfare of its citizens.

TABLE 18-A: AFFORDABLE HOUSING FEE REDUCTIONS

% of New Units That are Low-Income or Workforce	Development Fee Discount	Cost of Work (Building Permit) Fees
5% up to but not including 10%	5% reduction	$10.50 per $1,000
10% up to but not including 15%	10% reduction	$9.90 per $1,000
15% up to but not including 20%	15% reduction	$9.35 per $1,000
20% up to but not including 25%	20% reduction	$8.80 per $1,000
25% or more	25% reduction	$8.25 per $1,000

18.2.2 Reduction of fees

A. Notwithstanding any other provision of this Land Use Code or Chapter 6 to the contrary, development fees shall be reduced by the City for an eligible project in the manner described in Table 18-A.

B. Development fees shall include:
   1. Site plan review and inspection fees.
   2. Subdivision review and inspection fees.
   3. Impact fees.
   4. Administrative fees.
   5. Construction and permit fees as described in Chapter 6 of the City of Portland Code of Ordinances.

   Development fees do not include any fees charged for review conducted by any party other than the City.

C. Eligible project shall mean a development project:
   1. That is permissible under the provisions of this Land Use Code in the zone in which it is proposed.
   2. That will be a single-family or multi-family dwelling, or subdivision consisting of a group of dwellings, and will not be located in an R-1 or R-2 zone.
   3. That creates new dwelling units, among which is at least one low-income or workforce housing unit for rent or sale, through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a nonresidential use to residential use, or any combination of these elements. Affordable housing units for sale or rent may not differ in exterior design from other units within an eligible project.
   4. Projects shall not be considered "eligible projects" solely because they are subject to Subsection 18.2.3.

D. The Planning Authority shall perform its review of an eligible project in as expedited a manner as is practical, without impairing the scope or thoroughness of the review. The Planning Authority may adopt administrative procedures to prioritize review of eligible projects and facilitate this expedited review.

E. The Planning Board shall make its best efforts to give priority in scheduling workshops and public hearings related to any plans or applications required for an eligible project that are within the Planning Board's jurisdiction, without impairing the scope or thoroughness of its review. At the conclusion of these public meetings, the Planning Board shall promptly issue a decision on all such plans and applications before it for consideration.

18.2.3 Ensuring workforce housing

A. **Purpose.** Based on the City's Comprehensive Plan and the City's 2015 housing study, it is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this subsection is to ensure that housing developments over a certain size provide a portion of workforce housing units and, by doing so, promote the health, safety, and welfare of Portland citizens.

B. **Applicability.** This subsection shall apply to development projects that create ten or more net new dwelling units for rent or for sale through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a nonresidential use to

residential use, or any combination of these elements, with the exception that projects using public financing requiring affordability restrictions, as defined by tax increment financing, U.S. Department of Housing and Urban Development funds such as HOME or CDBG, other federal, state, or local housing program, or the Low-income Housing Tax Credit program, shall be considered exempt.

C. **Standards.** Development projects subject to this subsection shall be subject to the following requirements:

1. Notwithstanding any language to the contrary in this Land Use Code, all developments of ten units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements of this subsection, unless they are within the India Street Form-Based Code Zone, in which case the review will be conducted administratively or by the Planning Board in accordance with the thresholds of site plan review for the district.
2. At least 25% of the units in the project shall meet the definition of workforce housing unit for sale or for rent as defined in Article 3. The project shall have the option of paying a partial fee-in-lieu as per (6) below or providing an additional unit on-site for any fractional value.
3. Projects shall not be segmented or phased to avoid compliance with these provisions. In cases where projects are completed in phases, affordable units shall be provided in proportion to the development of market rate units unless otherwise permitted through regulations.
4. Workforce units must be integrated with the rest of the development, must use a common entrance, and must provide no indications from common areas that these units are workforce housing units.
5. Workforce units need not be the same size as other units in the development but the number of bedrooms in such units, either on- or off-site, shall be no less than 10 percent of the total number of bedrooms in the development. For the purposes of calculating the number of bedrooms in a development, every 400 square feet in each market rate unit will count as a bedroom if the Planning Authority determines this method is appropriate in lieu of counting actual bedrooms.
6. As an alternative to providing workforce housing units, projects may pay a fee-in-lieu of some or all of the units. In-lieu fees shall be paid into the Housing Trust Fund. The fee for affordable units not provided shall be $150,000 per unit, adjusted annually in the same way as the fee under Subsection 18.1.8.
7. Workforce housing units for sale, if converted to workforce housing units for rent, shall become subject to the income limits and other requirements of such units.
8. If at least 33% of the units in a development are workforce units, the development is eligible for subsidy through an Affordable Housing TIF, subject to City Council approval.
9. The term of affordability for the required 25% workforce units provided shall be defined as shown in Table 18-B.

TABLE 18-B: MINIMUM TERM OF AFFORDABILITY FOR REQUIRED WORKFORCE UNITS

% of Workforce Units Provided	Minimum Term of Affordability
25%	30 years
50%	20 years
100%	10 years

TABLE 18-C: BONUSES FOR ELIGIBLE PROJECTS

% Low-income or Workforce Units	Density Permitted[1]	Additional Height Permitted[2]	Setback Reductions[3]
10-19%	1.1 x base	N/A	N/A
20-29%	1.2 x base	10 ft.	N/A
30-49%	1.3 x base	10 ft.	5 ft.
50-74%	2.5 x base	15 ft.	5 ft.
> 75%	2.5 x base	25 ft.	10 ft.

[1] "Base" is the number of units allowed under the zoning without this bonus but with any other bonuses applied. In R-P zones, multifamily is permitted with a "base" no less than 1 unit per 1,500 SF of land area.
[2] The maximum additional height permitted in the B-1/B-1b zones and the R-P zone shall be 15 feet. In addition, the maximum structure height is 50 feet within 750 feet of the Portland Observatory.
[3] Setback reductions are absolute reductions in front, side, and/or rear setback requirements. The maximum setback reductions in the B-1/B-1b and R-P zones shall be 5 ft.

D. **Implementing regulations.** Regulations to further specify the details of this subsection shall be developed, including, but not limited to:
   1. Specific methodology for income verification.
   2. Situations where less than permanent affordability might be considered.
   3. Guidelines for meeting the requirement that off-site units be "in the same neighborhood."

E. **Reporting to City Council.** In conjunction with the annual report on the Housing Trust Fund, the Planning Authority shall annually report on developments subject to this subsection, the number of units produced, the amount of fee-in-lieu collected, and the overall effectiveness of this subsection in achieving its stated purpose.

18.2.4 Density and dimensional bonuses and reductions

Notwithstanding any other provision of this Land Use Code to the contrary, in order to encourage low-income and workforce units in designated growth areas, eligible projects as defined under Subsection 18.2.2 may avail themselves of the following options:

A. **Density and dimensional bonuses.** The maximum number of units that would otherwise be allowed under this Land Use Code shall be increased for an eligible project in the manner described in Table 18-C, applicable where multi-family is allowed as a permitted or conditional use, with the exception of the I-B zone. Other dimensional bonuses related to height and setbacks shall only be applicable in in the B-1/B-1b, B-2/B-2b/B-2c, B-3/B-3b/B-3c, B-5, R-7, and R-P zones.

B. **Planned Residential Unit Developments (PRUDs).** In the R-3, R-5, and R-5a zones, any PRUD in which more than 50% of the units are low-income or workforce units for rent or for sale may utilize the following dimensional bonuses and changes:
   1. The maximum number of units that would otherwise be allowed under this land use code shall be increased by 2.5.
   2. Maximum number of units and maximum length of buildings do not apply but may be set through site plan review.

3. Minimum building setbacks may be reduced to 10 feet.
4. The PRUD may cross public rights of way provided that the right of way does not count towards minimum lot size nor towards any open space requirements.
5. Minimum recreation open space area is reduced to 200 square feet per dwelling unit of common area designated for recreational purposes by the residents. Minimum contiguous size and setbacks do not apply and shall be set through site plan review.
6. The Planning Board's *Design Manual*, design standards, and guidelines with respect to PRUDs shall apply in full to PRUDs utilizing this subsection.

C. **Unit size.** In order to be eligible for this subsection, the low-income and workforce housing units must meet Subsections 18.2.3(C)(3), (4), and (5).

D. **Term of affordability**. Affordable units under this section shall be deed-restricted to remain affordable for 30 years or the longest term permitted under federal, state, and local laws, whichever is longer. Such deed restrictions shall be recorded in the Cumberland County Registry of Deeds.

E. **Required public process.** The developer of the project must also commit to a good faith effort to communicate openly with affected properties as their process moves forward. At a minimum, no less than 30 days prior to application for site plan review, any project that wishes to take advantage of this subsection must hold a public meeting noticed to all properties within 500 feet of their site and post a sign on the property in question describing the proposed project, intent to submit an application to the City in 30 days (cite anticipated submission date), and contact information for the developer and the Planning Authority. The Planning Board may adopt regulations regarding the content and processes for noticing as part of the *Technical Manual*.

F. **Projects under 18.2.3.** Projects that are subject to Subsection 18.2.3 that choose to provide the required workforce housing units on site are eligible for a 25% increase in total permitted units. If an eligible project as defined under Subsection 18.2.2 is also subject to Subsection 18.2.3, the applicant shall have the option of utilizing either this bonus or any bonuses they are eligible for under Subsections 18.2.4(A) and (B) but not both.

18.2.5 Inclusionary zoning for hotel projects

A. **Purpose.** This subsection is based on City analysis, most specifically the analysis documented in the Greater Portland Council of Government study *Proposed Hotel Linkage Fee: Supportable Range* dated August 29, 2018, that finds that new hospitality developments create a need for new affordable housing. This need is the result of the fact that hospitality developments necessarily create a number of jobs that do not pay employees at a rate sufficient to allow those employees to afford market-rate housing in the City of Portland.

B. **Hotel projects.** For the purposes of this subsection, hotel projects shall include any hotel as defined in Article 3 consisting of 10 or more guest rooms for rent. Any expansion of an existing hotel by 10 or more rooms within

any five-year period will also be considered a hotel project.

C. **Hotel projects conditional uses**. Notwithstanding anything to the contrary in this Land Use Code, all hotel projects are conditional uses subject to Planning Board review on the condition that they comply with the requirements of this Subsection 18.2.5.

D. **Low-income housing minimum.** All hotel projects shall provide one unit of low-income housing for rent in the City of Portland for every 28 rooms in the hotel project, which shall meet the standards outlined in Subsections 18.2.3(C)(3), (4), and (5) and in the implementing regulations governing low-income units. This amount shall be rounded up to the nearest increment of 28 rooms. These units shall be deed restricted for the longest period permitted by law, shall not be used for short-term rentals of less than 30 days, and must be provided with distinct entrances from the street to delineate them from the hotel itself.

E. **Fee-in-lieu alternative.** As an alternative to providing low-income housing units under Subsection 18.2.5(D) above, a hotel project may pay a fee-in-lieu of $3,806 per hotel guest room. This amount shall be paid into the City's Housing Trust Fund and used for the purposes set forth in the ordinance and regulations applicable to that trust.

F. **Annual adjustments.** The amounts in Subsection 18.2.5(E) above shall be adjusted annually in the same way as the fee under Section 18.1.8.

G. **Regulations.** The Planning Board may promulgate implementing regulations based on this subsection.

18.3 JILL C. DUSON HOUSING TRUST FUND

18.3.1 Purpose

The purpose of enacting this section is:

A. To establish a City of Portland Housing Trust Fund for the promotion, retention, and creation of an adequate supply of housing, particularly affordable housing, for all economic groups and to limit the net loss of housing units in the city.

B. To serve as a vehicle for addressing very low, low, and median income housing needs through a combination of funds as set out in this article.

18.3.2 Establishment of the Jill C. Duson Housing Trust Fund

The City Council shall establish a special revenue account under the name "City of Portland Jill C. Duson Housing Trust Fund" (Housing Trust Fund). Deposits into the fund shall include:

A. Contributions from the City's housing replacement ordinance under Subsection 18.1.8.

B. In-lieu fees under Subsections 18.2.3 and 18.2.5.

C. Funds appropriated to be deposited into the fund by vote of the City Council.

D. Voluntary contributions of money or other liquid assets to the fund.

E. Any federal, state, or private grant or loan funds provided to the fund.

F. Interest from fund deposits and investments.

G. Repayments of loans made from the fund.

18.3.3 Management of the trust fund

The City Manager, or his or her designee, shall serve as the manager of the Housing Trust Fund. The responsibilities of the manager, subject to the orders of the City Council, shall include:

A. Maintaining the financial and other records of the Housing Trust Fund.

B. Disbursing and collecting Housing Trust Fund monies in accordance with the Housing Trust Fund annual plan.

C. Monitoring the use of monies distributed to successful applicants for Housing Trust Fund support to assure on-going compliance with the purposes of the fund and the conditions under which these monies were granted or loaned.

18.3.4 Housing Trust Fund annual plan

A. Each fiscal year, the City Council shall adopt a Housing Trust Fund annual plan. The City Manager shall submit to the City Council a recommended Housing Trust Fund annual plan, utilizing the revenues of the Housing Trust Fund as well as any other funds the manager may propose as appropriate. The housing committee of the City Council or such other committee as the council shall designate shall conduct public hearings on the recommended plan and refer the matter to the council for action.

B. The Housing Trust Fund annual plan shall include:

1. A description of all programs to be funded in part or in full by the Housing Trust Fund.
2. A description of how funds from the Housing Trust Fund will be distributed among very low-income, low-income and moderate-income households.
3. The amount of funds budgeted for programs funded in part or in full from the Housing Trust Fund.

C. Priority for the expenditure of funds collected pursuant to Section 18.1 shall be given to the creation of new housing stock, through either new construction or conversion of nonresidential buildings to residential use.

18.3.5 Distribution and use of the Housing Trust Fund's assets

A. All distribution of principal, interest, or other assets of the Housing Trust Fund shall be made in furtherance of the public purposes set out in Section 18.1.

B. During each year, the Housing Trust Fund shall disburse as grants or loans so much of the Housing Trust Fund's assets as the City Council in its discretion has approved in the Housing Trust Fund annual plan.

C. Funds shall not be used for City administrative expenses.

D. Funds shall not be used for property operating expenses or supporting services.

E. No grants or loans shall be awarded by the Housing Trust Fund to corporations, partnerships, or individuals who are delinquent at the time of application in the payment of property taxes or other fees to the City of Portland, who have been convicted of arson, who have been convicted of discrimination in the sale or lease of housing under the fair housing laws of the State of Maine, or who have pending violations of current City electrical, plumbing, building, or housing codes or zoning ordinances.

18.3.6 Term of affordability

A. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of an affordable rental or cooperative unit, the City of Portland shall impose enforceable requirements on the owner of the housing unit that the unit remain

affordable for the remaining life of the housing unit, assuming good faith efforts by the owner to maintain the housing unit and rehabilitate it as necessary. The remaining life of the housing unit shall be presumed to be a minimum of 30 years.

B. Whenever funds from the Housing Trust Fund are used for the acquisition, construction, or substantial rehabilitation of ownership housing, the City of Portland shall impose enforceable resale restrictions on the owner to keep the housing unit affordable for the longest feasible time, while maintaining and equitable balance between the interests of the owner and the interests of the City of Portland.

C. The affordability restriction requirements described in this subsection shall run with the land and the City of Portland shall develop appropriate procedures and documentation to enforce these requirements and shall record such documentation in the Cumberland County Registry of Deeds.

18.4 CONDOMINIUM CONVERSION

18.4.1 Purpose

The purpose of this section is to regulate the conversion of rental housing to condominiums, to minimize the potential adverse impacts of such conversion on tenants, to ensure that such converted housing is safe and decent, and to maintain a reasonable balance of housing alternatives within the city for persons of all incomes.

18.4.2 Applicability

This section shall apply to the conversion of any rental unit to a condominium unit. For the purposes of this section, developer shall mean any person or other legal entity, but not including an established lending institution unless it is an active participant in a common promotional scheme, who, whether acting as principal or agent, records a declaration of condominium that includes real estate, any portion of which was previously a rental unit.

18.4.3 Protection of tenants

A. **Notice of intent to convert.** A developer shall give to each tenant, meaning any occupant in lawful possession of a rental unit, whether by lease, sublease, or otherwise, written notice of intent to convert at least one 120 days before the tenant is required by the developer to vacate. If a tenant has been in possession of any unit within the same building for more than four consecutive years, the notice period shall be increased by 30 additional days for each additional year, or fraction thereof, to a maximum of 240 additional days. The notice shall set forth specifically the rights of tenants under (A), (B), and (C) of this subsection and Subsection 18.4.4, and shall contain the following statement:

If you do not buy your apartment, the developer of this project is required by law to assist you in finding another place to live and in determining your eligibility for relocation payments. If you have questions about your rights under the law, or complaints about the way you have been treated by the developer, you may contact the Department of Permitting & Inspections, City of Portland, 389 Congress Street, Portland, Maine 04101.

B. If the notice specifies a date by which the tenant is required to vacate, the notice may

also serve as a notice of termination under the applicable law of forcible entry and detainer, if it meets the requirements thereof. The notice shall be hand delivered to the tenant or mailed, by certified mail, return receipt requested, postage prepaid, to the tenant at the address of the unit or such other address as the tenant may provide. The notice shall be effective when actually received. No tenant may be required by a developer to vacate without having been given notice as required herein, except for the reasons specified in the applicable law of forcible entry and detainer, and in accordance with the procedures thereof. The terms of a tenancy, including rent, may not be altered during the notice period, except as expressly provided in a preexisting written lease. If, within 120 days after a tenant is required by a developer to vacate, the developer records a declaration of condominium without having given notice as required herein, the developer shall be presumed to have converted in violation of this article.

C. **Option to purchase.** For a 60-day period following the giving of notice as required in Subsection 18.4.3(A), the developer shall grant to the tenant an exclusive and irrevocable option to purchase the unit of which the tenant is then possessed, which option may not be assigned. If the tenant does not purchase or contract to purchase the unit during the 60-day period, the developer may not convey or offer to convey the unit to any other person during the following 180 days at a price or on terms more favorable than the price or terms previously offered to the tenant, unless the more favorable price or terms are first offered exclusively and irrevocably to the tenant for an additional 60-day period. This subsection shall not apply to any rental unit that, when converted, will be restricted exclusively to nonresidential use. If, within two years after a developer records a declaration of condominium, the use of any such unit is changed such that but for the preceding sentence, this subsection would have applied, the developer shall be presumed to have converted in violation of this article.

18.4.4 Relocation payments

If the tenant does not purchase the unit, the developer shall, before the tenant is required by the developer to vacate, make a cash payment to the tenant in an amount equal to the amount of rent paid by the tenant for the immediately preceding two months, provided that this requirement shall not apply to any tenant whose gross income exceeds 80% of the median income of the Portland SMSA, adjusted for family size, as determined by the U.S. Department of Housing and Urban Development at the time notice is given as required in Subsection 18.4.3. Additionally, the developer shall, upon demand, provide assistance to the tenant in the form of referrals to other reasonable accommodations and in determining the tenant's eligibility for relocation payments as provided herein.

18.4.5 Conversion permit

Before conveying or offering to convey a converted unit, the developer shall obtain a conversion permit from the Building Authority. The permit shall issue only upon receipt of a completed application therefore in a form to be devised for that purpose, payment of a fee of $25,000 per converted unit, to be adjusted annually in the same way as the fee

under Chapter 14, Section 18.1.8 of this code, at least $1,000 of which shall be appropriated to the Housing Safety Office for the administration and enforcement of the Rent Stabilization Ordinance, Chapter 6, Articles XII and XIII of this code, and the remainder of which shall be paid into the Jill C. Duson Housing Trust Fund, and a finding, upon inspection, that each unit, together with any common areas and facilities appurtenant thereto, is in full compliance with all applicable provisions of Chapter 6, Articles II, III, and V and Chapter 10, Article II of the City of Portland Code of Ordinances, and the Life Safety Code as adopted by the state. The developer shall post a copy of the permit in a conspicuous place in each unit and shall make copies available to prospective purchasers upon request.

18.4.6 Variation by agreement

No provision of or right conferred by this Section 18.4 may be waived by a tenant, by agreement or otherwise, and any such waiver shall be void. Any attempt to require, encourage, or induce a tenant to waive any provision hereof, or right conferred hereby, shall be a violation of this article. Nothing herein shall be construed to void any term of a lease which offers greater rights than those conferred hereby.

18.5 RELOCATION OF DISPLACED TENANTS

18.5.1 Purpose

The purpose of this section is to encourage the retention of a diverse housing supply throughout the downtown and in areas readily accessible to the downtown, to ensure that persons displaced as the result of redevelopment of residential units to nonresidential uses within the B-3 Downtown Business zone are treated fairly and consistently, and to ensure that persons so displaced will be relocated at the reasonable expense of the developer to comparable housing at a location providing comparable access to services and amenities.

18.5.2 Notice and eligibility for relocation assistance

When a proposed development will result in the displacement of residents of an existing structure, the developer of the property shall give all tenants written notice as set forth below and shall provide relocation assistance as set forth below for any tenant whose gross income is 80% or less of the median income of the Portland SMSA, adjusted for family size, as determined by the U.S. Department of Housing and Urban Development at the time the developer gives the tenant written notice of intent to cause removal of the residential unit. Such written notice shall be given to the tenant at least 120 days before the tenant shall be required to vacate the premises and shall contain the following statement:

> *The developer of this project is required by law to assist you in finding another place to live and in determining your eligibility for relocation payments. If you have questions about your rights under the law, or complaints about the way you have been treated by the developer, you may contact the Department of Planning and Urban Development, City of Portland, 389 Congress Street, Portland, Maine 04101.*

18.5.3 Relocation assistance for all tenants

The developer shall provide, upon demand, assistance to all tenants who will be displaced by the development in the form of referrals to other

reasonable accommodations and in determining the tenants' eligibility for relocation payments as provided herein. The developer shall make relocation payments to eligible tenants in accordance with the schedule adopted by the City Council in Subsection 18.5.4.

18.5.4 Schedule of relocation payments for eligible tenants

The developer shall, before the tenant is required by the developer to vacate, make a cash payment to the tenant in an amount equal to the amount of rent paid by the tenant for the immediately preceding two months.

19 OFF-STREET PARKING & LOADING

19.1 OFF-STREET PARKING

19.1.1 General

Off-street parking, either by means of structured or surface spaces, in addition to being a permitted principal use in certain zones, shall be considered as an accessory use when required or provided to serve principal uses. The provisions of this article shall apply to parking as an accessory use.

19.1.2 Uses requiring off-street parking

Except as provided in Table 19-B and as provided elsewhere in this article, minimum off-street parking requirements shall be as provided in Table 19-A. For any use not listed in Table 19-A, the parking provisions for the most similar use, as determined by the Building Authority or the Planning Authority, shall apply.

19.1.3 Rules of calculation

A. **Floor area.** Unless otherwise stated, all square footage-based off-street parking standards shall be computed on the basis of gross floor area used or intended to be used for service to customers, patrons, clients, or patients. It need not include floors or parts of floors used principally for non-public purposes, such as bulk storage, cellar, or food preparation areas. These provisions notwithstanding, the "floor area" used as the basis for computing off-street parking requirements shall never be less than 80% of the total gross floor area.

B. **Fractions.** Any fraction greater than or equal to 0.5 will be rounded up to the nearest whole number. Any fraction less than 0.5 will be rounded down to the nearest whole number.

C. **Multiple uses.** When two or more principal uses or separate establishments are located within the same lot, off-street parking shall be provided for each principal use or separate establishment according to Table 19-A, unless joint use is approved under Subsection 19.1.5.

D. **Accessory uses.** Off-street parking shall not be calculated separately for accessory uses.

E. **New construction.** In the case of new construction, the minimum off-street parking requirements in Table 19-A shall be met.

F. **Changes of use.** In the case of changes of use, the only additional off-street parking required shall equal the difference between the parking required for the new use and the parking required for the existing use.

G. **Building additions or alterations.** In the case of additions or alterations which increase the number of units or square footage of a given use, the only additional off-street parking required shall equal the difference between the parking required for the use in the post-development condition and the parking required for the use in the pre-development condition.

19.1.4 Shared use vehicles

The required parking for multi-family residential buildings may be partially met through provision of shared-use vehicles, which are vehicles available for use on a fee basis to the residents of the building. One shared use vehicle shall be deemed to satisfy eight required car spaces, but in no case shall more than 50% of the parking requirement be satisfied by a shared vehicle use.

TABLE 19-A: OFF-STREET PARKING MINIMUMS

	Vehicular		Bicycle
Single-, two-, or multi-family units	1 space/ dwelling unit		2 spaces/5 units
Lodging house	1 space/5 rooming units[1]		
Special needs independent dwelling unit	1 space/4 dwelling units, plus 1 space/staff member normally present at any one time		
Sheltered care group home	1 space/2 employees		
Congregate care facilities	1 space/3 dwelling units		
Emergency shelters	1 space/2 employees		2 spaces/10 vehicle parking spaces for the first 100 vehicle spaces required, plus 1 space/20 vehicle parking spaces thereafter[4]
Long-term, extended care, and intermediate care facilities	1 space/5 beds, plus 1 space/employee normally present during weekday morning shift		
Governmental uses	1 space/400 SF of floor area		
Hospitals and clinics	1 space/500 SF of floor area		
Places of assembly	1 space/150 SF of floor area used for assembly purposes[2]		
Preschool facilities	1 space/staff member normally present at any one time		
Schools	For students up to 15 years	1 space/room used for instruction purposes	
	For students 16 years and older	1 space/10 seats used for instruction purposes or, if no fixed seats, 1 space/100 SF used for instruction purposes	
Bed and breakfasts	1 space/2 guest rooms for first 4 guest rooms, plus 1 space/additional room thereafter[3]		
General offices	1 space/400 SF of floor area		
Hostels	1 space/8 beds or, if within ¼ mi. of a transit stop, 1 space/12 beds		
Hotels	1 space/4 guest rooms		
Retail	1 space/200 SF of first floor area in excess of 2,000 SF, plus 1 space/700 SF for each floor above		
Restaurants and bars	1 space/150 SF of floor area		
Theaters, performance halls, funeral homes	1 space/5 seats or, if no fixed seats, 1 space/100 SF of assembly space		
Industrial uses	1 space/1,000 SF of floor area in excess of 3,000 SF not including area catering to retail		

[1] Except in the R-5 zone, where the requirement shall be 1 space/2 rooming units.
[2] Except for neighborhood centers which primarily serve clientele from the surrounding neighborhood, where the parking requirement shall be 1/1,000 SF of floor area
[3] Except in the I-B zone, where no off-street parking shall be required for beds and breakfasts.
[4] Development with under 10 required vehicular parking spaces shall provide at least two bicycle parking spaces.

TABLE 19-B: CATEGORICAL EXCEPTIONS TO OFF-STREET PARKING MINIMUMS

Categorical Vehicular Exceptions	
Major site plans	The Planning Board shall establish the off-street parking requirement based on a parking study.
Affordable housing	Two spaces are required for every 3 units, except that the Planning Board may establish a lesser parking requirement regardless of the size of the structure.
Multi-family housing	The Planning Board may establish a parking requirement that is less than the normally required number of spaces upon a finding of unique conditions that result in a lesser parking demand, such as housing for persons who cannot drive, housing that participates in a Transportation Demand Management program, or housing which includes permanent restrictions on automobile usage, and which is permanently restricted from utilizing resident on-street parking stickers.
Historic structures	No off-street parking in excess of that existing on or servicing the lot as of March 15, 1999 shall be required.[1]
Accessory Dwelling Units	No off-street parking shall be required.
Transit proximate development and uses	No off-street parking shall be required within ¼ mile of fixed route transit service. New uses or changes of use of more than 10,000 SF taking advantage of this exception shall be required to provide a Transportation Demand Management Plan if they use this provision in lieu of parking requirements.
Residential uses	No off-street parking shall be required for the first four dwelling units, not counting accessory dwelling units, except as otherwise specified herein.

Zone-Based Vehicular Exceptions		
	Residential	**Nonresidential**
IR-1/I-B		Off-street parking requirements for nonresidential uses shall be reduced by 75%.
IR-3	No off-street parking required.	
R-OS	Off-street parking shall be adequate to serve projected employee and visitor needs.	
B-2/B-2b/B-2c		For changes of use of 10,000 SF or less, no off-street parking shall be required for nonresidential uses.[2]
IS-FBC	No off-street parking required for first three dwelling units.	For changes of use of 10,000 SF or less, no off-street parking shall be required for nonresidential uses.[2]
B-3	No off-street parking required for changes of use.	
B-5	No off-street parking required.	
B-6	Off-street parking requirement shall be determined based on a parking study.	
B-7	Off-street parking requirement shall be determined based on a parking study.	
Waterfront Zones	Off-street parking requirements shall be reduced by 50%. No off-street parking required in the WCZ.	

[1] Exception applies for uses within any contributing structure in a local or national register historic district or locally-designated or national register landmark building under Article 17. However, parking may not be decreased from that existing on or servicing the lot on March 15, 1999 except to the extent necessary to meet the requirements of the Americans with Disabilities Act.

[2] If the number of existing parking spaces serving the site is less than the requirements of this article, that number of parking spaces may not be reduced lower than the required amount prior to the change of use except to the extent necessary to meet the requirements of the Americans with Disability Act, to the extent it is a requirement or a condition of site plan review, or to the extent the change of use requires less parking than the previous use and the total number of parking spaces serving the site exceeds the parking requirements of this article for all uses on the site including the change of use. A newly constructed building, a building addition, or a change of the use of a building exceeding 10,000 SF of floor area, shall provide parking as required by this article.

19.1.5 Joint use

The joint use of a parking facility by two or more principal uses may be permitted where it is clearly demonstrated that the parking facility will substantially meet the intent of the off-street parking requirements by reason of variation in the probable time of maximum use by patrons or employees among such establishments.

19.1.6 Off-site parking

Required off-street parking shall be located on the same lot with the principal use, except as follows:

A. **For uses in residential zones.** Off-street parking may be located off-site upon an applicant demonstrating the following:
   1. Off-street parking cannot reasonably be provided on the same lot with the principal use.
   2. Off-site parking is proposed to be located no more than 300 feet from the principal use, measured along lines of public access.
   3. The premises to be used for off-site parking are held, either under the same ownership or by lease, by the applicant. Evidence of such control, either by deed or lease, shall be provided.
   4. The premises to be used for off-site parking have adequate parking supply to meet any parking required for existing uses on those premises.
   5. The premises to be used for off-street parking are located in the same or less restrictive zone as that of the building or use served.

B. **For uses in nonresidential zones.** Off-street parking may be located off-site at a distance of no more than 100 feet from the principal use, measured along lines of public access. Off-street parking may be located further than 100 feet from the principal use provided the applicant demonstrates the following:
   1. Off-site parking is proposed to be located no more than 1,500 feet from the principal use, measured along lines of public access.
   2. The premises to be used for off-site parking are held, either under the same ownership or by lease, by the applicant. Evidence of such control shall be provided by showing, at a minimum, a signed letter of intent, purchase and sale agreement, or option for sale or lease at the time of approval, and an executed deed or lease prior to issuance of any certificate of occupancy for review and approval by Corporation Counsel. Off-site parking leases shall be for a term of not less than five years with an option to renew.
   3. The premises to be used for off-site parking have adequate parking supply to meet any parking required for existing uses on those premises.

19.1.7 Fee-in-lieu of parking

A. **Applicability.** Any development subject to site plan review shall either provide the required parking on- or off-site or pay a fee-in-lieu of parking of not less than $5,000 per space not provided. Fees shall be deposited into the Sustainable Transportation Fund, as established in Section 19.3 of this article. The fee shall be paid on or before the date upon which a certificate of occupancy is issued. Payment shall be secured by a bond at the time the amount of the fee is set.

B. **Annual adjustment.** The value of the fee shall be adjusted annually according to the

Engineering News Record construction index as published on January 1st of the current calendar year. The fee adjustment shall be calculated by dividing the index amount published on January 1st of the current year by the index amount published on January 1, 2010 ($8,660), multiplied by the minimum fee amount of $5,000. The base fee, the adjustment index, or the calculation method may be otherwise amended by action of the City Council from time to time.

19.1.8 Location of vehicular parking

A. In general

1. Tandem vehicular parking shall be permitted for residential uses, and for developments where managed parking is part of an approved site plan.
2. Parking shall be prohibited in the front yard, which shall mean the open space between the street line and building, except for parking within driveways on lots containing single- or two-family dwellings. "Driveway," as used in this paragraph, shall not include any turnaround area.
3. Where an existing front yard exceeds a maximum front setback, a maximum of 10% of the total parking area provided on the site may be located between the principal structure and the street.

B. In residential zones

1. Where off-street parking for six or fewer vehicles is required or provided, parking located within five feet of any lot line shall be located 50 feet or greater from any street line, except for in the R-6 zone, and parking in all residential zones shall maintain the minimum front setback from any street line, except on a corner lot where parking shall maintain the side setback on a side street.
2. Where off-street parking for more than six vehicles is required or provided:
   a. Parking for nonresidential uses shall be located 25 feet or greater from any residential structure on an adjoining lot.
   b. Where vehicles are to be or may be parked within a required setback:
      i. A continuous, permanently-anchored curb guard, at least five feet from the lot line, shall be provided between such off-street parking and that lot line involved, the top of which shall be at least 20 inches in height so that bumpers of vehicles cannot project beyond its face.
      ii. Where such off-street parking abuts a lot in residential use or an unoccupied lot located in a residential zone, a fence, not less than 48 inches in height, shall be provided and maintained between such off-street parking and that part of the lot line involved.

C. In mixed-use zones

1. Where off-street parking for more than six vehicles is required or provided:
   a. Where vehicles are to be or may be parked within 10 feet of any street line, a continuous, permanently-anchored curb guard shall be provided and maintained between such off-street parking and that part of the street line involved so that vehicle

bumpers cannot project beyond its face toward the street line involved.

b. Where such off-street parking abuts a lot in a residential zone or in residential use, a fence, not less than 48 inches in height, shall be provided and maintained between such off-street parking and that part of the lot line involved.

2. In the B-7 zone, off-street surface parking shall be located 35 feet or greater from any street, except in the case of:

a. A lot where 80% of the frontage has a building within 10 feet of that frontage.

b. A lot where all or a portion of the 35-foot setback area had a gravel surface not exceeding 15,000 square feet as of 9/29/15 and the principal use served is in a building meeting the minimum height requirements of the Bayside Height Overlay or of 25,000 square feet or greater. In these cases, the total number of spaces within the 35-foot setback and elsewhere on site shall not exceed parking requirements. Parking within the 35-foot setback shall provide stormwater quality treatment.

c. The 35-foot setback requirement shall not apply to a driveway located perpendicular to the site.

19.1.9 Off-street parking restricted

Off-street parking shall not include:

A. More than one commercial motor vehicle in any residential zone, the R-P zone, or the B-1/B-1b zones.

B. More than six commercial motor vehicles in the B-2/B-2b/B-2c zone.

C. Loading, sales, dead storage, repair, or servicing of any kind, except when customarily incidental or accessory to a conforming principal use when located in an industrial zone.

D. Notwithstanding Section 19.1.9(A), any truck body, commercial trailer, or similar commercial vehicles in any residential zone or the R-P zone.

19.2 OFF-STREET LOADING

19.2.1 Uses requiring off-street loading

Off-street loading is not required in the B-6, B-7 or WCZ zones. In all other zones, the minimum off-street loading bays or loading berths shall be as provided in Table 19-C. These minimum requirements shall be met and maintained in the case of new construction, alterations, and change of use.

19.2.2 Design of off-street loading

Each loading bay shall have minimum dimensions of 50 feet by 14 feet and may be located either within a building or outside and adjoining an opening in the building, except that in the case of hospitals and intermediate, long-term, and extended care facilities, the off-street loading area provided for ambulance and other emergency vehicles shall be exempt from the minimum dimensional requirement but shall be of sufficient width and depth to permit expeditious access and egress from the loading area. Every part of such loading bay shall be located completely off the street. In case trucks, trailers, or other motor vehicles larger than the dimensions of the minimum loading bay habitually serve the building in question, additional space shall be provided so that such vehicle shall park or stand completely off the street.

TABLE 19-C: OFF-STREET LOADING REQUREMENTS

Use and Size (Gross Floor Area)		Minimum Number of Bays or Berths
General offices and hotels (> 100,000 SF)		1
Retail and industrial	5,000 - 40,000 SF	1
	40,000 - 100,000 SF	2
	100,000 - 160,000 SF	3
	160,000 - 240,000 SF	4
	240,000 - 320,000 SF	5
	320,000 - 400,000 SF	6
	Each 90,000 over 460,000 SF	1 additional
Hospitals and intermediate, long-term, and extended care facilities		2 off-street loading areas shall be provided whereby one service area for ambulance and other emergency vehicles shall be separate from one service area accommodating supply vehicles, and whereby both off-street loading areas shall be separate from parking and entrance locations.

19.2.3 Requirements for additional bays, alterations, or modifications

Any additional loading bays which are provided in excess of the requirements of this article or any loading bays otherwise established shall meet the requirements of Subsection 19.2.2, and no alterations or modifications shall be made in an existing building or structure whereby loading openings or platforms are constructed or established unless the provisions of Subsection 19.2.2 are met.

19.2.4 Nonconformity as to off-street loading

A building which is nonconforming as to the requirements for off-street loading shall not be enlarged or added to, unless off street loading is provided sufficient to satisfy the requirements of Article 19 for both the addition or enlargement and the original building or structure.

19.3 SUSTAINABLE TRANSPORTATION FUND

19.3.1 Establishment

By act of the Portland City Council, the Sustainable Transportation Fund is hereby established.

19.3.2 Purpose

The purpose of the Sustainable Transportation Fund is to implement those provisions of the *Peninsula Transit Study Report and Action Plan*, as adopted by the Portland City Council on August 3, 2009, which recommended creation of a Sustainable Transportation Fund. The *Peninsula Transit Study Report and Action Plan* established a goal to reduce the number and impact of single-occupancy vehicle trips to and from the Portland Peninsula. Achieving this goal requires transportation choice for residents, businesses, and visitors. This ordinance establishes a funding source for broadening transportation choice and facilitating development with lower traffic impacts and reduced parking requirements. The mechanism and protocol for collecting fees and spending funds

are consistent with state requirements for utilizing transportation-related impact fees.

19.3.3 Deposits and expenditures

A. **Deposits.** The City shall establish a Sustainable Transportation Fund to be set up as a separate account within the City. Deposits into the fund shall include:
   1. 100% of the revenue generated by the fee in-lieu of parking program, as established in Subsection 19.1.7 of this article.
   2. Funds appropriated for deposit into the fund by vote of the City Council.
   3. Voluntary contributions of money or other liquid assets to the fund.
   4. Any federal, state or private grant or loan funds provided to the fund.

B. **Accounting of deposits**. Funds from the fee in-lieu of parking program, as established in Subsection 19.1.7, shall be individually collected and accounted for by project and the geographic fee in-lieu of parking subdistrict in which it is located.

C. **Funds to be used within 10 years of deposit.** Funds collected under the fee in-lieu of parking ordinance shall be spent on eligible infrastructure and/or capital improvements or expenses within 10 years of the date of collection. Any funds which are not so utilized and which exceed the City's actual costs of implementing the infrastructure improvement or improvements for which such fees were collected shall be refunded. Refunds shall be paid to the owner of records of the property for which the funds were collected, determined as of the date the refund is made.

D. **Use of funds by subdistrict.** Funds collected under the fee in-lieu of parking ordinance shall be spent on permitted expenditures of the fund within the same geographic fee in-lieu of parking sub-district as the contributing project. However, for projects located within 250 feet of an abutting subdistrict, contributed fees can be used for eligible infrastructure projects in either abutting subdistrict.

E. **Permitted expenditures of the fund.** The Sustainable Transportation Fund may only be expended on the activities as described below:
   1. Funds collected as fees in-lieu of parking shall be expended toward capital transportation improvements. Such capital improvements shall include but are not limited to the following:
      a. Parking infrastructure:
         i. Shared use, publicly accessible parking facilities.
         ii. Publicly accessible bicycle racks and bicycle parking shelters.
      b. Transit capital improvements and expenses:
         i. Bus shelters, bus turnouts, transit signage and other transit amenities.
         ii. Buses and transit vehicles.
         iii. Transit and transportation information systems.
         iv. Fixed guide way and/or rail transit systems.
      c. Pedestrian and bicycle infrastructure:
         v. Multi-use trails and non-vehicular transportation corridors.
         vi. Pedestrian infrastructure and amenities located on publicly accessible rights-of-way including but not limited to crosswalks, signalization, landscaping, street

furniture, wayfinding signage, traffic calming, and lighting.

vii. New public sidewalks and new bicycle lanes along publicly accessible rights of way or corridors where such facilities are not previously provided.

d. Other such improvements intended to enhance transportation choice and promote transit and non-automotive transport.

2. Funds collected or appropriated by means other than from a fee in-lieu of parking may be used for any of the capital transportation improvements listed above, and for any of the following uses:

a. Transportation Demand Management program administration.

b. On- or off-peninsula transit and/or non-automotive transportation capital or operating expenses.

c. Transit and/or non-automotive transportation promotion and education material.

d. Other such programs or improvements intended to enhance transportation choice and promote transit and non-automotive transport for the City of Portland.

F. **Annual Sustainable Transportation Plan and appropriations schedule.** Annually, the City Manager shall submit to the City Council a recommended sustainable transportation plan and appropriations schedule, utilizing the revenues of the Sustainable Transportation Fund. The Transportation Committee of the City Council or such other committee as the council shall designate shall recommend and refer the plan and appropriations schedule to the City Council for action.

20 SIGNS

20.1 PURPOSE

This article has been adopted to ensure that all signs installed in the city are compatible with the unique character and environment of the community through a comprehensive system of reasonable, effective, consistent, content-neutral, and nondiscriminatory sign standards and requirements. More specifically, this article is intended to:

A. Ensure that all signs are compatible with the unique character and environment of the City of Portland, and that they support the desired urban design and development patterns of the various zones, overlay zones, and historic areas within the city.

B. Balance public and private objectives by allowing adequate avenues for both commercial and non-commercial messages.

C. Improve pedestrian and traffic safety by promoting the free flow of traffic and the protection of pedestrians and motorists from injury and property damage caused by, or which may be fully or partially attributable to, cluttered, distracting, and/or illegible signage.

D. Prevent property damage, personal injury, and litter caused by signs that are improperly constructed or poorly maintained.

E. Protect property values, the local economy, and quality of life by preserving and enhancing the appearance of the streetscape.

F. Provide consistent sign design standards that enable the fair and consistent enforcement of these sign regulations.

20.2 DEFINITIONS

Sign. A structure, device, figure, display, message placard, or other contrivance, or any part thereof, situated outdoors or indoors, which is designed, constructed, intended, or used to advertise, provide information in the nature of advertising, provide historical, cultural, archeological, ideological, political, religious, or social information, or direct or attract attention to an object, person, institution, business, product, service, message, event, or location by any means, including words, letters, figures, designs, symbols, fixtures, colors, or illumination.

Sign, animated. Flashing, blinking, reflecting, revolving, or other similar sign with visibly moving or rotating parts or visible mechanical movement of any kind.

Sign, awning. Any sign that is part of or attached to an awning, canopy, or other fabric, plastic, or structural protective cover over a door, entrance, window, storefront, or outdoor service area.

Sign, A-Frame. A pedestrian-oriented self-supporting sign that is not permanently affixed to a structure or the ground.

Sign, bandit. Any advertising sign that is placed on public property or on private property without the consent of the property owner or as authorized in this article.

Sign, blade. A permanent, pedestrian-scaled sign mounted either to the wall of building by means of a bracket or attached to the underside of a lintel,

arch, or other overhead structure above a porch or walkway and which is typically hung perpendicular to the wall of the building.

Sign, building identification. A sign consisting of letters or numbers applied to a building wall, engraved into the building material, or consisting of a sculptural relief which contains the name of the building or describes its function, but which does not advertise any individual tenant of the building or any products or services offered.

Sign, building-mounted. Sign attached to, connected to, erected against the wall, parapet, or fascia of a building or structure.

Sign, bus shelter. As specified in 23 M.R.S.A. §1908-A, any outdoor sign visible to the traveling public from public right-of-way that is affixed to a publicly-owned bus shelter operated by a transit agency.

Sign, cabinet. A permanent building-mounted or freestanding sign with its text and/or logo symbols and artwork on a translucent face panel that is mounted within a metal frame or cabinet either that contains the lighting fixtures which illuminate the sign face from behind.

Sign, canopy. A sign that is printed, painted, or affixed to a canopy, typically used to accent building entries.

Sign, center identification. A sign identifying the name of a building, office park, or shopping center only.

Sign, changeable copy. A sign that is designed so that characters, letters, numbers, or illustrations can be manually or mechanically changed or rearranged without altering the face or surface of the sign. For the purposes of this article, a sign whose message changes more than eight times per day is considered an animated sign and not a changeable copy sign.

Sign, directional. A sign erected to inform the viewer of the approximate route, direction, or location of a facility or use.

Sign, direct illumination. Illumination resulting from light emitted directly from a light bulb or light fixture, and not light diffused through translucent signs or reflected from other surfaces such as the ground or building face.

Sign, directory. A permanent sign which provides information in a list, roster, or directory format.

Sign, Electronic Message. A sign or portion of a sign that utilizes computer-generated messages or some other electronic means of changing its characters, letters, numbers, illustrations, display, color, and/or light intensity, including animated graphics and video, by electronic or automatic means. An Electronic Message Sign is not a Single- or Two-Color LED Sign.

Sign, externally-illuminated. A sign whose illumination is reflected from its source by the sign surface to the viewer's eye, the source of light not being visible to the viewer.

Sign, feather banner. A temporary sign that is taller than it is wide and made of a flexible material (typically cloth, nylon, or vinyl) and mounted to a pole to fly freely.

Sign, freestanding. A permanent sign that is erected or mounted on its own self-supporting permanent structure or base detached from any supporting elements of a building.

Sign, fuel pump topper. A temporary sign affixed to the top of an operable fuel dispensing pump used to advertise goods offered for sale on the same parcel on which the fuel pump is located.

Sign, incidental. A sign which provides incidental information, including security, credit card acceptance, business hours, open/closed, directions to services and facilities, or menus.

Sign, individual letter. A cut-out or etched letter or logo which is individually mounted on a building wall or freestanding sign.

Sign, internally illuminated. Any sign in which the source of light is entirely enclosed within the sign and not directly visible.

Sign, landmark. A permanent sign indicating individual historic landmarks, local historic districts, or otherwise determined by the City to have attained a high degree of community, cultural, aesthetic, or historic significance.

Sign, logo. A stylized group of letters, words, numbers, or symbols used to represent and distinguish a business, product, or organization.

Sign, marquee. A permanent sign structure placed over the entrance to a building and typically used for a theater or other entertainment use.

Sign, monument. A permanent freestanding sign with a solid base that is at least 60% the width of the sign face.

Sign, off-premise. Any sign that directs attention to a business, commodity, service, entertainment, product, structure, use, or property different from a structure or use existing on the property where the sign is located, and/or any sign on which space is rented, donated, or sold by the owner of said sign or property for the purpose of conveying a message.

Sign, permanent. A sign constructed of durable materials and intended to exist for the duration of time that the use or occupant is located on the premises.

Sign, pole. An elevated permanent sign typically supported by one or two poles, posts, or columns that do not meet the base width requirements for a monument sign.

Sign, projecting. A permanent sign that is attached to and extends perpendicular from a building from the wall.

Sign, service island canopy. A permanent sign mounted on or under a service island canopy, including on a fascia.

Sign, single-color or two-color LED. A permanent or temporary sign or portion of a sign composed of single-color or two-color LEDs that displays static or changeable sign messages using characters, letters, and numbers only. Examples of these signs include, but are not limited to, "open" or "closed" signs, time

and temperature" signs, or signs indicating the number of available spaces in a parking garage.

Sign, temporary. A sign constructed of paper, cloth, or similar expendable material, which is intended for a definite and limited period of display and which is designed to be moved easily and is not permanently affixed to a structure, sign area, or window.

Sign, wall. A permanent sign affixed to or erected against the wall or fascia of a building or structure, with the exposed face of the sign parallel to the plane of wall or fascia to which it is affixed or erected.

Sign, wall banner. A temporary sign constructed of cloth, bunting, plastic, paper, or similar non-rigid material, and securely attached to the wall or support structure for which it is advertising. Flags are not considered temporary wall banners.

Sign, window. A permanent or temporary sign posted, painted, placed, or affixed in or on a window, or otherwise exposed to public view through a window.

Sign, Yard, Type I. A small temporary sign typically constructed of corrugated plastic and supported on a wire frame used, for example, for advertising by local businesses or by election campaigns.

Sign, Yard, Type II. A temporary sign mounted on a single post installed securely in the ground with a small sign hanging from a cross-bar mounted parallel to the ground.

Sign, Yard, Type III. A temporary large sign mounted on two posts installed securely in the ground.

Sign copy. Any graphic, word, numeral, symbol, insignia, text, sample, model, device, or combination thereof that is primarily intended to advertise, identify, or notify.

Sign face. The exterior surface of a sign, exclusive of structural supports, on which is placed the sign copy.

Sign substructure. The supports, uprights, bracing and/or framework of a sign.

20.3 APPLICABILITY

20.3.1 Applicability

This article applies to all permanent and temporary signs within the city unless specifically exempted.

A. The provisions of this article shall be applied in a content-neutral manner. Non-communicative aspects of all signs, not related to the content of the sign, must comply with the provisions of this article. "Non-communicative aspects" include the time, place, manner, location, size, height, illumination, spacing, and orientation of signs.

B. Nothing in this article shall be construed to prohibit a person from holding a sign while picketing or protesting on public property.

20.3.2 Substitutions and interpretations

This article is not intended to, and does not, restrict speech on the basis of its content, viewpoint, or message. No part of this article shall be construed to favor commercial speech over non-commercial speech. A non-commercial message may be

substituted for any commercial or non-commercial message displayed on a sign without the need for any approval or permit from the City, provided that the sign is otherwise permissible under this article. To the extent any provision of this subsection is ambiguous, the term will be interpreted not to regulate on the basis of the content of the message.

20.3.3 Exemptions

The following signs are not regulated under this article and are not subject to the permitting requirements of Section 20.4:

A. Numerals and letters identifying an address from the street to facilitate emergency response compliant with City requirements.

B. Building identification signs not exceeding two square feet in area for residential buildings and four square feet in area for nonresidential and mixed-use buildings.

C. Any sign, posting, notice, or similar signs placed, installed, or required by law by a city, county, or a federal or state governmental agency in carrying out its responsibility to protect the public health, safety, and welfare, including the following:
   1. Emergency and warning signs necessary to warn of dangerous and hazardous conditions and that serve to aid public safety or civil defense.
   2. Numerals and letters identifying an address from the street to facilitate emergency response and compliant with City requirements.
   3. Traffic signs and signs at bus stops and in bus shelters.
   4. Signs required to be displayed by any applicable federal, state, or local law, regulation, or ordinance.
   5. Signs directing the public to points of interest.
   6. Signs showing the location of public facilities.
   7. Signs subject to the provisions of 23 M.R.S. § 1913-A.

D. Historic plaques and commemorative signs erected and maintained by non-profit organizations, building cornerstones, and date-constructed stones not exceeding four square feet in area.

E. Non-illuminated incidental signs which provide information including, but not limited to, credit card acceptance, business hours, open/closed, no soliciting, directions to services and facilities, or menus, provided these signs do not exceed an aggregate of two square feet in sign area in the Residential Sign District and six square feet in sign area in all other sign districts.

F. Landmark signs.

G. Signs posted on a community bulletin board, not to exceed 11 inches by 17 inches.

H. Signs not readable from the public right-of-way, such as:
   1. Signs or displays located entirely inside of a building and not visible
   2. from the building's exterior.
   3. Signs intended to be readable from within a parking area but not readable beyond the boundaries of the lot or parcel upon which they are located or from any public right-of-way.
   4. Signs located within City recreation facilities.
   5. Signs that are an integral part of an allowed vending machine or similar facility located outside of a business.

I. Temporary signs placed within the public right-of-way, subject to the provisions of 23 M.R.S.A. §1913-A.

20.4 REVIEW PROCEDURES

20.4.1 Review Authority

Table 20-A establishes the final review authority for sign-related applications.

20.4.2 Applications and fees

A. **Filing of applications.** An application for a permanent or temporary sign permit must be submitted to the Building Authority on an application form or in accordance with the application specifications published by the Building Authority. Each application must be accompanied by the applicable fee, which shall be established by the City Council.

B. **Review and approval**

1. Following receipt of a complete application, the Building Authority shall review all sign permit applications and supporting documentation for compliance with the standards of this article.
2. The Building Authority shall either:
   a. Issue the sign permit if the sign that is the subject of the application conforms to the requirements of this article, and also provided that any other required permits as determined by the Building Authority have been obtained, or
   b. Deny the sign permit if the sign that is the subject of the application fails to conform to the requirements of this article. If the sign permit application is denied, the reason shall be stated in writing.

TABLE 20-A: REVIEW AUTHORITY

Application Type	Building Authority	Planning Authority – Historic Preservation
Sign permit	●	-
Signs in historic districts	●	●

20.4.3 Permanent sign permits

A. **Sign permit required.** A sign permit is required to erect, install, construct, move, alter, replace, suspend, display, or maintain (i.e., removal of the sign so that structural elements supporting the sign may be maintained) any permanent sign, unless otherwise specified in this article. Each sign and change of copy (i.e., changing of the face or letters on a sign) requires a separate sign permit except as allowed in Subsection 20.7.4. Exceptions to the requirement for a sign permit include the exemptions listed in Subsection 20.3.3, as well as building-mounted directional signs, building-mounted directory signs, and window signs. Refer to Section 20.8 for permanent sign standards that apply even when no sign permit is required. Any sign not authorized pursuant to this article is not allowed.

B. **Assignment of permanent sign permits.** A current and valid permanent sign permit issued under this article shall be freely assignable to a successor as owner of the property or operator of the premises. The assignment shall not require approval by the Building Authority.

C. **Expiration.** A permanent sign permit will expire and become null and void if the work authorized in compliance with the permit is not commenced within 180 days

from the date of issuance of the permit, or if work is suspended or abandoned for a period of 180 days or more at any time after the work has commenced.

20.4.4 Temporary sign permits

A. **Sign permit required.** A temporary sign permit is required to display a temporary wall banner sign and an A-frame sign placed in the public right-of-way. All other temporary sign types do not require a sign permit.

B. **Duration of temporary sign permit**. A temporary sign permit for a wall banner is valid for 60 days from the date of issuance. There are no time limitations for A-frame signs installed in public right-of-way.

20.4.5 Signs in historic districts

A. **Applicability**. The standards established in this subsection shall be applied within historic districts in addition to the standards otherwise established in this article.

B. **Review.** In addition to being subject to the other provisions of this article, all permanent signs proposed in historic districts must be reviewed for approval by the Planning Authority in accordance with the sign standards included in Subsection 17.8.6 as detailed in the *Historic Resources Design Manual*. If there is a conflict between the standards included in Article 17 and the requirements of this article, the stricter shall apply.

20.4.6 Appeals

Appeals of sign permit decisions are within the jurisdiction of the Zoning Board of Appeals.

20.5 SIGN DISTRICTS ESTABLISHED

Table 20-B combines the zones established in Article 5 into sign districts based on similarity of use, building form, and character. For sign standards specific to overlay zones, see Article 8. If no sign standards exist within the overlay zone, the standards of the underlying zone shall apply.

20.6 GENERAL RESTRICTIONS FOR ALL SIGNS

20.6.1 Location restrictions

Except where specifically authorized in this article, signs may not be placed in the following locations:

A. **Public right-of-way.** Within, on, or projecting over public property, City rights-of-way, or waterways, except signs specifically authorized in this article.

B. **Obstructing traffic signals.** Any location that obstructs the view of any authorized traffic sign, signal, or other traffic control device.

C. **Obstructing intersection visibility.** At the intersections of streets or streets and driveways where the visual lines of sight for drivers of motor vehicles are obstructed. Signs shall observe corner clearance requirements as listed in Subsection 7.4.1.

D. **Ingress and egress.** Areas allowing for ingress to or egress from any door, window, vent, exit way, or fire lane required by Chapter 6 of the City of Portland Code of Ordinances or Fire Department regulations currently in effect.

E. **Landscape elements or utilities.** Tacked, painted, burned, cut, pasted, or otherwise affixed to trees, rocks, light and utility poles, posts, fences, ladders, benches, or

similar supports that are visible from a public way.

F. **Off-premises.** Off the premises of the business to which the commercial advertising sign refers, except as provided in Section 20.9.

G. **Roof-mounted.** Mounted on the roof of a building or structure.

TABLE 20-B: SIGN DISTRICTS ESTABLISHED

Sign District	Zones	Description
Residential Sign District	R-1 Residential Zone R-2 Residential Zone R-3 Residential Zone R-4 Residential Zone R-5/R-5a Residential Zone R-6/R-6a Residential Zone IR-1 Island Residential Zone IR-2 Island Residential Zone IR-3 Island Residential Zone	These zones comprise the vast majority of residential land in Portland. Signage is limited in these zones, as a variety of sign types could detract from the desired residential character.
Small Mixed-Use Sign District	R-P Residence-Professional Zone B-1/B-1b Neighborhood Business Zone B-2b & B-2c Community Business Zone IS-FBC UA, UN, and UT Zones I-B Island Business Zone O-P Office Park Zone	These zones allow a variety of sign types to achieve a diverse, mixed-use character appropriate for neighborhood residential, office, service, and retail uses.
Large Mixed-Use Sign District	B-2 Community Business Zone B-4 Commercial Corridor Zone EWPZ Eastern Waterfront Port Zone	These zones comprise the major commercial centers in Portland and allow a variety of sign types to achieve a diverse character appropriate for major office, service, and retail uses.
Downtown Sign District	B-3/B-3b/B-3c Downtown Business Zone B-5/B-5b Urban Commercial Mixed-Use Zone B-6 Eastern Waterfront Mixed Zone B-7 Mixed Development Zone WCZ Waterfront Central Zone	The downtown core zones allow a variety of sign types to achieve a diverse, mixed-use character appropriate for office, service, retail and mixed-uses in the Downtown.
Industrial and Transportation Sign District	A-B Airport Business Zone I-L/I-Lb Industrial Zone I-H/I-Hb Industrial Zone I-M/I-Ma/I-Mb Industrial Zone WPDZ Water Port Development Zone	These zones allow a number of sign types to achieve a character appropriate for industrial manufacturing, warehousing, and transportation uses.
Open Space Sign District	R-OS Recreation and Open Space Zone RPZ Resource Protection Zone	These zones prohibit most sign types, allowing only those necessary to provide information for primarily open space and recreation uses.

H. **Storage containers and receptacles.** On fuel tanks, storage containers, and/or solid waste receptacles or their enclosures, except for a manufacturer's or installer's identification, appropriate warning signs and placards, and information required by law.

20.6.2 Prohibited signs

Except as otherwise provided in this article, the following signs are prohibited:

A. Billboards.
B. Signs that could be confused with any authorized traffic signal or device or that interfere with, obstruct, confuse, or mislead traffic.
C. Bandit signs.
D. Signs or other devices that are inflatable or affected by the movement of the air or other atmospheric or mechanical means, including inflatable balloons, spinners, strings of flags and pennants, feather banners, fixed aerial displays, streamers, tubes, and inflated characters used as signs, whether attached to a sign or to vehicles, structures, poles, trees and other vegetation, or similar support structures, except as allowed in Section 20.9.
E. Any sign which advertises a business no longer in existence or a product or service no longer being sold, except for landmark signs.
F. Any temporary sign, other than those signs allowed pursuant to Section 20.9.
G. Any other signs not specifically allowed by the provisions of this article.

20.6.3 Display restrictions

Except as otherwise provided in this article, the following display features are prohibited:

A. Animated features which rotate, move, or give the appearance of moving by mechanical, wind, or other means. Barber poles no more than three feet in height and 10 inches in diameter and clocks are excepted from this restriction.
B. Sound, odor, or any particulate matter including bubbles, smoke, fog, confetti, or ashes.
C. Lighting devices with intermittent, flashing, rotating, blinking, or strobe light illumination, animation, motion picture, or laser or motion picture projection, or any lighting effect creating the illusion of motion, as well as laser or hologram lights.
D. Search lights or laser light displays when used as attention-attracting devices.
E. Strings of lights used in connection with commercial premises, except when used for temporary lighting for decoration, and lights arranged in the shape of a product, arrow, or any commercial message.

20.7 GENERAL REQUIREMENTS FOR ALL SIGNS

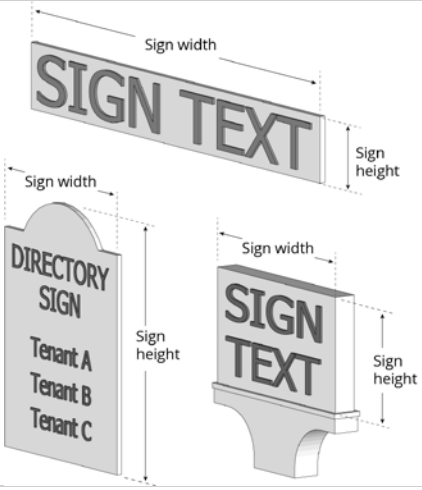
20.7.1 Sign measurement

Sign area and height shall be measured as described in Tables 20-C and 20-D.

20.7.2 Computation of the number of signs

When determining the number of signs, a single sign shall be considered either enclosed within a single frame or composed of modular parts with identical frame elements designed to be joined together to form a single composite sign.

TABLE 20-C: SIGN AREA MEASUREMENT

Signs on background panel	Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.	
Signs as individual letters	Sign copy mounted as individual letters or graphics against a building surface that has not been painted, textured, or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the sign.	

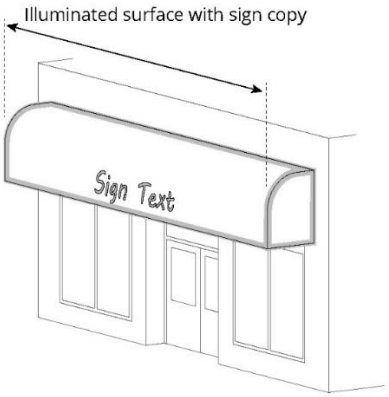
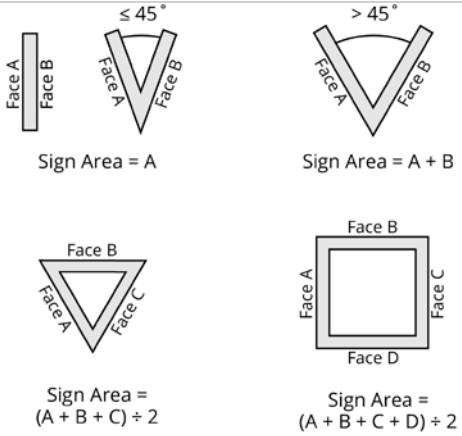
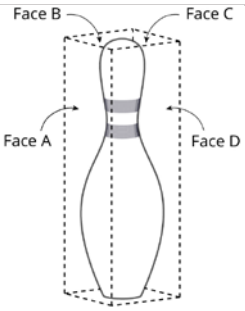
Signs on illuminated surface	Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.	

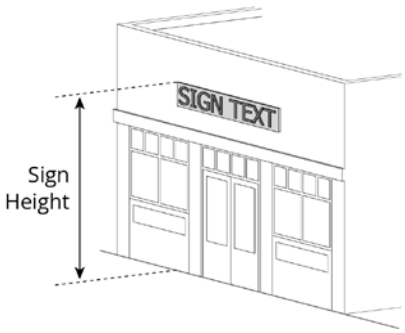
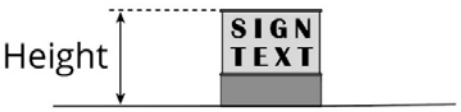
TABLE 20-C (CONT.): SIGN AREA MEASUREMENT

Irregular-shaped signs	Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.	
Multi-face signs	For two-face signs, if the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces. For three- or four-face signs, the sign area is 50 percent of the sum of the areas of all sign faces.	

Spherical, free-form, or sculptural signs	Spherical, free-form, or sculptural signs are measured as 50% of the sum of the areas of the four vertical sides of the smallest four-sided polyhedron that will encompass the sign structure. Signs with greater than four polyhedron faces are prohibited.	 Sign Area = (A + B + C + D) ÷ 2

Note: Numerals and letters used to identify an address are not included in the determination of sign area.

TABLE 20-D: SIGN HEIGHT MEASUREMENT

Building-mounted signs	The height of signs mounted on a building is the vertical distance measured from the base of the wall on which the sign is located to the top of the sign or sign structure.	
Freestanding signs	Sign height is measured as the vertical distance from the finished grade at the base of a sign to the top of the sign exclusive of any filling, berming, mounding, or landscaping solely for the purpose of locating the sign and excluding decorative embellishments as permitted in Section 20.8.	

20.7.3 Sign illumination

A. Sign illumination by sign district

1. Table 20-E identifies the type of illumination permitted (●) or not permitted ( ) by sign district. All allowed permanent signs may also be non-illuminated. All permanent signs for single-family residences or duplexes and all temporary signs must be non-illuminated.
2. The illumination level of a sign must be reduced if the Building Authority determines the light output to be excessive. The Building Authority shall use the following criteria to determine if the illumination is excessive:
   a. The amount of illumination is substantially greater than the illumination level of other nearby signs.
   b. The sign's illumination interferes with the visibility of other signs or with the perception of objects or buildings in the vicinity of the sign.
   c. It directs glare toward streets or motorists.
   d. It adversely impacts nearby residents or neighborhoods.
   e. The illumination reduces the night time readability of the sign.

B. Internal illumination. To minimize glare, internally-illuminated signs must either be constructed with an opaque background and translucent text and symbols, or with a colored background. Backgrounds must not be white, off-white, light gray, cream, or yellow.

TABLE 20-E: SIGN ILLUMINATION BY SIGN DISTRICT

Sign District Name / Type of Illumination	External	Direct	Internal (Cabinet Sign)	Internal (Individual Letters /Logo)	Neon	Single or Two-Color LED	Electronic Message Signs
Residential Sign District	-- [1]			-- [1]			-- [1]
Small Mixed-Use Sign District	●	● [2]	● [3]	●	●	●	
Large Mixed-Use Sign District	●	●	●	●	●	●	●
Downtown Sign District	●	●	●	●	●	●	
Industrial and Transportation Sign District	●	●	●	●	●	●	● [4]
Open Space Sign District	●						

[1] Allowed for institutional uses only.
[2] Only allowed in B-1/B-1b, B-2b/B-2c, IS-FBC, and I-B zones.
[3] Only allowed in B-2b, B2-c, and OP zones.
[4] Only allowed in I-L, I-Lb, I-M, I-Ma, I-Mb, I-H, and I-Hb zones.

C. External illumination

1. Externally-illuminated signs must be illuminated only with steady, stationary, fully-shielded light sources directed solely onto the sign without causing glare.
2. The light source for externally-illuminated signs must be arranged and shielded to substantially confine all direct light rays to the sign face and away from streets and adjacent properties as illustrated in Figure 20-A.

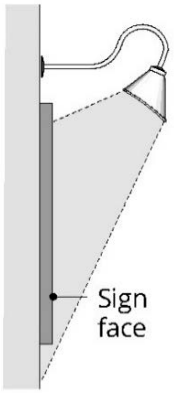


FIGURE 20-A: EXTERNAL ILLUMINATION

D. **Direct illumination.** All direct illumination must be turned off daily at the close of business or 10 p.m., whichever occurs last.

E. **Neon.** Exposed neon sign lighting must be turned off daily at the close of business or 10 p.m., whichever occurs last.

F. **Single-color or two-color LED signs.**

1. Single or two-color LED signs are exempt from the sign area limitations for window signs and building-mounted signs.
2. Single or two-color LED signs must be turned off daily at the close of business or 10 p.m., whichever occurs last.

G. **Electronic Message Signs**

1. One electronic message sign is allowed per lot.
2. Electronic message signs must not flash, blink, flutter, include intermittent or chasing lights, or display video messages (i.e., any illumination or message that is in motion or appears to be in motion). Electronic message signs may display changing messages provided that each message is displayed for no less than 30 seconds.
3. Electronic message signs must be equipped with photocell technology to control and vary the intensity of light output depending on the amount of ambient light that is present to prevent overly bright luminance at night. Automatic controls must limit night luminance to a maximum of 100 nits when the display is set to show maximum brightness in 100 percent full white mode.
4. The applicant shall provide a written certification from the sign manufacturer that the night time luminance has been factory pre-set not to exceed 100 nits as described in (3) above, and that this setting is protected from end-user modification by password-protected software or other method as deemed appropriate by the Building Authority.
5. Electronic message signs must be turned off daily at the close of business or 10 p.m., whichever occurs first.

20.7.4 Changeable sign copy

Changeable sign copy must comply with the following standards:

A. **Maximum area.** The maximum area of changeable sign copy shall be limited to 50% of

the total sign area, except for marquee signs. This does not apply to any signs required by law.

B. **Sign design.** The changeable sign copy must be an integral part of a permanent building-mounted or freestanding sign.

C. **Illumination.** Changeable sign copy may be non-illuminated or internally-illuminated.

20.7.5 Structure and installation

A. **Authority.** The construction of signs shall be enforced and administered by the Building Authority. All signs and advertising structures must be designed to comply with the provisions of this article and applicable provisions of Chapter 6 of the City of Portland Code of Ordinances and constructed to withstand wind loads, dead loads, and lateral forces.

B. **Electrical features.** Where electrical service is provided to freestanding signs or landscape wall signs, all such electrical service must be placed be underground and concealed. Electrical service to building-mounted signs, including conduit, housings, and wire, must be concealed or, when necessary, painted to match the surface of the structure upon which they are mounted. An electrical permit shall be issued prior to installation of any new signs requiring electrical service.

C. **Raceway cabinets.** Raceway cabinets, as illustrated in Figure 20-B, shall only be used in building-mounted signs when access to the wall behind the sign is not feasible, shall not extend in width and height beyond the area of the sign, and shall match the color of the building to which it is attached. Where a raceway cabinet provides a contrast background to sign copy, the colored area is counted in the total allowable sign area allowed for the site or business. A raceway cabinet is not a cabinet sign.

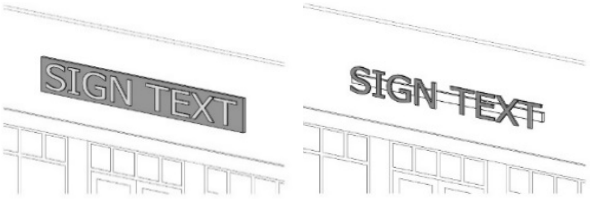


FIGURE 20-B: RACEWAY CABINET EXAMPLES

D. **Materials.** All permanent signs allowed by this article must be constructed of durable materials capable of withstanding continuous exposure to the elements and must be permanently attached to the ground, a building, or another structure by direct attachment to a rigid wall, frame, or structure.

20.7.6 Sign maintenance

All signs must be maintained by any property owner, lessor, lessee, manager, agent, or other person having lawful possession or control over a building, structure, or parcel of land, in a condition or state of equivalent quality to which was approved or required by the City. All signs together with their supports and appurtenances must be maintained in good structural condition, in compliance with applicable provisions of Chapter 6 of the City of Portland Code of Ordinances, and in conformance with this article. Maintenance of a sign includes periodic cleaning, replacement of flickering, burned out, or broken light bulbs or fixtures, repair or replacement of any faded, peeled, cracked, or

otherwise damaged or broken parts of a sign, and any other activity necessary to restore the sign so that it continues to comply with the requirements and contents of the sign permit issued for its installation and provisions of this article.

20.8 STANDARDS FOR PERMANENT SIGNS

20.8.1 Permitted sign types by sign district

Table 20-F establishes which sign types are permitted (●) or not permitted ( ) in each sign district. Any combination of allowed sign types may be used within a given sign district unless specifically prohibited.

20.8.2 Permanent building-mounted sign standards

The maximum total area for all building-mounted signs is established in Table 20-G. The area of all building-mounted signs is included in the maximum total sign area, except when specifically exempted. All permanent building-mounted signs shall comply with the corresponding sign type standards provided in Tables 20-H to 20-Q.

20.8.3 Permanent freestanding sign standards

All permanent freestanding signs shall comply with the standards of Table 20-R and the corresponding sign type standards established in Tables 20-S to 20-V. Unless specifically indicated, standards applicable within a sign district apply to single- and multi-tenant buildings. There is no setback requirement for permanent freestanding signs, provided that the sign is entirely located on the property where the sign is permitted, and the sign is located in compliance with Table 20-F.



TABLE 20-F: ALLOWED SIGN TYPES BY SIGN DISTRICT

	Sign Type	Residential Sign District [1]	Small Mixed-Use Sign District	Large Mixed-Use Sign District	Downtown Sign District	Industrial Sign District	Open Space Sign District
Building-Mounted	Awning Sign		●[2]	●	●	●	●
	Canopy Sign		●[2]	●	●	●	
	Blade Sign		●	●	●		
	Directional Sign		●[2]	●	●	●	●
	Directory Sign	●[3]	●	●	●	●	
	Marquee Sign			●	●		
	Projecting Sign		●[2]	●	●	●	
	Service Island Canopy Sign			●	●	●	
	Wall Sign	●	●	●	●	●	●
	Window Sign		●	●	●	●	●
Freestanding	Freestanding Directional Sign	●	●	●	●[4]	●	●
	Freestanding Directory Sign	●[3]	●	●	●[4]	●	●
	Monument Sign		●	●	●[5]	●	
	Pole Sign			●	●[5]	●	

[1] For institutional uses in residential zones, all permanent sign types are allowed except for the following: awning sign, blade sign, canopy sign, marquee sign, pole sign, projecting sign, service island canopy sign; and window sign.
[2] Not allowed in the R-P Zone.
[3] Not allowed in the R-1, R-2, R-4, IR-1, and IR-2 zones.
[4] Not allowed in the B-3 zone.
[5] In the B-3 and B-5 zones, freestanding signs are permitted only if the front façade of the building is set back a distance of at least 20 ft. from either of the front facades of abutting buildings. In the case of a multi-tenant building, the individual tenants' frontage must be set back a distance of at least 20 ft. from other tenant's frontages.

TABLE 20-G: DIMENSIONAL STANDARDS FOR BUILDING-MOUNTED SIGNS BY SIGN DISTRICT

Sign District			Total Area for All Signs (per Tenant or Façade)	Number of Signs (max.)
Residential	Single-family lots		2 SF max.	1 per lot (either freestanding or building-mounted)
	PRUDs, multi-family lots		10 SF max.	1 per street frontage
	Institutional use in all residential zones		1.5 SF per linear foot of building façade where the sign is placed 150 SF max.	1 per street frontage, plus 2 additional
Small Mixed-Use	Single-tenant building		I-B zone: 1 SF per linear foot of building façade where the sign is placed; Max. 40 SF All other zones: 1.5 SF per linear foot of building façade where sign is placed; Max. 100 SF	1 per street frontage, plus 1 additional
	Multi-tenant building		1.5 SF per linear foot of building façade where the sign is placed 150 SF max.	1 per tenant[5,6], plus 1 additional for the building.
Large Mixed-Use	Single-tenant building		2 SF per linear foot of building façade where the sign is placed 200 SF max.[1]	1 per street frontage, plus 2 additional
	Multi-tenant building		1.5 SF per linear foot of tenant façade where the sign is placed 150 SF max.	1 per tenant[6], plus 1 additional for the building.
Downtown	Single-tenant building		2 SF per linear foot of building façade where the sign is placed	1 per street frontage, plus 2 additional
	Multi-tenant building	Ground floor tenants	2 SF per linear foot of tenant frontage where the sign is placed	1 per tenant[5, 6]
		Building ID and upper floor tenants	5% of building wall area where sign is placed max.	1 per tenant, plus 2 additional for the building
Industrial & Trans.	Single-tenant building		2 SF per linear foot of building façade where sign is placed 250 SF max.	1 per street frontage, plus 2 additional
	Multi-tenant building		2 SF per linear foot of tenant frontage where the sign is placed 200 SF max.	1 per tenant, plus 2 additional for the building
Open Space	Commercial signs/facility signs[2, 3]		1 SF per linear foot of building façade where the sign is placed 20 SF max.[4]	1 per use (either freestanding or building-mounted)
	Sign placement		The total sign area for signs on single-tenant or multi-tenant buildings may be placed on any building elevation, provided that at least 1 sign must be placed above or associated with the building entry or tenant's building entry, in the case of a multi-tenant building.	

[1] Where a building features two principal entry facades facing parallel streets, each entry façade shall be eligible for the full amount of signage relative to its frontage, notwithstanding the total area.
[2] Standards do not apply to municipal stadiums with more than 6,000 seats. The standards for the Small Mixed-Use Sign District shall apply instead.
[3] Building signs shall be visually related to the building on which they are located in terms of materials, color, scale, etc., as determined by the Building Authority.
[4] Product trademarks limited to 5 percent of total sign area.
[5] On the peninsula, each tenant may have two signs, provided that one sign is a blade sign and one sign is placed parallel to the building façade.
[6] If a tenant faces additional street frontages, one additional sign is allowed per frontage for that tenant.

TABLE 20-H: STANDARDS FOR AWNING SIGNS

Standard	Requirements
Sign area (max.)	1 SF per linear foot of awning width
Mounting height	7 ft. min. from the bottom of the awning to the nearest grade or sidewalk 25 ft. max.
Sign placement	Must be placed above the doors and windows of the ground floor of a building. Awnings shall not project above, below, or beyond the edges of the face of the building wall or architectural element. Sign width shall not be greater than 60% of the width of the awning face or valance on which it is displayed (if an awning is placed on multiple storefronts, each business is permitted signage no greater than 60% of the width of the storefront). May project into public right-of-way with permit approval.
Valance height (max.)	6 in.
Horizontal distance from back of curb (min.)	2 ft.
Illumination	Illumination allowed under the awning.

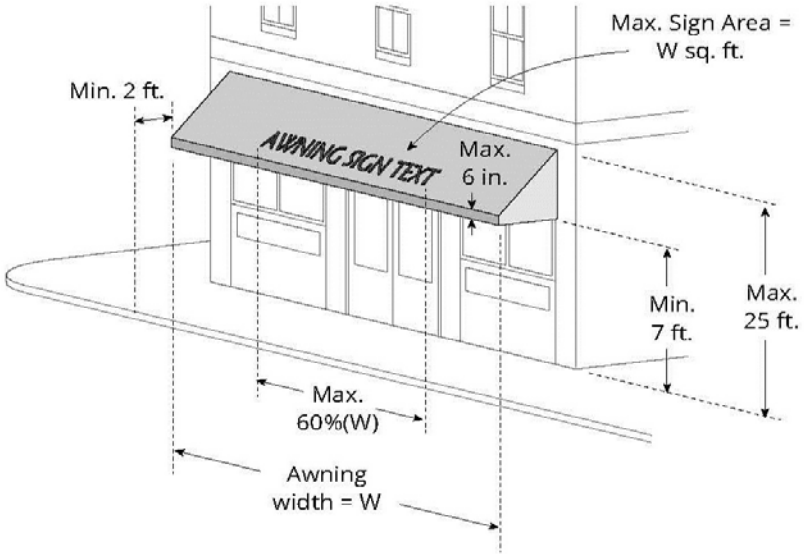


TABLE 20-I: STANDARDS FOR CANOPY SIGNS

Standard	Requirements
Sign area (max.)	1 SF per linear foot of canopy width
Mounting height	8 ft. min. from the bottom of the sign to the nearest grade or sidewalk 20 ft. max.
Sign placement	Must be placed above the doors and windows of the ground floor of a building. Sign width shall not be greater than 60% of the width of the canopy on which it is displayed (if a canopy is placed on multiple store fronts, each business is permitted signage no greater than 60% of the store width or tenant space). May project into public right-of-way with permit approval.
Horizontal distance from back of curb (min.)	2 ft.
Illumination	Direct illumination or internal illumination

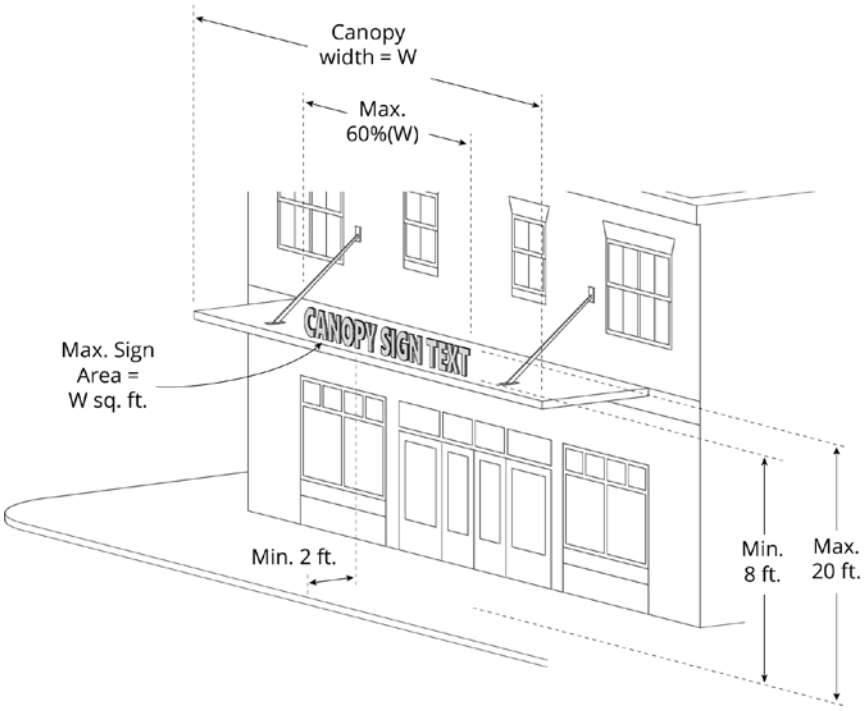


TABLE 20-J: STANDARDS FOR BLADE SIGNS

Standard	Requirements
Sign area (max.)	12 SF
Mounting height	8 ft. min. from the bottom of the sign to the nearest grade or sidewalk Must be mounted perpendicular to the building face or corner of the building.
Sign placement	If mounted below the underside of a walkway or overhead structure, must not extend beyond the edge of the structure on which it is located. May project into public right-of-way with permit approval.
Illumination	External illumination

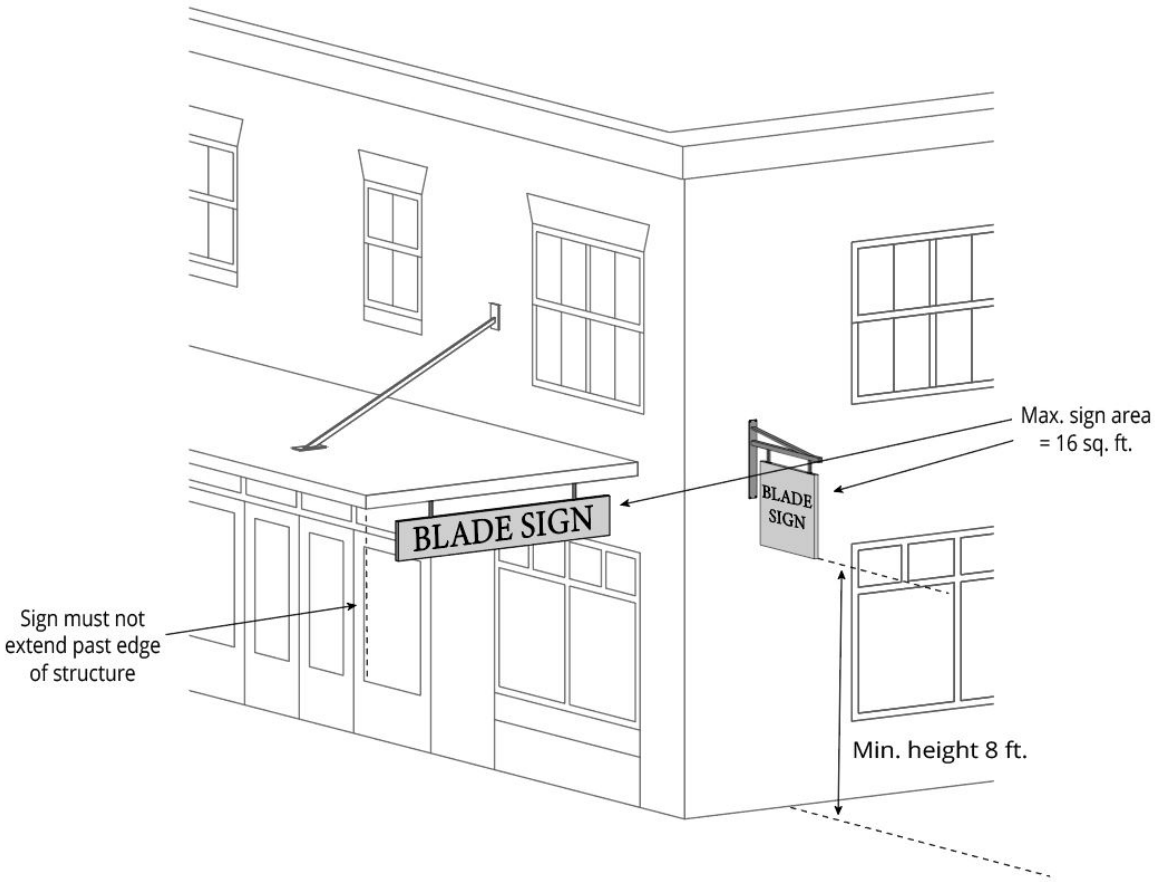


TABLE 20-K: STANDARDS FOR DIRECTIONAL SIGNS (BUILDING-MOUNTED)

Standard	Requirements
Sign area (max.)	3 SF per sign face (excluded from the total allowed sign area for all building-mounted signs)
Mounting height	6 ft. max. from nearest grade
Number of signs (max.)	1 at each driveway, drive-through lane, or alley, not to exceed 3 signs per lot (excluded from the total number of allowed signs for all building-mounted signs)
Illumination	Internal illumination

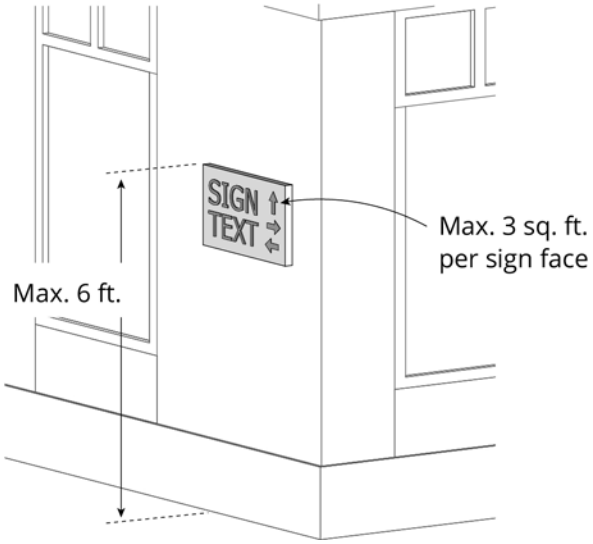


TABLE 20-L: STANDARDS FOR DIRECTORY SIGNS (BUILDING-MOUNTED)

Standard	Requirements
Sign area (max.)	1 SF per occupant of tenant space and 16 SF total max. (excluded from the total allowed sign area for all building-mounted signs)
Mounting height	8 ft. max. from nearest grade
Number of signs (max.)	1 per primary building entrance (excluded from the total number of allowed signs for all building-mounted signs)
Illumination	External illumination or internal illumination

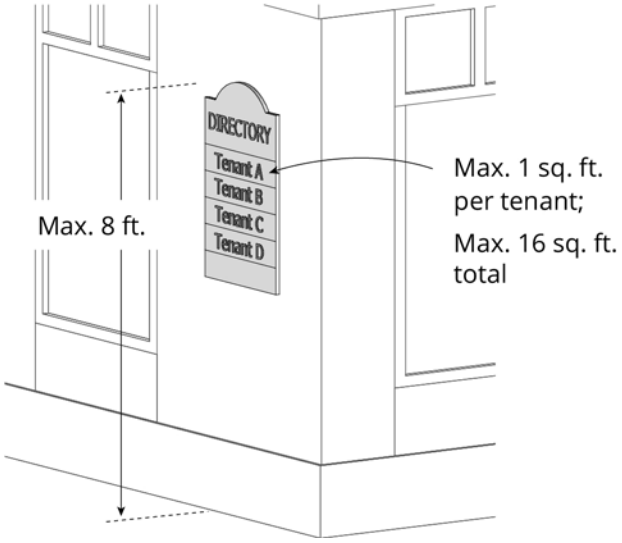


TABLE 20-M: STANDARDS FOR MARQUEE SIGNS

Standard	Requirements
Sign area (max.)	1 SF to 1 linear foot of marquee width
Mounting height	12 ft. min. from the bottom of the marquee to the nearest grade or sidewalk
Number of signs (max.)	1 per business
Sign placement	May project into public right-of-way with permit approval.
Horizontal distance from back of curb (min.)	2 ft.
Illumination	Direct illumination or internal illumination

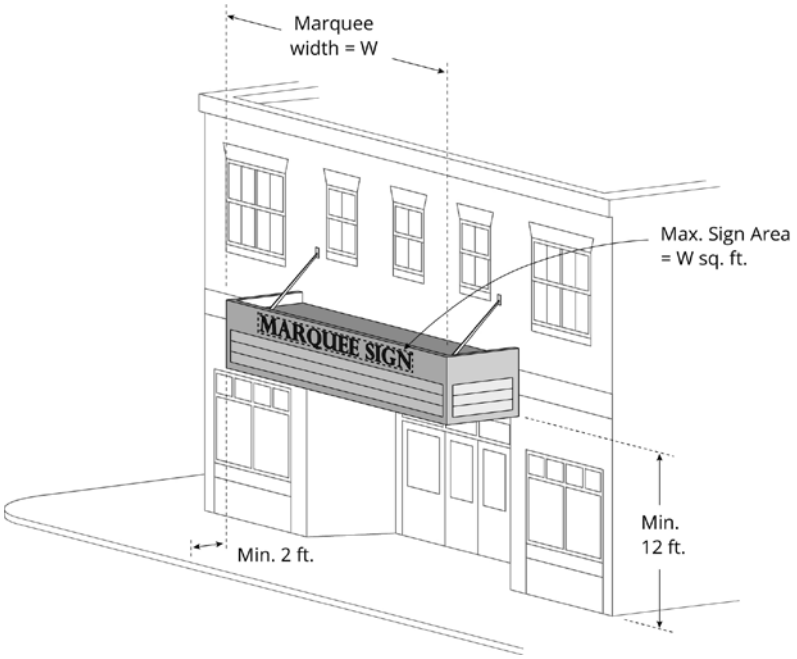


TABLE 20-N: STANDARDS FOR PROJECTING SIGNS

Standard	Requirements
Sign area (max.)	24 SF
Mounting height	8 ft. min. from the bottom of the sign to the nearest grade or sidewalk.
Sign placement	Only on the wall of a building. May project into public right-of-way with permit approval.
Number of signs (max.)	1 per business
Projection (max.)	4 ft. from the building wall to the outer edge of the sign
Illumination	External illumination, direct illumination, neon, or internal illumination of individual letters or graphics only.

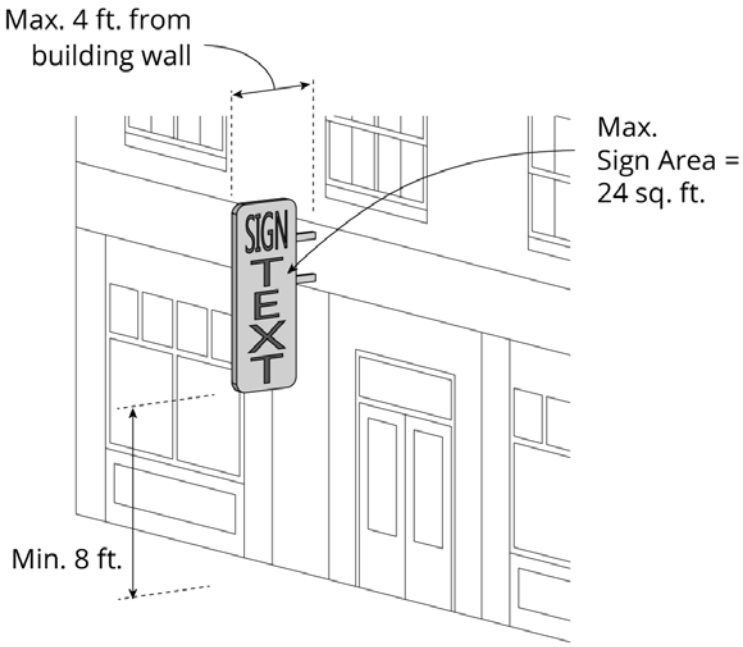


TABLE 20-O: STANDARDS FOR SERVICE ISLAND CANOPY SIGNS

Standard	Requirements
Sign area (max.)	20 SF
Number of signs (max.)	1 per canopy façade, not to exceed 2 signs total
Illumination	Internal illumination

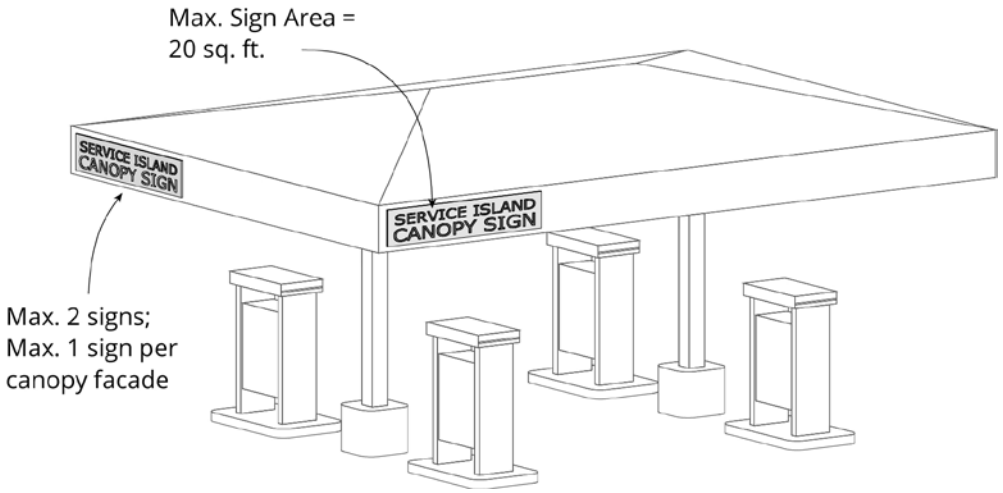


TABLE 20-P: STANDARDS FOR WALL SIGNS

Standard	Requirements
Sign area (max.)	As provided in Table 20-G
Number of signs (max.)	As provided in Table 20-G
Illumination	External illumination, direct illumination, internal illumination, or neon
Special provisions	Painted wall signs are allowed on any exterior building wall of an individual tenant space or building. The allowable area for painted wall signs shall be increased by 10% over the normal allowable sign dimensions for the zone.

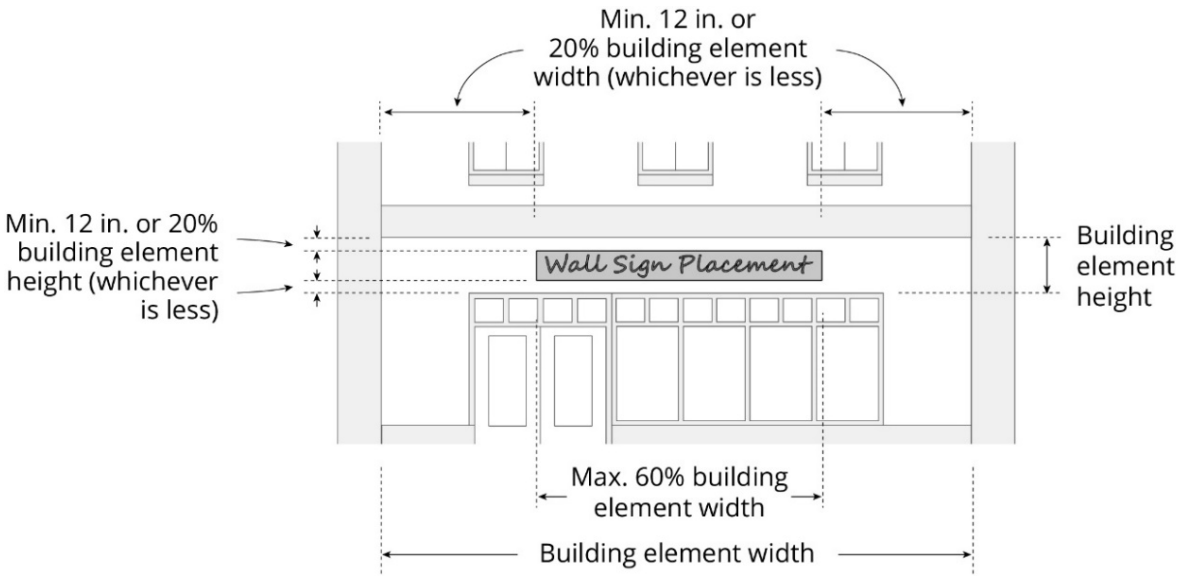
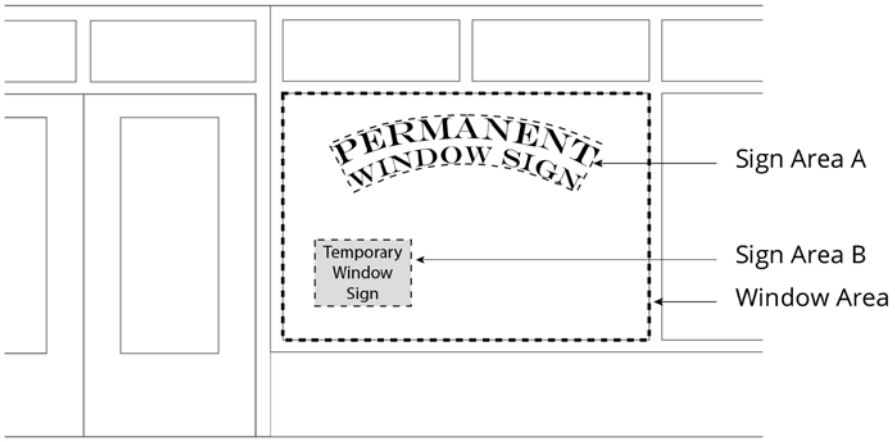


TABLE 20-Q: STANDARDS FOR WINDOW SIGNS

Standard	Requirements
Sign area (max.)	Combined area of temporary and permanent window signs must not exceed 50% of the area of the window on which they are displayed. Painted window signs or perforated vinyl signs are included in this calculation. Excluded from the total allowed sign area for all building-mounted signs.
Sign placement	Must be mounted or displayed on the interior of the window. Allowed on 1st and 2nd story windows only.
Illumination	Neon or single- or two-color LED signs



Sign Area A + Sign Area B ≤ 50% Window Area

TABLE 20-R: DIMENSIONAL STANDARDS FOR FREESTANDING SIGNS BY SIGN DISTRICT

Sign District				Area (max.)	Height (max.)	Number of Signs
Residential			Single-family lots	2 SF	5 ft.	1 per lot (freestanding or building-mounted)
			PRUDs, multi-family lots	15 SF	5 ft.	1 per major vehicular entrance
	Institutional		Street frontage ≤ 100 ft.	15 SF	6 ft.	1 per frontage[1, 2]
			Street frontage 100 – 250 ft.	25 SF	8 ft.	1 per frontage[1, 2]
			Street frontage ≥ 250 ft.	50 SF	8 ft.	1 per frontage[1, 2]
Small Mixed-Use			Single-tenant building	32 SF	B-1/B-1b, B-2b/B-2c zones: 16 ft. In all other zones: 8 ft.	1 per lot[1]
		Multi-tenant building	< 1 acre lot	32 SF		
			1 – 2.5 acre lot	100 SF		
			> 2.5 acre lot	140 SF		
			I-B Zone[3]	20 SF	10 ft.	1 per use
	OP zone		Center identification sign	50 SF	8 ft.	1 per major vehicular entrance
			Tenant sign	15 SF	5 ft.	1 per tenant[2]
Large Mixed-Use	Single-tenant building		Street frontage ≤ 200 ft.	65 SF	B-4 zone: 25 ft. In all other zones: 18 ft.	1 per lot[1]
			Street frontage > 200 ft.	100 SF		
	Multi-tenant building		< 1 acre lot	65 SF	B-4 zone: 25 ft. In all other zones: 18 ft.	1 per lot[1]
			1 - 2.5 acre lot	100 SF		
			> 2.5 acre lot	140 SF		
Downtown				16 SF	6 ft.	1 per frontage[1]
Industrial & Transportation			Single-tenant building	35 SF	10 ft.	1 per lot[1]
			Multi-tenant building	70 SF	15 ft.	1 per lot[1]
	AB zone	Single-tenant building	Street frontage ≤ 200 ft.	32 SF	16 ft.	1 per lot[1]
			Street frontage > 200 ft.	65 SF	16 ft.	1 per lot[1]
		Multi-tenant building	< 1 acre	32 SF	16 ft.	1 per lot[1]
			1 - 2.5 acres	100 SF		
			≥ 2.5 acres	140 SF		
Open Space[4]			Park identification signs[5]	20 SF	5 ft.	1 per major vehicular entrance
			All other signs[5]	16 SF[6]	8 ft.	1 per use (building-mounted or freestanding)

[1] Lots with multiple street frontages are allowed one freestanding sign for each frontage, provided that the signs are not concurrently visible from the public right-of-way.

[2] Where a lot contains more than one affiliated use or tenant, uses and tenants may be allocated space on a shared sign. Individual uses or tenants are not allowed to have individual freestanding signs.

[3] Only allowed for marine-related uses serving vessel traffic.

[4] Standards do not apply to municipal stadiums with more than 6,000 seats. The standards for the Small Mixed-Use Sign District shall apply instead.

[5] All signs must be integrated into existing landscape features or visually related to the materials, colors, scale, etc. of existing buildings as determined by the Building Authority.

[6] Product trademarks limited to 5% of total sign area.

TABLE 20-S: STANDARDS FOR DIRECTIONAL SIGNS (FREESTANDING)

Standard	Requirements
Sign area (max.)	3 SF per sign face (excluded from the total allowed sign area for all freestanding signs)
Height (max.)	6 ft. from nearest grade, except 4 ft. at driveway or drive-through lanes
Number of signs (max.)	1 at each driveway or drive-through lane, not to exceed 3 signs per lot (excluded from the total number of allowed signs for all freestanding signs)
Illumination	Internal illumination

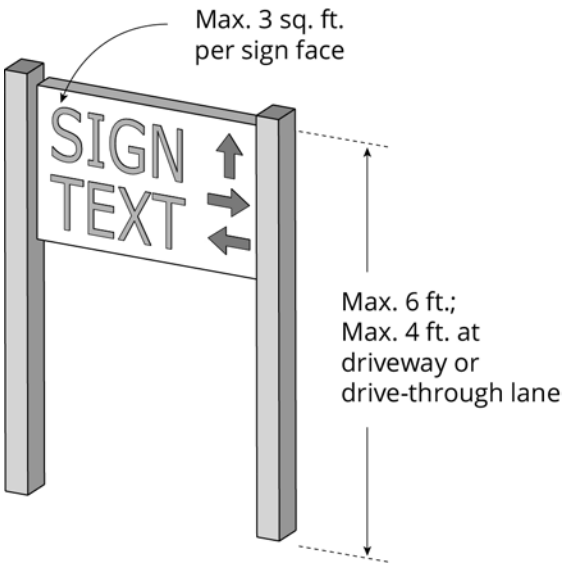


TABLE 20-T: STANDARDS FOR DIRECTORY SIGNS (FREESTANDING)

Standard	Requirements
Sign area (max.)	12 SF total 1 SF max. per occupant or tenant space (excluded from the total allowed sign area for all freestanding signs)
Height (max.)	6 ft. from nearest grade, except 4 ft. at driveway or drive-through lanes
Number of signs (max.)	1 per building (excluded from the total number of allowed signs for all freestanding signs)
Illumination	External illumination or internal illumination

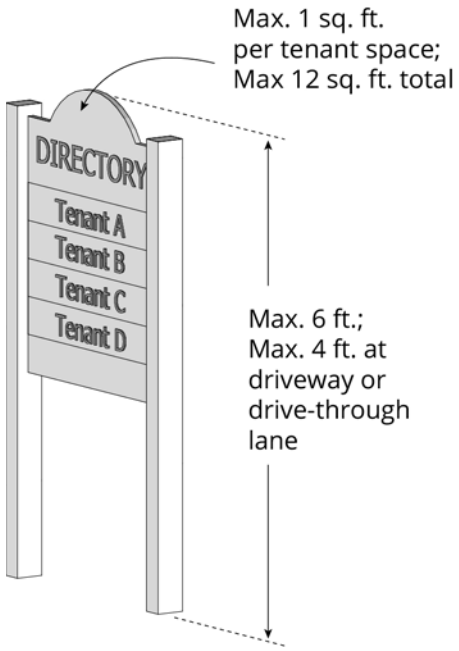
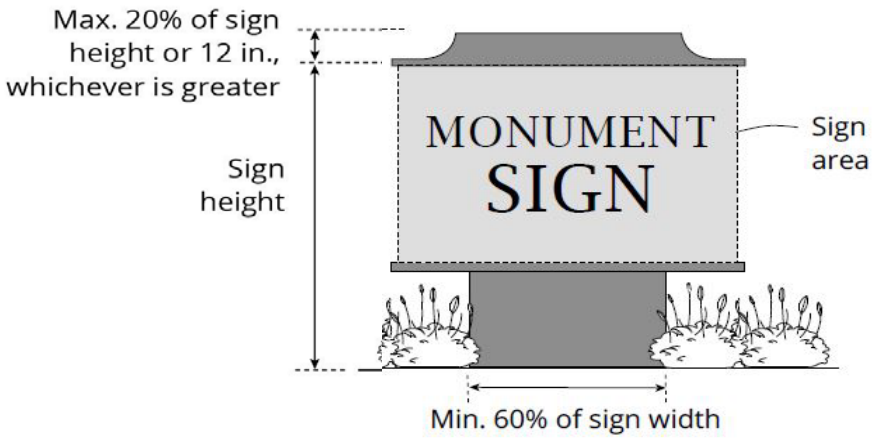


TABLE 20-U: STANDARDS FOR MONUMENT SIGNS[1]

Standard	Sign District					
	Residential Sign District[2]	Small Mixed-Use Sign District	Large Mixed-Use Sign District	Downtown Sign District	Industrial Sign District	Open Space Sign District
Sign area (max.)	50 SF	50 SF	140 SF	50 SF	70 SF	20 SF
Height (max.)	8 ft.	8 ft.	18 ft.	6 ft.	16 ft.	5 ft.
Base width (max.)	The base of a monument sign must be at least 60% of the width of the sign.					
Illumination	Non-illuminated, internal illumination, or external illumination					
Special provisions for sign height	Elements to enhance the design of a sign structure may extend above the sign to a max. of 20% of the sign's allowed height, or 12 inches, whichever is greater.					

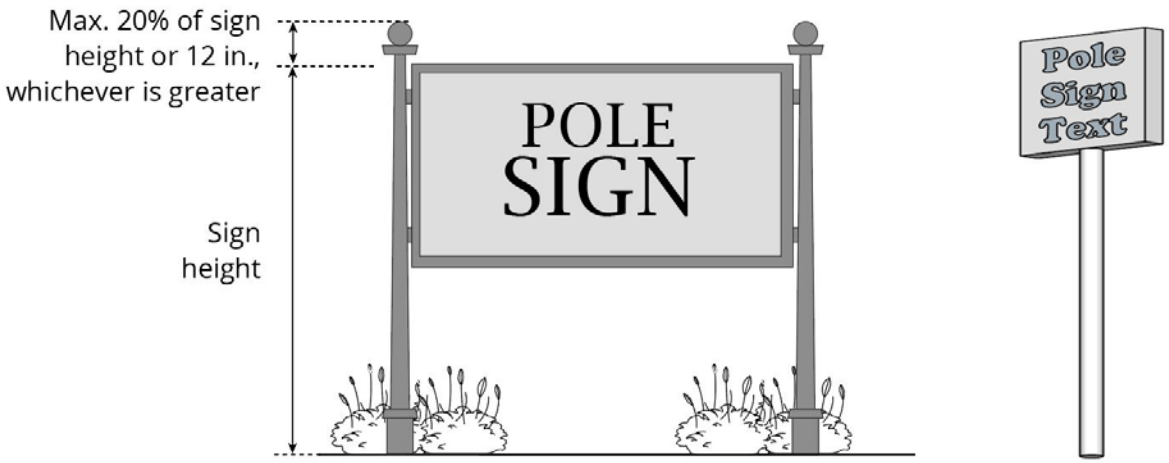


[1] The maximum sign area and sign height standards may be further limited by the standards established in Table 20-R. If no value is included in the table below, then a monument sign is not allowed in that sign district

[2] Allowed for institutional uses in residential zones only.

TABLE 20-V: STANDARDS FOR POLE SIGNS[1]

Standard		Sign District					
		Residential Sign District	Small Mixed-Use Sign District	Large Mixed-Use Sign District	Downtown Sign District	Industrial Sign District	Open Space Sign District
Sign area (max.)	Signs ≤ 8 ft. High	15 SF	24 SF	24 SF	24 SF	24 SF	20 SF
Height (max.)		5 ft.	8 ft.	8 ft.	6 ft.	8 ft.	8 ft.
Sign area (max.)	Signs 8 - 25 ft. high			140 SF		140 SF	
Height (max.)				25 ft.		16 ft.	
Illumination		Non-illuminated or internal illumination Signs ≤ 8 ft. in height may have external illumination					
Sign placement		Signs ≥ 8 ft. in height must have minimum 75 foot separation from other pole signs ≥ 8 ft. on the same side of the street.					
Sign height		Elements to enhance the design of a sign structure ≤ 8 ft. in height may extend above the sign to a max. of 20% of the sign's allowed height, or 12 inches, whichever is greater.					



1 The maximum sign area and sign height standards may be further limited by the standards established in Table 20-R.

20.9 STANDARDS FOR TEMPORARY SIGNS

20.9.1 In general

Temporary signs are allowed only in compliance with the provisions of this section.

A. **Information required for display.** All temporary signs are required to display the name and address of the entity placing the sign, and the date the sign was erected.

B. **Not included in permanent sign allowances.** Temporary signs are not counted toward the maximum total sign area established in Section 20.8.

C. **General time, place, and manner restrictions.** Unless specifically exempted by this section, temporary signs must be placed in compliance with Subsection 20.6.1. Temporary signs must not be placed to create a hazard for pedestrian or vehicular traffic and must allow for a 4-foot wide sidewalk to comply with the Americans with Disabilities Act.

D. Any form of illumination, including flashing, blinking, or rotating lights; animation; reflective materials; and attachments such as balloons, ribbons, and loudspeakers are prohibited.

E. Temporary signs must be of sufficient weight and durability to withstand wind gusts, storms, and other exterior elements.

20.9.2 Additional standards for temporary signs

All temporary signs shall comply with the standards of Tables 20-W and 20-X.

TABLE 20-W: TEMPORARY SIGN STANDARDS BY SIGN DISTRICT

	Standard	Requirement
Residential	**Total area of all temporary signs at any one time** (max.)	16 SF per lot.
	Number of signs (max.)	Unlimited except that the total sign area must not exceed 16 SF
	Time limit (max.)	None
Other	**Total area of all temporary signs at any one time** (max.)	24 SF per tenant, with a total of max. 72 SF per lot (excludes the area of temporary window signs and permitted wall banner signs) Exception: In the Downtown Sign District and historic districts, max. 12 SF per tenant (excludes the area of temporary window signs and permitted wall banner signs)
	Number of signs (max.)	1 wall banner per tenant in a multi-tenant building. All other temporary sign types unlimited, except that the total sign area of all temporary signs (excludes the area of temporary window signs and permitted wall banner signs) must not exceed the total square footage provided above. Exception: In multi-tenant shopping centers or offices, max. 2 temporary wall banner signs per 150 linear feet of property frontage, not to exceed 24 SF combined.
	Time limit (max.)	60 days per temporary sign permit, and up to 180 days per calendar year.

TABLE 20-X: STANDARDS FOR TEMPORARY SIGN TYPES

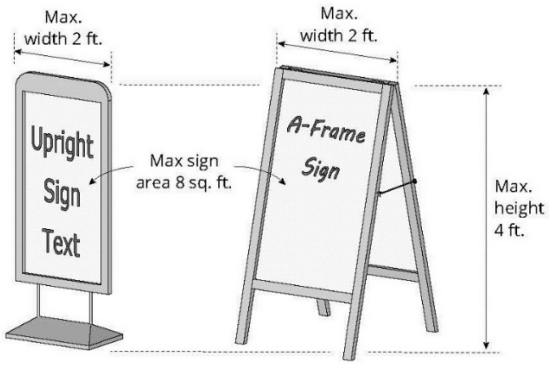
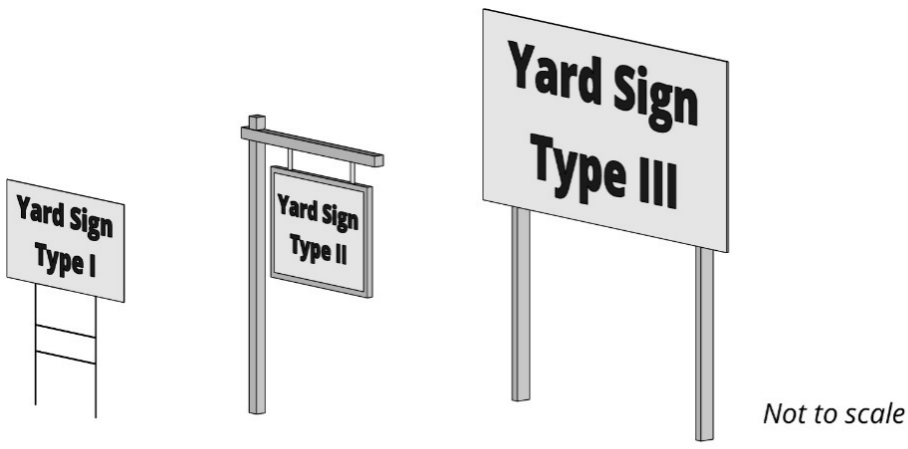
Temporary Sign Type[1]	Standard: Height	Standard: Width (max.)	Standard: Area (max.)	Other Requirements
	Min. 30 in. Max. 4 ft.	2 ft.	8 SF	Prohibited in residential zones. Must not be placed in public right-of-way except as permitted by the City. [3] If advertising a business, only permitted during regular business hours.
A-frame or upright sign[2]				
			32 SF	Prohibited in residential zones. Must be mounted on a building wall or on T-posts or stakes installed ≤ 6" from a wall on which the wall banner will be hung. Mounting height (max.): 25 ft. to top of banner.
Wall banner				

TABLE 20-X (CONT.): STANDARDS FOR TEMPORARY SIGN TYPES

Temporary Sign Type[1]	Standard: Height (max.)	Standard: Width (max.)	Standard: Area (max.)	Other Requirements
Window sign			See End Note[4]	Mounting height (max.): Placed no higher than second story windows. Inside mounting required. Not included in the total sign area for all temporary signs.
Yard sign (Type I)	4 ft.	2 ft.	3 SF	Installation requirements: Installed securely in the ground.
Yard sign (Type II)	6 ft.	2 ft.	4 SF	Installation requirements: Installed securely in the ground.
Yard sign (Type III)	6 ft.	8 ft.	32 SF	Installation requirements: Installed securely in the ground.



[1] Other temporary sign types may be allowed (e.g. fuel pump topper signs; wrap around waste receptacles) provided the max. area limitation for all temporary signs is not exceeded.
[2] These signs may be used to identify businesses located down a wharf in the EWPZ and WCZ Zones that have no street frontage and where no other options for on-site permanent signage are available.
[3] A min. 4-foot wide pedestrian walkway must be maintained at all times.
[4] The area of temporary and permanent window signs combined (including signs constructed of perforated vinyl or painted on the window) must not exceed 50% of the area of the window on or within which they are displayed.

20.10 NONCONFORMING SIGNS

20.10.1 Applicability

A. **Maintenance.** Nonconforming signs may be maintained, expanded upon, and/or reduced only in accordance with the provisions of this section.

B. **Continuation.** All lawfully nonconforming signs may be continued, subject to this section.

1. Lawfully nonconforming permanent directional signs for existing nonconforming businesses that are established and operational in any residential zone may continue to be used subject to this section.
2. Lawfully nonconforming permanent signs for nonconforming uses established and operational in any residential zone may continue to be used subject to this section.

20.10.2 Removal or replacement of a nonconforming sign

Lawfully nonconforming signs must be made to conform or shall be removed if any of the following occurs, unless the improvements are required to achieve compliance with applicable federal, state, or local regulations, other than the provisions of this article, and the improvements do not require replacement of the nonconforming sign. In no event will the degree of nonconformity of any sign or type of signage on any lot be increased.

A. **Major site plan review.** Major site plan review is sought for any new structures or building additions on the site, except as provided in (E) below.

B. **New building permit for rehabilitation.** A building permit is sought for a rehabilitation of a building where the value of the rehabilitation exceeds 50% of the assessed value of the building, or $100,000, whichever is less, provided that where rehabilitation is of a multi-tenant building, only the tenant or tenants whose building or area is being rehabilitated shall be required to come into conformance with this article.

C. **New sign permit.** An application is filed for a new sign permit in accordance with the following:

1. When an application is filed for a new building-mounted sign, all building-mounted signs on the lot must come into compliance with all requirements of this article for building signs.
2. When an application is filed for a new freestanding sign, all freestanding signs on the lot must come into compliance with all requirements of this article for freestanding signs.

D. **Modification of sign.** A sign is modified in any way, except for routine maintenance or repair of sudden and accidental damage, or for a change in the message panel only, unless otherwise required to conform under this subsection. Repair of sudden and accidental damage will not include replacement of the entire sign, which is treated as a modification under this subsection. Letters on nonconforming signs designed for changeable messages may be changed without triggering the terms of this subsection as long as no other change is made to the sign.

Replacement of an awning covering with substantially the same material and text is not considered a modification.

E. Signs on multi-tenant properties

1. In the case of nonconforming freestanding shared signs for multi-tenant properties, signs may be added or modified to reflect a change in individual tenants without triggering the terms of this subsection, provided that the degree of nonconformity is not increased.
2. In the case of building signs on multi-tenant properties, this subsection shall apply only to the individual business tenant that is adding or modifying a sign or seeking major site plan review and shall not trigger the conformance requirement for other tenants' building signs.

F. Abandoned or vacant site. Removal of a nonconforming sign, or replacement of a nonconforming sign with a conforming sign, is required when the use of the sign and/or the property on which the sign is located has been abandoned, ceased operations, become vacant, or been unoccupied for a period of 180 consecutive days or more, as long as the period of non-use is attributable at least in part to the property owner, tenant, or other person or entity in control of the use. For purposes of this section, rental payments or lease payments and taxes are not considered as a continued use. In the event this should occur, such conditions will be considered as evidence of abandonment, requiring removal of such sign by the owner of the property, his or her agent, or person having the beneficial use of the property, building, or structure upon which such sign or sign structure is erected within 30 days after written notification from the Planning Authority. If such sign(s) is (are) not removed within the 180-day period, enforcement action will be pursued consistent with Section 20.11.

20.10.3 Permanent directional signs in residential zones

A. A lawfully existing business located in a residential zone is allowed an off-premise sign in the public right-of-way if it meets the following requirements:

1. The business is not a home occupation.
2. The business is not located within 500 feet of a major or minor arterial.
3. The off-premise sign will be no larger than 12 inches by 48 inches and complies with the requirements established in the *MDOT/MUTCD Standard Sign Manual*.

B. Such lawfully existing retail business may qualify for one two-sided or two one-sided off-premise signs that must be located within the public right-of-way of a major or minor arterial in a location determined safe by the City Traffic Engineer and upon the payment of an initial fee of $300, with an annual renewal fee of $30.

C. In the event the sign is damaged or destroyed, the replacement of the sign shall be the sole responsibility of the permittee. The permittee shall be required to obtain a permit for the replacement sign from the Planning Authority, after securing $400,000 insurance and naming

the City of Portland as an additional insured.

20.10.4 Nonconforming signs in residential zones

A. Lawfully-existing permanent signs for lawfully existing nonconforming uses in any residential zone may continue to be used.

B. If an application is filed for new or replacement building-mounted sign(s) for a lawfully-existing nonconforming use located in a residential zone, the building-mounted sign(s) must either be the same size and number as the lawfully existing building-mounted sign(s), or must comply with the standards established for the Small Mixed-Use Sign District in Table 20-G, whichever is less. Sign types shall be limited to blade, directory, wall, and window signs. Illumination shall be limited to external illumination only.

C. If an application is filed for replacement freestanding sign(s) for a lawfully-existing nonconforming use located in a residential zone, the freestanding sign(s) must be the same size and number as the lawfully existing freestanding signs, or must comply with the standards established for the Small Mixed-Use Sign District in Table 20-R, whichever is less. No new freestanding signs for a nonconforming use in a residential zone shall be permitted. Illumination shall be limited to external illumination only.

20.11 ENFORCEMENT

20.11.1 Authority

The requirements of this article shall be enforced by the Building Authority as stated in Article 1. The Building Authority has the authority to order the repair, maintenance, or removal of any sign or sign structure that has become dilapidated or represents a hazard to public health, safety, or welfare.

20.11.2 Violations

A. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, display, maintain, or use a sign within the City contrary to, or in violation of, any provision of this article. Any work commenced without a sign permit, or beyond the authorized scope of a sign permit constitutes a violation of this article and is grounds for the Building Authority to issue a correction notice and/or to stop all work on the sign until appropriate permits are obtained.

B. Permits issued for work commenced without a sign permit, or any work beyond the authorized scope of a sign permit shall be assessed double the required permit fees for the sign(s).

C. Failure to perform any act required by this article, failure to obtain any permit required, or the performance of any act prohibited by this article constitutes a violation and is subject to penalties as set forth in 30-A M.R.S. §4452.

D. Each day on which a violation exists will constitute a separate violation for purposes of this section.

21 PUBLIC ART PROGRAM

21.1 ESTABLISHMENT

It shall henceforth be the policy of the City to provide on an annual basis regular funding for the preservation, restoration, and enhancement of its public art collection. This article and the funding contemplated are in recognition of the fact that only by instituting a steady stream of funding for this effort and standing by that commitment, will the City over time be able to fulfill its role as steward of its public art collection and help nurture and enrich thereby the quality of life in this city.

21.2 PURPOSE

The purpose of this article is to promote the educational, cultural, economic, and general welfare of the City of Portland by providing the means to fund the acquisition and care of art works by the City of Portland, which shall be the City's public art collection. The Public Art Program seeks to:

A. Care for and maintain the public art collection of the City of Portland by documenting, preserving, restoring, and repairing the collection.
B. Commission or acquire works of public art, and to seek donations of art work for the City's public art collection.
C. Provide curatorial expertise and project management for the care of Portland's public art collection.
D. Enhance and enrich the lives of the city's residents, visitors, and employees by incorporating the visual arts into public spaces.
E. Contribute to the city's civic pride and sense of identity.
F. Increase access to works of art for residents and visitors to the area.
G. Enhance Portland's growing reputation as a city which celebrates the arts.
H. Celebrate the multi-cultural and diverse character of Portland's communities with place-specific art.
I. Encourage collaboration between artists, landscape architects, urban planners, architects, engineers, and other designers.

21.3 DEFINITIONS

Art work. For the purposes of the Public Art Program, art work shall include the following:

A. Sculpture, statues, or monuments in any material or combination of materials.
B. Painting.
C. Graphic arts, printmaking, and drawing.
D. Photography.
E. Crafts in clay, fiber and textiles, wood, metal, plastics, glass, and other materials.
F. Mixed media, any combination of forms or media, including collage.
G. Functional art such as street furniture, as described in the *Guidelines for the Public Art Ordinance.*
H. Environmental art consisting of landforms and artistic landscape composition.

The following shall not be considered public art for the purposes of the Public Art Program:

A. Reproductions by mechanical or other means of original works of art, except for limited editions, controlled by the artist, of original prints, cast sculptures, photographs, or other works of art.
B. Decorative, ornamental, or functional elements which are designed by the building architect or consultants engaged by the architect which are

a traditional and typical element of architectural design.

C. Those elements generally considered to be conventional components of a landscape architectural design including, but not limited to, plant materials, pools, paths, benches, receptacles, fixtures, and planters except as allowed by (G) and (H) in the list of included art work above.

D. Art objects which are mass produced or of a standard design, such as playground sculpture or fountains, except pieces of historical significance to the city.

E. Directional or other functional elements, such as supergraphics, signage, color coding, and maps, except where sculptural pieces are used to define gateways in the city.

F. Electrical, water, or mechanical service for activation of the work.

G. Exhibitions and educational programs related to the work.

H. Performing arts.

I. Art that displays slogans, logos, mascots, or commercial advertising.

Public art collection. Art objects that are owned by the City of Portland which are permanently installed in public, accessible locations. Permanent public art must be located in a public place with public visibility and impact, and shall have a permanence at least comparable to associated capital projects.

Public art guidelines. The regulations adopted by the committee and approved by the City Council which establish procedures to carry out the purpose of this article. The guidelines shall include but not be limited to criteria for selection of artists and art works, maintenance of a file of interested artists, procedures for artistic competitions, and requirements for the maintenance of works of art.

21.4 FUNDING

21.4.1 Establishment of Public Art Fund

The City shall establish a special revenue fund designated as the Public Art Fund in the City treasury from which expenditures may be made in accordance with this ordinance. The Public Art Fund shall contain a capital account to fund permanent public improvements in the form of the purchase, acquisition, or commission of new public art, or major restorations, and an operations and maintenance account. Authorized expenditures include, but are not limited to, associated site installation costs, such as lighting and landscaping, and costs associated with the commission, engineering, contract administration, unveiling, and dedication activities. Also authorized are expenditures associated with preservation, conservation, and repair of existing public art. Capital funds may come from any source, including the sale of general obligation bonds. The City's capital improvement program shall contain an annual appropriation for the Public Art Fund calculated in accordance with Subsection 21.4.2. Funds for the operation and maintenance account may come from any source except bonds.

21.4.2 City-funded projects

A percentage of the City's Capital Improvement Program (CIP) shall be calculated and appropriated annually to the Portland Public Art Fund. The annual appropriation shall be .5% of the total annual CIP. Nothing contained herein shall preclude funding the acquisition of art for municipal property in other ways.

21.5 ADMINISTRATION

21.5.1 Public Art Committee responsibilities

The City Public Art Program shall be administered by the Public Art Committee whose members shall be appointed by the City Council, and shall have the following responsibilities:

A. Develop an annual art plan for Portland which shall be presented to the City Council for approval.

B. Establish such guidelines as are necessary to carry out the purpose of this article. The guidelines shall include but not be limited to criteria for selection of artists and art work, maintenance of a file of interested artists, review criteria for proposed gifts of art work to the City, procedures for artistic competitions, and requirements for the maintenance of art work. Any and all guidelines or changes to guidelines shall be placed on a City Council agenda as a communication. The guidelines shall take effect 45 days after the date of placement on the council agenda, unless the City Council takes official action disapproving the guidelines, in whole or in part, prior to the expiration of the 45-day period. If a part of a guideline is vetoed, the remainder shall continue in effect. Any guideline adopted, which is not required by the statutes of the state or by this article, may be waived by the chair upon good cause being shown.

C. Recommend to the City Council the expenditure of funds for the acquisition or commissioning of public art, for maintenance of public art, and for administration of this program.

D. Seek private donations of funds and/or works of art for the purposes of expanding the public art collection or the maintenance of the collection.

E. Oversee the maintenance, care, and repair of the public art collection.

F. Review the appropriateness of proposed public art which is intended to fulfill all or part of the contribution required by this article.

G. Review potential gifts of art to the City on City property, and assist in the development process of such gifts, in accordance with the *Guidelines for the Public Art Ordinance.*

H. Recommend appropriate locations and accessibility to the public for permanent art, with suggestion as to the type of art which is appropriate.

I. Solicit advice from arts professionals, the business community, and from local residents on the appropriateness of proposed art.

J. Recommend revisions to policies and guidelines for the improved implementation of this program.

K. Ensure that the use of funds collected under this program will increase the amount of art in the city that is available to the public.

21.5.2 Public Art Committee structure

A. The Public Art Committee shall be composed of eleven voting members who are appointed by the City Council. The City Council shall appoint one of its members, the City Manager shall recommend a member, and Creative Portland shall recommend one of its members to serve on the Public Art Committee. The City Council shall appoint the remaining eight members who shall be volunteers and have interest and/or expertise in public art. Such experience may include, but shall not be limited to, education and experience as an architect, a

landscape architect, a professional curator, a professional artist, and/or an art educator. Persons appointed to the Public Art Committee must live or work in Portland and shall be appointed through the City's annual appointment process.

B. Each Public Art Committee member shall serve for a period of three years. The appointments shall be staggered so that three appointments terminate each year.

C. Whenever a vacancy shall occur, the vacancy shall be filled by the City Council.

D. The Public Art Committee shall adopt its own rules for the conduct of its business not inconsistent with the statutes of the state and this article. Any and all rules or changes to rules shall be placed on a City Council agenda as a communication. The rule or rules shall take effect 45 days after the date of placement on the council agenda, unless the City Council takes official action disapproving the rules, in whole or in part, prior to the expiration of the 45-day period.

E. The members of the Public Art Committee shall annually elect one of their members as a chair to preside at all meetings and hearings and to fulfill the customary functions of that office, and another of their members as vice-chair.

22 REGULATION OF EXPLOSIVES

22.1 PURPOSE

The purpose of this article is to protect the public's health, safety, and general welfare by regulating and controlling blasting operations within the city.

22.2 APPLICABILITY

This article shall apply to all blasting operations related to construction and development of real estate within the city. The City of Portland *Technical Manual* is incorporated into this article by reference. Standards listed in the *Technical Manual* shall be additional to the provisions of this article.

22.3 REVIEW PROCESS

22.3.1 Permit Required

No person may conduct blasting operations within the city without first obtaining a permit from the Fire Department, as required by the National Fire Protection Association 1 Fire Prevention Code, as adopted and amended in Chapter 10 of the City of Portland Code of Ordinances. Fees for this permit shall be as established by order of the City Council.

22.3.2 Application Requirements

Prior to the issuance of a permit the following information shall be submitted to the City:

A. A blasting plan shall be submitted by the applicant to the Planning Authority for all projects where more than 300 cubic yards of material shall be removed. The blasting plan shall conform to the provisions of this article and of Section 3 of the City of Portland *Technical Manual*.

B. A blasting submittal shall be submitted to the Planning Authority where between 50 and 300 cubic yards of material shall be removed. The blasting submittal shall conform to the provisions of this article and of Section 3 of the City of Portland *Technical Manual*.

C. A blasting application shall be submitted to the Planning Authority where less than 50 cubic yards of material shall be removed, or where utility trench work in the accepted public right of way, including City or Portland Water District infrastructure is proposed. Small blasts where less than 50 cubic yards of material shall be removed are not required to submit either a blasting plan or blasting submittal. Such projects must conform to the National Fire Protection Association Fire Prevention Code and applicants shall submit a monitoring report upon request. Information provided in the blasting application shall confirm that the proposed small blast conforms to all applicable provisions of this ordinance and of Section 3 of the City of Portland *Technical Manual*.

D. A blasting plan or blasting submittal may be required for any blasting operation at the discretion of the Planning Authority when it determines that conditions at or near the site of the blasting operations warrant the provision of a plan.

22.4 STORAGE AND HANDLING

All explosives shall be stored and handled in accordance with the provisions of this code, the laws of the State of Maine, and the National Fire Protection Association 1 Fire Prevention Code.

22.5 ENFORCEMENT

In the event that there are more than three documented violations of the blasting plan, blasting submittal, or blasting permit, or any other violation of this article, a stop work order may be issued on

all construction or development related to the permitted operation. The permittee shall then be required to submit a revised blasting plan to the Planning Authority for review and approval. Work shall not be allowed to continue until the revised blasting plan is approved.

22.6 PENALTIES

In addition to the possibility of a stop work order in the event of a violation, the permittee shall be subject to the following penalties:

1st offense	$500
2nd offense	$1,000
Subsequent offenses	$1,000

22.7 NOTICE REQUIREMENTS

22.7.1 Basic noticing requirements

At least 10 days prior to the start of any blasting operation, notice shall be published in a newspaper of local publication and shall be mailed by first class mail to all property owners within the distance specified below of the perimeter of the blasting site:

A. **Small blast (trench blast or under 50 cubic yards of rock removed).** All property owners within 250 feet of the perimeter of the blasting site.
B. **Medium blast (removal of 50-300 cubic yards of rock material).** All property owners within 500 feet of the perimeter of the blasting site.
C. **Large blast (removal of over 300 cubic yards of rock material).** All property owners within 600 feet of the perimeter of the blasting site.

22.7.2 Content of notice

Notice shall conform to the model notice contained in Section 3 of the City of Portland *Technical Manual* and shall include a description of the proposed blasting operations, estimated schedule and duration of blasting operations, description of the blasting signals to be used during operations, the complaint protocol and the complete address, telephone numbers and email contact for the blasting contractor, the Planning Authority, and Fire Department where neighbors and property owners may request further information and notification.

22.7.3 Additional noticing requirements

A. For medium blasts where 50-300 cubic yards of rock material is to be removed, and large blasts where over 300 cubic yards of rock material is to be removed, additional notification requirements shall apply during construction, as detailed in Section 3 of the City of Portland *Technical Manual*.
B. If blasting operations are to occur within 250 feet of any structure, additional notification requirements shall apply, as detailed in Section 3 of the City of Portland *Technical Manual*, in order to prevent adverse public health and safety impacts due to blasting-related carbon monoxide migration.

22.8 HOURS OF BLASTING

Blasting shall occur Monday through Friday, between the hours of 9 a.m. and 4 p.m., unless otherwise approved by the Planning Authority. Requests for extension of hours of blasting must be submitted by the applicant in writing.

22.9 WAIVERS

Upon written request by the applicant, the Planning Authority, based on a positive recommendation by the Fire Department, may waive all or a portion of the blasting provisions of Section 3 of the City of Portland *Technical Manual*, provided that all waivers

are consistent with the purposes set forth in Section 22.1.

22.10 SUSPENSION OF BLASTING OPERATIONS

If it is determined that blasting operations pose any risk to public health, safety, or general welfare, the Planning Authority or the Fire Chief or their designee shall have the authority to suspend the blasting permit at any time until they deem it safe for blasting operations to continue.

1. TRANSPORTATION SYSTEMS AND STREET DESIGN STANDARDS

1.1. HORIZONTAL ALIGNMENT OF STREETS

The horizontal alignment of all proposed streets shall conform to the following standards:

- Horizontal curves shall have centerline radii of not less than 110 feet.
- The alignment centerline shall be straight for at least 100 feet between reverse curves whenever either curve has a centerline radius of less than 200 feet.
- When two streets intersect and one street is an arterial or collector street, or both streets are arterial or collector streets, the angle of intersection shall be 90 degrees. When two streets intersect and neither street is an arterial or collector street, the angle of intersection shall be at least 75 degrees and no greater than 105 degrees.
- When two streets intersect, adjoining right-of-way lines shall be connected by a circular arc with radius of at least ten (10) feet. The connecting arc shall be tangent to the right-of-way lines on both streets. When the angle of intersection is other than 90 degrees, a radius greater than ten (10) feet may be required.
- All dead-end streets shall provide for a turnaround at the end of the street, subject to approval by the reviewing authority. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).
- Street intersections with more than four (4) legs shall be prohibited.
- The minimum distance between intersections on any street shall be as follows unless the Department of Public Works determines that unique conditions of the site necessitate a lesser length. The distance between intersections shall be measured from the intersection of street centerlines at one intersection to the intersection of street centerlines at the other intersection. Streets shall be classified in accordance with the Functional Classification Guidelines as set forth by MaineDOT.

Local Street and Local Street Intersection	200 feet
Local Street and Collector Street Intersection	250 feet
Local Street and Arterial Street Intersection	300 feet
Collector Street and Collector Street Intersection	400 feet
Collector Street and Arterial Street Intersection	500 feet
Arterial Street and Arterial Street Intersection	500 feet

1.2. STREET GRADES

1.2.1. Street grades shall conform to the following standards, as shown in Figures I-1, I-2, and I-3:

- The maximum grade for the centerline of all streets shall not exceed eight (8) percent.
- The minimum grade for the centerline of all streets shall not be less than one- half (0.5) percent.
- The cross slope for local streets shall be three (3) percent. The cross slope for other street classifications shall be two (2) percent.
- Cross slopes for sidewalks shall be one (1) percent minimum and two (2) percent maximum, sloping down and away from the street line to the top of the curb at the gutter line, including pedestrian access routes across driveways, as shown in Figure I-10C.
- Street grades at intersections shall not be more than three (3) percent for a distance of one hundred (100) feet from the center of the intersection.

1.2.2. Curbless “shared streets” shall be considered on a case-by-case basis after consideration of context, design, and maintenance. Approval of any curbless “shared street” shall be subject to review by the Department of Public Works.

1.3. VERTICAL ALIGNMENT

Where two adjacent street segments are proposed to have different straight line centerline finish grades, vertical curves shall be used to connect the adjacent street segments. Vertical curves shall be parabolic and tangent to each of the adjacent grades. The minimum vertical curve length, "L", shall be calculated based on the following formula:

$$L = K \times A$$

where "A" is the absolute value of the algebraic difference between the beginning grade and the ending grade of the vertical curve, with both grades expressed in percent, and "K" is a factor whose value depends on street design speed. The K values corresponding to the minimum vertical curve lengths for the above street classifications and vertical curve types (sag curve or crest curve) are as follows:

Local Streets	
Crest Vertical Curves:	K = 20
Sag Vertical Curves:	K = 30
Collector Streets	
Crest Vertical Curves:	K = 30
Sag Vertical Curves:	K = 40
Arterial Streets	
Crest Vertical Curves:	K = 50
Sag Vertical Curves:	K = 50

1.4. SIGHT DISTANCE

Where driveways or new streets enter an existing street, vehicular sight-distance shall conform to standards established by the Maine DOT as contained in their publication, Chapter 299, Highway Driveway and Entrances Rules. For driveways frequently accessed by large vehicles, greater sight distance will be required according to Maine DOT guidelines.

1.5. DRIVEWAY DESIGN

1.5.1. All driveways shall be designed according to the following table, unless otherwise approved by the Department of Public Works.

Requirement	Minor driveway (serving <10 residential spaces)	All other driveways
A) Number of driveways	No more than one (1) driveway shall be permitted.	No more than two (2) driveways shall be permitted. Adjacent sites under common ownership shall have no more than two (2) driveways combined.
B) Minimum/ maximum driveway width	10 feet minimum, 20 feet maximum, measured at the property line.	For two-way driveways (preferred): • 20 feet minimum, 24 feet maximum for residential/commercial uses • 30 feet maximum for industrial uses Larger driveway openings may be permitted by the Department of Public Works as determined on a case-by-case basis.
C) Driveway spacing	Spacing of new or reconfigured driveways shall take the existing pattern of driveways in the surrounding context into account, and shall limit the impact to on-street parking and existing street trees. Shared driveways are encouraged. Driveway locations may be rejected based on documented or anticipated safety or operational issues	• 50 feet along local streets • 100 feet along arterial and collector streets with posted speeds of 35 mph or less • 150 feet for roadways posted at speeds greater than 35 mph Driveway locations may be rejected based on documented or anticipated safety or operational issues.
D) Driveway separation from intersections	• At least 35 feet along local roads • 50 feet along collectors/ arterials Distance shall be measured from the projection of the right-of-way line at the roadway to the centerline of the driveway. Driveway locations may be rejected based on documented or anticipated safety or operational issues.	• At least 35 feet along local roads • 100 feet along collectors/arterials Distance shall be measured from the projection of the right-of-way line at the driveway to the centerline of the driveway. Driveway locations may be rejected based on documented or anticipated safety or operational issues.

Requirement	Minor driveway (serving <10 residential spaces)	All other driveways
E) Curbing	2-foot granite corner radius "bugs" (also known as a "bullnose") shall be used where possible. Tipdowns may be used if the driveway crosses a narrow sidewalk.	Granite radii (where sufficient esplanade is available) or tipdowns shall be used. Granite radii shall not cross the pedestrian access route.
F) Driveway intersection angle	Perpendicular to the street, where possible. Where necessary, the driveway shall intersect the street between 75 and 105 degrees unless otherwise approved by the Department of Public Works.	
G) Design vehicle	Driveways shall be designed to accommodate site-specific design vehicles, and shall not be designed larger than necessary, as determined by turning movement diagrams and engineering judgment.	
H) Loading	All necessary functions for loading, circulation, and parking maneuvers shall occur within the site and outside of the right-of-way to the extent practicable, given the site context	
I) Circulation	Vehicle circulation shall be completely contained within the site to the extent practicable, given the site context.	
J) Backing maneuvers	Backing maneuvers may be permitted to enter the site. Backing maneuvers from a site may be permitted based on upon site context including functional class of the adjacent street, traffic volumes, and speeds.	Backing maneuvers into and out of the site are prohibited. All vehicles must enter and exit the site facing forward.
K) Parking area size	All driveways shall serve a parking area of at least 8'x16', clear of any encroachment, plus any setbacks required by zoning. Parking areas and parked cars shall not encroach upon the public right-of-way.	

1.5.2. Auxiliary lanes serving driveways: A left-turn lane and/or right-turn lane with appropriate storage and transition may be considered where engineering analysis indicates a need. The need for auxiliary lanes shall be considered within the context of the impacts to sidewalks, bikeways, transit stops, on-street parking, and traffic safety. All new auxiliary lanes are subject to the approval of the Department of Public Works.

1.6. SIDEWALKS AND CURB RAMPS

1.6.1. Sidewalk construction and materials: Sidewalks shall be brick, concrete or hot mix asphalt. The City Sidewalk Materials Policy (Appendix 1) shall be consulted to determine the appropriate type of sidewalk and driveway construction to use on various streets and in different areas of the City. Within the city's historic districts, only brick shall be used. Sidewalk and driveway construction details are illustrated in Figures I-10 and I-11. All new concrete sidewalks which abut

existing concrete sidewalks must be doweled in prior to pouring. All new brick sidewalks shall be constructed with bricks running perpendicular to the path of pedestrian travel, including through driveway crossings.

1.6.2. Sidewalk accessibility: All sidewalks shall meet any minimum standards set forth by current Americans with Disabilities Act (ADA) and Public Right-of-Way Accessibility Guidelines (PROWAG) guidance. There are no exceptions unless technical infeasibilities are identified, documented, and approved by the Department of Public Works**.** In case of conflict, these standards shall supersede this manual.

1.6.2.1. Sidewalk width: The minimum sidewalk clear width shall be five (5) feet. Where obstructions, such as utility poles, are located in sidewalks, a minimum clear and direct pedestrian access route width of five (5) feet shall be provided between the obstruction and one edge of the sidewalk. Wider sidewalks may be required in locations where heavy pedestrian traffic is expected, based on the site context. New sidewalks shall be at least as wide within the right-of-way as the sidewalk(s) along the adjacent properties.

1.6.2.2. Level changes: The maximum allowable vertical level change at any point is ¼-inch. A level change of ¼-inch to ½-inch shall be formed with a beveled slope no steeper than 26.6 degrees (2:1). Level changes greater than ½-inch shall be designed as ramps.

1.6.2.3. Running slope: Sidewalks shall be designed with a running slope no greater than the adjacent street slope.

1.6.2.4. Cross-slope: Sidewalks, including pedestrian access routes across driveways, shall be constructed with a minimum cross slope of 1% and a maximum cross-slope of 2% post-construction. Finished cross-slopes of greater than 2% shall not be acceptable. Designed cross-slopes of 1.5% are encouraged. Cross-slopes shall be consistent across the width of the sidewalk.

1.6.3. Curb ramps: ADA-compliant curb ramps are required on all projects involving construction of new streets or new sidewalks, and on all projects involving alterations to the abutting street, including repaving of existing streets and sidewalks.

Curb ramps shall be designed to prevent ponding of water at the base of the ramp. Ramp designs and details will indicate how positive drainage away from the landing in the vicinity of curb ramps will be achieved.

1.6.3.1. Applicability: ADA-compliant curb ramps are required at all marked and unmarked crossing locations. **-**Ramps shall not be provided only where there is

no crossing present due to safety concerns or a lack of pedestrian facilities on the opposite corner.

1.6.3.2. Orientation: Curb ramps shall be designed with the direction of travel on the ramp perpendicular to the curb line and parallel to the crosswalk, where feasible. Where existing conditions, such as narrow right-of-way width or utility constraints, preclude such layouts, parallel ramps, where the entire sidewalk ramps down, are acceptable. Diagonal ramps are not desirable, but may be approved by DPW on a case-by-case basis. Ramp design standards are provided in Figure I-6.

1.6.3.3. Detectable warning panels: All pedestrian curb ramps shall include truncated dome warning panels as shown in Figure I-7. Any curb ramp that is not intended to be used by pedestrians (e.g. ramps serving bikeways) shall not include warning panels. Warning panels shall also be provided where a crossing is present without a curb ramp (for example, where pedestrian facilities are at the same grade as the street, within a median refuge, etc.). All warning panels shall be uncoated cast iron, as detailed in Figure I-7. DPW reserves the right to require the installation of warning panels at driveway locations in such situations where volume or configuration of traffic may necessitate their placement.

1.6.4. Shared use paths: Shared use paths and other pedestrian access routes in the right-of-way shall conform to the same ADA requirements as sidewalks discussed herein. The appropriate material for shared use paths may differ from the material prescribed in the Sidewalk Material Policy. The appropriate material shall be determined by the Department of Public Works if not already documented in a transportation plan or master plan. Shared use paths shall be 10 feet in width or greater to allow for two-way traffic and passing.

1.6.5. Curb extensions: Curb extensions (also known as bump-outs, bulb-outs, or neckdowns) describe any localized narrowing of the roadway, typically at pedestrian crosswalk locations. The installation of any curb extension is subject to the approval of the Department of Public Works.

1.6.5.1. Applicability: Curb extensions may be considered where one or more of the following conditions are met:

- There is a documented speeding issue confirmed by a speed study;
- Curb extensions are necessary to construct one or more ADA-compliant curb ramps at an existing or proposed crosswalk;
- As determined necessary at uncontrolled midblock crossings;

- At signalized intersections, where reducing the pedestrian crossing time improves signal timing;

- At locations where there is a history of crashes involving pedestrians and/or crashes involving right-turning vehicles; or

- Where they are prescribed in a master plan or transportation plan.

1.6.5.2. Curb extension design: Curb extensions, where permitted, shall be constructed to achieve the applicable goal(s) without disrupting the functionality of the roadway or intersection. Curb extensions:

- Shall not impede necessary turning movements for trucks or emergency vehicles or winter operations;

- Shall not negatively impact drainage without adequate mitigation;

- Shall not impede upon, or narrow to an unacceptable degree, the adjacent travel or bicycle lanes; and

- Shall be constructed with radial curb (typically 10-foot radius or greater) at transition points to assist with drainage and maintenance, as shown in Figure I-19.

- Curb extensions that encompass on-street parallel parking lanes should generally not exceed six (6) feet in width, as shown in Figure I-19.

1.6.6. Non-compliance: ADA-compliance is required both within and outside of the public right-of-way. Any construction within the public right-of-way that is not built to ADA-compliance shall be reconstructed at the Applicant's expense.

Where strict compliance with ADA is technically infeasible in an alteration of an existing condition, the alteration must be made to the maximum extent technically feasible. The extent to which compliance is technically infeasible shall be documented, and an acceptable design shall be approved by the Department of Public Works. This process should occur during the design phase.

1.7. DRIVEWAY APRONS

Any driveway, or section thereof, located within any public street right-of-way shall be designed and built according to the following specifications.

1.7.1. Construction and materials: The portion of the driveway within the public right-of-way within the pedestrian access route shall be comprised of the same

material as the abutting sidewalk as identified in the Sidewalk Material Policy (Appendix 1) and constructed according to Figures I-10 through I-12.

1.7.2. Pedestrian access route: Where a driveway crosses a sidewalk, shared use path, or other pedestrian access route, a pedestrian access route shall be constructed across the driveway apron with a maximum cross-slope of 2% (1.5% preferred). The pedestrian access route shall be designed and constructed to meet the elevation of the adjacent sidewalk or shared use pathway to the extent feasible.

The pedestrian access route shall be constructed at the same width as the adjacent sidewalk or shared use path to the extent feasible. For pedestrian access routes connecting to adjacent sidewalks, the minimum width is four (4) feet, with five (5) feet preferred.

1.7.3. Driveway apron slope: The driveway apron shall ramp up to the grade of the sidewalk, where feasible. The portion of the driveway between the roadway and the pedestrian access route shall be designed to a maximum slope of 15%, unless otherwise approved by the Department of Public Works. This slope should be minimized to the extent possible while maintaining ADA-compliance and continuity of travel along the pedestrian access route.

1.7.4. Driveway design: Where feasible, driveways shall be designed to keep the pedestrian access route at a consistent elevation for continuity of travel. The portion of the driveway between the roadway and pedestrian access route shall be sloped to provide the full transition between the roadway and sidewalk elevations where feasible. Along roadways where the sidewalk width plus esplanade width is less than seven (7) feet, the sidewalk may be transitioned using ADA-compliant ramps in order to create a suitable driveway crossing.

1.8. ROADWAY CONSTRUCTION, SURFACE, AND AGGREGATES

1.8.1. All roadways shall be constructed in accordance with Chapter 25 of the City of Portland Code of Ordinances and the most current edition of the MaineDOT Standard Specifications unless otherwise indicated herein or otherwise directed in writing by the Department of Public Works.

1.8.2. Aggregates used in concrete mixes and in the construction of streets, sidewalks and aprons shall meet the requirements in SECTION 703 - AGGREGATES of the most current edition of the *State of Maine Department of Transportation Standard Specifications* with the following clarifications, additions and modifications:

1.8.3. 703.06 (a) Aggregate Base Gravels shall adhere to Maine DOT standard specifications listed in sections 304 and 703 for type “A” material.

1.8.4. 703.06 (c) Aggregate Subbase Gravels shall adhere to Maine DOT standard specifications listed in sections 304 and 703 for type "D" material.

1.8.5. 703.18 Common Borrow shall not contain any particle of bituminous material.

1.8.6. 703.19 Granular Borrow shall adhere to Maine DOT standard specification 703.19 for Granular Borrow material.

1.8.7. 703.20 Gravel Borrow shall adhere to Maine DOT standard specification 703.20 for Gravel Borrow material.

Minimum thicknesses for pavement structure materials

Street Classification	Minimum Materials Thicknesses (Inches)			
	Wearing Course Pavement	Base Course Pavement	Agg. Base Course	Agg. Subbase Course
Minor Residential	1 ½	2	3	15
Residential	1 ½	2	3	15
Collector	1 ½	2 ½	3	18
Commercial/Industrial	2	3	3	18

Minimum placement temperatures for hot mix asphalt pavement

Base Temp. °f	Mat Thickness, Inches					
	½	¾	1	1 ½	2	3+
40 - 50*	--	--	--	--	285	275
50 - 60	--	310	300	295	280	270
60 - 70	310	300	290	285	275	265
70 - 80	300	290	285	280	270	265
80 - 90	290	280	275	270	265	260
90+	280	275	270	265	260	255

** Surface course pavement shall not be placed when the air or road base temperature is less than 50 degrees F.*

1.9. STREETS ON ISLANDS IN CASCO BAY

Reserved.

1.10. PARKING LOT AND PARKING SPACE DESIGN

1.10.1. Parking lots, except for temporary lots to be used for less than one year, shall be constructed of a permanent and durable hard surface that is not subject to ponding or erosion, both onsite and within the right-of-way, and shall meet accessibility standards. Any proposed permanent parking lot surface must allow for delineation of parking spaces and circulation aisles.

1.10.2. Parking spaces shall meet the following dimensional requirements:

- Standard parking space: 9 feet wide by 18 feet long, except that low turnover parking spaces, such as those used by residents or employees, may be designed with a width of 8'-6" and considered a standard parking space.

- Compact parking space: 8 feet wide by 15 feet long.

- Motorcycle/motorized scooter parking space: 4 feet wide by 8 feet long.

Obstructions within parking areas, including columns and other permanent fixtures, shall not be located within the dimensions of a parking space. Where these obstructions are present, parking shall be striped and dimensioned to omit these obstructions. Such obstructions should not significantly impact vehicle maneuverability, visibility, ability to open doors, etc.

All spaces provided shall be safely accessible. Substandard and specialty spaces that are open to the general public shall be labeled as such using signage or pavement markings to inform users.

1.10.2.1. Compact spaces: Any parking lot with five or more spaces may contain a mix of standard and compact spaces. Up to 20% of parking spaces in a parking area may be compact. Compact parking spaces should be limited in high-turnover parking areas or locations where the typical vehicle is likely to be larger than a typical passenger vehicle. Vehicle turning analysis may be required for review by the Department of Public Works to ensure that spaces function as designed.

1.10.2.2. Accessible Parking: All parking areas shall provide accessible parking per ADA and the Maine Fair Housing Act. ADA standards for number of spaces, dimensions, buffers, cross-slopes, materials, pedestrian accessibility, and other requirements shall apply with no exceptions. Accessible spaces shall be considered "standard" parking spaces for the purposes of calculating the allowable number of compact spaces.

1.10.3. Vehicular access shall be provided by one or more aisles. The minimum two-

way drive aisle width is 24 feet for standard, right-angle parking, and is otherwise dependent on parking space orientation, as illustrated in Figure I-16A. Accessible parking spaces shall be served by at least one aisle of standard width or greater.

1.11. MOTORCYCLE/MOTORIZED SCOOTER/MOPED PARKING (ON-STREET):

To distinguish motorcycle/motorized scooter/moped parking spaces from standard parking spaces the spaces shall be painted and delineated with signage. These painted spaces shall be angled and shall be four (4) feet wide by eight (8) feet long. The dimensions for on-street motorcycle/motorized scooter/moped parking are outlined in Figure I-16B. On-street motorcycle/motorized scooter/moped parking may also be located where standard vehicle parking would be prohibited because of sight restrictions, such as adjacent to a crosswalk or an approach to a traffic control device. Motorcycles/motorized scooter/mopeds do not create the same sight impediment as a standard vehicle.

1.12. BICYCLE PARKING

1.12.1. Bicycle parking shall:

- Provide secure, durable racks that maintain bicycles in an upright position and to which bicycles can be affixed with customary lock and cable mechanisms. Fence-type ("wheel bender") racks designed to secure the front wheel only and wave racks are prohibited from counting toward bicycle parking requirements.

- Be installed on a hard surface that is suitably sized and provides sufficient clearance from obstacles.

- Be separated from car parking by a physical barrier such as curbing, wheel stops, parking bollards or similar features.

- Be adequately illuminated where nighttime use is anticipated.

- Be provided under covered areas and/or in secure storage lockers or rooms, if intended for long-term use.

- Be provided within the public right-of-way or be publicly accessible if intended for uses that expect visitation, customers, or short-term usage.

1.12.2. Placement of off-street bicycle parking racks shall conform to the bicycle parking rack placement criteria (*drawn from the Bicycle Facility Design Guide of the District Department of Transportation, 2006*) as illustrated in Figure I-24.

1.12.3. For commercial or industrial uses requiring more than ten (10) bicycle parking spaces:

- A minimum of ten percent (10%) of required bicycle parking shall be provided within fifty (50) feet of the main entry point of the structure, or shall be no further from such entry than the nearest five (5) non-handicapped parking spaces.

- Where there is more than one structure on a site, or where a structure has more than one main entrance, the parking shall be distributed to adequately serve all structures or main entrances.

1.12.4. Directional Signage: If bicycle parking is not directly visible from the public right-of-way, directional signage shall be provided indicating the availability and location of bicycle parking facilities.

1.12.5. Approved Bicycle Racks:

1.12.5.1. Design: Bicycle racks that are required to meet site plan requirements shall:

- Provide multiple points of contact between the rack and the bicycle;

- Allow bicycles to be locked without the need to lift the bicycle into the rack; and

- Be placed in such a way as to allow the intended number of bikes to be securely locked.

1.12.5.2. Approved Racks by Location:

- Private property: A variety of commercially available racks are acceptable for installation on private property, including but not limited to those catalogue listings identified herein (Figures I-24 and I-25).

- In the Public Right-of-Way: Bicycle parking may be located within a public right-of-way where site conditions cannot reasonably accommodate bicycle parking on private property or in the case of sites that expect high-turnover or short-term bike parking usage. Bike parking may be placed either adjacent to or within reasonable walking distance of the site, if such areas are available that meet the bicycle parking rack placement criteria (*drawn from the Bicycle Facility Design*

Guide of the District Department of Transportation, 2006) as illustrated in Figure I-24. Bicycle racks within the public right-of-way shall be placed to allow for the safe storage of bicycles while limiting encroachment onto adjacent sidewalks. If no location within the right-of-way is available, a financial contribution commensurate with the cost for purchase and installation of the required number of bicycle racks shall be made to the Sustainable Transportation Fund.

The following approved brands, installed according to company specifications, shall be permitted in the public right-of-way. Equivalent bicycle racks by other manufacturers are acceptable upon prior approval by the reviewing authority.

- DERO 'Downtown Rack' Inverted U-Rack (Figure I-25)
- DERO 'Bike Hitch' (Figure I-24)
- Old Port District, including Commercial Street: DERO Bike Hitch only (Figure I-24)

Bicycle racks in the public right-of-way shall become the property of the City of Portland.

Bicycle racks in the public right-of-way shall match the designated street furniture color for that location as described in the Municipal Street Lighting Standards in this manual. Where there is no designated street furniture color, bicycle racks in the public right-of-way shall be black (manufacturer's specification).

1.13. BICYCLE ROUTES AND LANES

The City has developed bike network plans to show present and proposed bikeways, including neighborhood byways, dedicated bicycle lanes, and shared use pathways. Positive identification of bikeways shall be provided by pavement markings, bike lane symbols, and/or signage. The following standards shall be applied to the installation of bike facilities:

1.13.1. Design: The design of any new or modified bicycle facility shall be reviewed and approved by the Department of Public Works prior to application and shall be consistent with the following design standards:

- Vehicular travel lanes and bicycle lanes shall be separated by a minimum six (6) inch solid white painted edge line adjacent to the travel lane. At intersections the white edge line shall be a dashed line (two (2) foot painted length by four (4) foot opening) across the intersection and for 50 feet to 100 feet in advance of the intersection, as appropriate. Where there is the

potential for right-turning vehicle conflicts with through bicycle movements at intersections, green paint within the bicycle lane is recommended and may be required.

- Bike lanes shall have a minimum width of five (5) feet. Six (6) feet is preferred for bicycle lanes adjacent to curbed street sections. Where sufficient street width exists, a painted buffer of one (1) foot or more may be provided between the bicycle lane and vehicle travel lanes. Where a bicycle lane is adjacent to on-street parking with moderate to high utilization and/or turnover rates, this buffer should be placed between the bicycle lane and parking lane. The location of the buffer shall be determined in consultation with the Department of Public Works. Where a buffer of one foot or greater is provided, the width of the bicycle lane may be reduced to four (4) feet, if necessary, with approval from the Department of Public Works. Design shall take into account the location of potential obstructions, such as catch basins.

- Where the minimum or recommended width for bicycle lanes is not immediately available, reallocation of general travel lane widths or the number and configuration of general travel lanes shall be considered, as appropriate, in consultation with the Department of Public Works.

- On-street bicycle lanes and associated buffers shall not exceed eight (8) feet in total width unless vertical delineation is provided in the buffer area. Applicability and materials of vertical delineation shall be determined by the Department of Public Works.

- Shared use paths shall be designed to facilitate two-way traffic by users of multiple, nonmotorized modes. In general, shared use paths shall be ten (10) feet or greater in width, and free of any obstructions, including a 2 foot clear zone on each side of the pathway. Refer to the AASHTO *Guide for the Development of Bicycle Facilities* for shared use path design considerations.

- On bicycle routes, or other roads with considerable bicycle traffic and insufficient roadway width to provide a bicycle lane, shared lane markings (“sharrows”) may be used. Where used, sharrows shall be placed in the center of the travel lane(s) serving the bike route(s) or where bicyclists are expected.

- On two-way roadways with excess roadway width for one bicycle lane, but not two, installation of a single bicycle lane should be considered. The single bicycle lane should be placed in the uphill direction, if located on a hill. Otherwise, if parking is provided on only one side of the roadway, bicycle lane placement should be prioritized on the side of the street with no

parking. Where possible, streets with bicycle lanes in only one direction should be paired with another lane on an adjacent parallel street to achieve bicycle mobility in both directions, if possible.

- Standard bike lanes and all other on-street bicycle facilities such as separated bike lanes shall be designed in accordance with the most recent version of nationally-recognized design guides, such as the NACTO *Urban Bikeway Design Guide*, the NACTO *Urban Street Design Guide*, the FHWA *Separated Bike Lane Planning and Design Guide*, the Massachusetts DOT's *Separated Bike Lane Planning & Design Guide*, or other best practice as it becomes available.

1.13.2. Bike network considerations: Bicycle facilities shall be designed within the context of the city-wide bicycle network.

1.13.3. Pavement markings and signage:

- Bicycle lanes shall be marked with appropriate pavement markings such as longitudinal lines and stenciled symbols, as illustrated in Figure I-18.

- Bike routes shall be identified by appropriate signage as found in the FHWA 'Manual of Uniform Traffic Control Devices,' as illustrated in Figure I-18.

1.14. ELECTRIC VEHICLE INFRASTRUCTURE

New structured and surface parking lots of five or more spaces shall include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces (rounded down to the nearest whole number). An additional 50% of spaces must be made EV-ready, meaning that they are served by sufficient conduit and electrical service to allow for future installation of electric vehicle supply equipment at every space.

An applicant may request a reduction in the number of required EV-installed or EV-ready parking spaces if Level 3 EV charging is proposed. In this case, spaces served by Level 3 charging may be substituted for Level 2 at a ratio to be determined in consultation with the Department of Public Works.

In the case of new structured and surface parking of greater than 100 spaces, the review authority may establish the EV parking requirements on the basis of an EV parking demand study. Such study shall be prepared by a qualified professional using industry best practice, and account for future growth in EV demand.

1.15. TRAFFIC CONTROL DEVICES

All intersections of two or more roadways shall be controlled by one of the traffic control methods listed herein. All traffic control shall be selected and installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

1.15.1. Traffic signals: All new traffic signals are subject to the approval of the Department of Public Works. Proposed traffic signals are required to meet at least one traffic signal warrant set by the MUTCD. Signals justified using Warrant 3 (Peak Hour Volume), Warrant 7 (Crash Experience), or Warrant 8 (Roadway Network) without meeting at least one other warrant may require additional study. Development projects that trigger, or further exceed, one or more signal warrants at one or more existing or proposed intersections or driveways may be required to install a traffic signal at those locations.

New or modified traffic signals also require the submission of a traffic signal plan, including locations of all equipment, underground utilities, phasing and timing plans, and a specific list of all traffic signal hardware. Plans shall be submitted to the Department of Public Works for review and approval prior to installation.

New traffic signal proposals are subject to review by MaineDOT, as appropriate. All city, state, and federal guidelines with regard to installation, activation, and monitoring shall apply.

Existing traffic signals that do not meet MUTCD signal warrants may be removed if they present operational or safety issues. All removals of existing traffic signals are subject to coordination with and the approval of the Department of Public Works and MaineDOT.

The City of Portland's traffic signal specifications can be found in the City of Portland Traffic Signal Policy and Guidance Manual.

1.15.2. Stop control: Stop signs shall be installed in accordance with MUTCD. Stop signs shall be accompanied by a stop line 12" in width.

Stop control shall not be used for speed control. Stop control should generally not be used on intersection approaches with multiple travel lanes. Stop control shall not be used for intersections with five (5) or more approaches. Such intersections shall be signalized (if warranted), equipped with a roundabout, or otherwise realigned or regulated so that the number of approaches is reduced to four (4) or fewer.

1.15.3. Roundabouts: Where sufficient right-of-way is available, circular intersections (i.e. roundabouts or traffic circles) should be considered. Such intersections may provide operational and safety benefits compared to signalized or stop-controlled intersections. Where selected as the appropriate traffic control measure, roundabouts shall be designed in accordance with the MUTCD Chapter 3C, with signage according to MUTCD Section 2B.07. Neighborhood traffic circles may be considered at stop-controlled intersections as a traffic calming measure. All such treatments are subject to the approval of the Department of Public Works.

1.15.4. Yield control: Yield control should generally only be implemented in the following scenarios:

- At certain channelized turning lanes separated from adjacent travel lanes by an island (even if the adjacent lanes are controlled by a stop sign or signal);
- At the entering roadway for a merging movement, including at a roundabout; or
- Where engineering judgment determines that yield control is appropriate, subject to the approval of the Department of Public Works.

1.16. PUBLIC CROSSWALKS

1.16.1. Public crosswalks shall meet the requirements of The Manual on Uniform Traffic Control Devices (MUTCD), unless City standards specify a stricter measure. Public improvements may include but shall not be limited to any one or combination of the following:

- Crosswalks;
- Curb Bump Outs or Curb Extensions, where warranted;
- Pedestrian Crossing Signs (curbside, overhead or in the street);
- Rectangular Rapid Flashing Beacons (RRFBs);
- Pedestrian Hybrid Beacons;
- Pedestrian Activated Traffic Control Signal (Red, yellow, green); and
- Medians or raised islands

1.16.2. Crossing locations shall be designed to the following standards unless otherwise directed by the Department of Public Works:

- Street markings: Crosswalks on public streets shall consist of 24-inch block style white lines, placed 48 inches apart on center, for an overall width of 8 feet (or wider; at least as wide as the sidewalks served by the crosswalk).

- Street lighting: Crosswalk locations shall be adequately illuminated for visibility at nighttime.

- Signage: Select crosswalk locations may need to be accentuated through the use of signage mounted curbside, overhead, or on the roadway centerline, as described hereinafter. Crosswalk signs shall be placed directly adjacent to crosswalks, and advance warning signs shall be placed in accordance with MUTCD. Standard signs shall be black legend on a fluorescent background.

1.17. PUBLIC TRANSIT FACILITIES

Where required, public transit facilities shall meet the following standards:

1.17.1. Transit pullout bays:

- Transit pullout bays shall be located in the City right-of-way along the property frontage; or

- Where space constraints prevent locating a transit pullout bay along the property frontage, transit pullout bays may be located within reasonable walking distance of the site.

- Where possible, transit pullout bays shall be located at intersections. At signalized intersections, far-side bus stops are preferred. Mid-block bays are not preferred due to impacts to parking and traffic.

- The design of the pullout bay shall provide adequate space for vehicles to maneuver through facilities without causing damage to either the vehicles or facilities, as detailed herein.

1.17.2. Transit shelters:

- Transit shelters shall be located within the site, directly adjacent to the right-of-way on which the public transportation route is established; or

- Where site constraints prevent locating a transit shelter on the site, it shall be located within a public sidewalk area along the property

frontage. If a transit shelter is to be located within a public sidewalk area, City sidewalk clearance requirements shall apply.

- Where space constraints prevent locating a transit shelter within a public sidewalk area along the property frontage, it may be located within reasonable walking distance of the site.

- Installation and ongoing maintenance of transit shelters on private property shall be the responsibility of the property owner. Ongoing maintenance of transit shelters located within the City right-of-way or within an easement held by the City shall be the responsibility of the City or of the local or regional transit authority serving the facility.

1.17.3. Where necessary, developments shall provide easements to the City, sufficient in size to accommodate public transit infrastructure and access to the transit stop.

2. SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS

2.1. TECHNICAL REFERENCE

2.1.1. The following technical publications are recognized by the City of Portland for use in the design, construction and testing of sanitary and storm water systems:

- Technical Report #16 (TR-16): Guides for the Design of Wastewater Treatment Works, Prepared by the New England Interstate Water Pollution Control Commission available for review at the Department of Public Works or online at www.neiwpcc.org/tr16guides.asp
- Maine Department of Transportation (MDOT) Standard Specifications for Highways and Bridges, Current Edition.

2.2. SANITARY STANDARDS AND SPECIFICATIONS

2.2.1. Sewer and Storm drain systems shall be planned and constructed in accordance with the regulations contained in Chapter 24 of the City Code of Ordinances.

2.2.2. The information presented below are City of Portland exceptions to the TR-16 or additional required standards.

2.2.3. The introduction of non-contaminated water such as rain water, non-contact cooling water, groundwater from foundation drains, sump pumps, surface drains or any other sources of inflow shall not be allowed to discharge into a sewer which conveys sanitary waste unless approved by the Department of Public Works Water Resources Manager or their designee.

2.2.4. Appeals will be considered by the Director of Public Works. (Refer to Sec. 24-44 of the City Code - Public sewer connection limitations).

2.2.5. It is not permissible to backfill any excavation with frozen materials, organic materials, clay or blasted ledge. The maximum size of backfill material shall not exceed six inch (6”). (Please refer to Division 2, Street Opening Permits in the City Code.)

2.2.6. The Department of Public Works shall be responsible for televising all new sewer construction for acceptability as soon as backfilling has been completed and access is available. The permittee will be invoiced for these services. Information on current rates is available in Chapter 24 Sewer Ordinance.

2.2.7. Permits to connect to the municipal stormwater and sanitary sewer system are required and may be obtained from the Department of Public Works.

2.2.8. Covered or enclosed parking areas, mechanical rooms, garages (parking areas not exposed to rain and snow) shall direct surface drainage to a sanitary sewer. Storm water from outside of these areas shall be directed away from this

covered area so that additional storm water is not directed to the sewer. Drainage from these areas shall be collected by an Oil/ Grit Separator as shown in Figure II-20 or an approved equal.

2.3. SANITARY MANHOLES

2.3.1. All manholes shall be designed in conformance with City of Portland standards as illustrated in Figure II-02.

2.3.2. When constructing sanitary manhole channels, if the vertical difference between the invert elevation of the manhole channel and the invert elevation of the sewer pipe connecting to such manhole is two vertical feet (2') or greater, a standard City of Portland internal drop manhole shall be provided. Such drop manholes shall conform to the engineering specifications illustrated in Figure II-03. A minimum of two stainless steel pipe anchors shall be used and the manhole diameter shall be five feet (5') minimum.

2.3.3. Sanitary service laterals that are four inch (4") or six inch (6") shall not be connected into a sanitary manhole and only into a sanitary sewer main.

2.3.4. Sanitary manholes shall include frames and covers as shown in Figure II-05 or an approved equivalent. Both the frame and riser shall be machined to assure a proper fit.

2.3.5. Manhole covers shall be marked "SEWER".

2.3.6. Manhole frames shall be raised to grade using only brick and mortar as shown in Figure II-02 or approved equal.

2.3.7. Riser Rings without tabs as shown in Figure II-06 may be used to adjust manholes to grade with approval of the Department of Public Works.

2.3.8. All new sanitary manholes shall be vacuum tested before backfilling. Refer to TR-16 for testing standards.

2.3.9. Steps are not required in sewer manholes. Any structures delivered to the site with step "holes" shall be filled with mortar.

2.4. SANITARY GRAVITY PIPES

2.4.1. The types of allowable pipe used for purposes of sanitary sewers shall be:

- PVC Ring Type Sewer Pipe (SDR 35 or equivalent, minimum PS-46 rating)
- PVC Ring Type Sewer Pipe meeting ASTM F 789 or equal to SDR
- Ductile iron Pipe (DIP)
- High Performance Polypropylene Dual Wall Sewer Pipe (ADS SaniTite HP or equal) meeting ASTM F2736 and have a minimum pipe stiffness of 46 psi with pipes sizes twelve inch (12") through thirty inch (30").

- High Performance Polypropylene Triple Wall Sewer Pipe (ADS SaniTite HP or equal) meeting ASTM F2764 and have a minimum pipe stiffness of 46 psI with pipe sizes thirty inch (30”) through sixty inch (60”)

2.4.2. Minimum velocities for sanitary pipes shall not be less than two feet per second (2 ft/s).

2.4.3. All PVC connections shall be made with Solid PVC Couplings.

2.4.4. The classes of pipe indicated shall be minimums, however the actual class of pipe used shall be determined by soil weight and compaction loads applied to such pipe in accordance with standard engineering design criteria and subject to the approval of the Department of Public Works.

2.5. FORCE MAINS

2.5.1. Force mains four inches (4”) or greater shall terminate at a transition manhole and flow by gravity within a minimum sized eight inch (8”) pipe to a City manhole.

2.5.2. Force mains less than four inches (4”) may terminate to the nearest precast concrete manhole as directed by the City.

2.5.3. Cores into existing manholes shall be made with coring machines and have link seal or equivalent wall penetration seals.

2.5.4. Termination of force mains three inches (3”) or less may be permitted into existing City-owned manholes if reconstruction or replacement is performed, depending on the material and condition of the existing manhole as determined by the Department of Public Works.

2.5.5. All force mains shall be at a minimum HDPE SDR-21 made with fully restrained connections or equal. Piping pressure ratings shall be at least two (2) times the operating pressure of the system.

2.5.6. Force main discharge shall be directed into the channel in the direction of gravity flow.

2.6. BUILDING SEWER LATERALS

2.6.1. Construction of building sewers and drains shall conform to Chapter 24 (Sewers) of the City Code of Ordinance.

2.6.2. All building sewer laterals shall have a minimum diameter of four inch (4”) and a minimum slope of one eight inch per foot (1/8 in/ft) installed, as shown in Figure II-12.

2.6.3. Typical Pipe Installation: Where a building sewer lateral is to be installed from the sewer main in the street to a property or building to be served, the lateral shall either extend to the building or to the street line of each lot to be served

and the pipe shall be capped air-tight.

2.6.4. An accurate record of each building sewer, its location and its depth at the street line shall be kept by the developer's engineer and a copy of the same shall be provided to the Department of Public Works.

2.6.5. For new construction, the location of the building sewer at the street line shall be physically marked by the placement of a two inch by four inch (2" x 4") wooden stake placed at the end of the lateral end-cap and extending one foot above finished grade.

2.6.6. Each stake shall be painted with a fluorescent paint and marked as storm or sanitary sewer with the depth indicated from grade to end-cap. A one quarter inch (¼") thick by six inch (6") square ferrous metal plate or equivalent shall be placed horizontally one foot below grade over the end of the storm drain.

2.6.7. Building sewers and drains shall be connected to the main sanitary sewer line by the use of wyes, tee/wyes, Inserta-Tees or similar approved methods as determined by the Department of Public Works. A manhole shall be installed at the sewer main to connect building laterals when the building lateral is eight inches (8") or larger in diameter. The lateral connections shall be installed from the main toward the lot where possible. Inserta-Tees can be installed on pipes when the main receiving pipe is at least twelve inches (12") in size and the lateral is not more than half the size of the main receiving pipe in order to use a coring tee-type connection.

2.6.8. Before connecting new pipes into an existing sewer line, the contractor shall obtain a sewer connection permit from the Department of Public Works.

2.6.9. Accessory Dwelling Units (ADU) sewer laterals: Per Chapter 24 of the City Code of Ordinance "A separate and independent building sewer shall be provided for every new building, and a separate connection shall be made for each building sewer." The Department of Public Works recognizes the following scenarios for the successful connection of the proposed ADU to the public sewer system. See Figure II-21 for additional information.

- The proposed ADU is connected to the primary residence. In this scenario, the ADU may be connected to the primary residence sewer lateral internal to the primary residence.
- The proposed ADU is a separate standalone building: In this scenario, a separate and independent sewer lateral will be provided from both buildings with independent connections to the sewer.
- The proposed ADU is a separate standalone building: In this scenario, a separate and independent sewer lateral will be provided from both buildings with a connection of the two laterals into a sewer manhole at the property line. The sewer manhole will be a minimum two-foot (2') size providing access to each sewer lateral. The sewer manhole may be placed

on the existing sewer lateral from the primary residence with the ADU sewer lateral being fed into it.

2.6.10. Backflow Protection: Fixtures installed on a floor level that is lower than the next upstream manhole cover of the public, or private sewer shall be protected from backflow of sewage by installing an approved type of backwater valve. Fixtures on such floor level that are not below the next upstream manhole cover shall not be required to be protected by a backwater valve. Fixtures on floor levels above such elevation shall not discharge through the backwater valve. Cleanouts for drains that pass through a backwater valve shall be clearly identified with a permanent label stating "backwater valve downstream."

2.6.11. All building floor drains shall discharge to the sanitary sewer system.

2.6.12. Plugging of Abandoned Sewer Laterals: Prior to abandoning any storm water or sanitary sewer lateral, the applicant shall acquire a permit from the Department of Public Works. The applicant shall provide a 48 hour notice to the Public Works Dispatch stating the date and time the applicant wished to complete the work. The Water Resources Division will mobilize to the site and allow one hour to assist the applicant to plug the lateral in the following manner. The location of the lateral to be plugged shall be televised by the applicant and witnessed by Water Resources staff on site. The applicant shall excavate or other means plug the lateral at the main where the lateral connects to the street sewer, as determined by City staff. The lateral must be filled with pumped grout starting at the plug and filling out to the points of excavation.

2.7. STORM WATER MANHOLES

2.7.1. Storm water manholes shall include frames and covers as shown in Figure II-05 or an approved equivalent. Both the frame and riser shall be machined to assure a proper fit.

2.7.2. Manhole frames shall be raised to grade using only brick and mortar as shown in Figure II-02.

2.7.3. Riser Rings without tabs as shown in Figure II-06 may be used to adjust manholes to grade with approval of the Department of Public Works.

2.7.4. Manhole covers shall be marked “DRAIN”.

2.7.5. Steps are not required in storm manholes. Any structures delivered to the site with step “holes” shall be filled with mortar.

2.8. STORM DRAINS

2.8.1. The types of allowable pipe and fittings shall be used for purposes of storm drains:

- All pipes listed for sanitary sewers
- Reinforced Concrete Pipe (RCP) with a minimum strength of Class III;
- Smooth Bore High Performance Polypropylene Dual Wall Storm Drain Pipe. (ADS HP Storm or equal) meeting a minimum PS- 46.

2.8.2. Storm drain lateral may be connected into storm drain mains without the use of a manhole when the lateral is less than half the diameter of the receiving pipe.

2.8.3. Minimum velocities of surface water drains shall not be less than three feet per second (3 ft/s).

2.8.4. Ribbed corrugated polyethylene pipe material, smooth wall interior, is not permitted except for underdrain installation. Underdrain diameter shall be no larger than six inches (6”).

2.8.5. The classes of pipe indicated shall be minimums, however the actual class of pipe used shall be determined by soil weight and compaction loads applied to such pipe in accordance with standard engineering design criteria and subject to the approval of the Department of Public Works.

2.8.6. Pre-fabricated tees are allowable on storm drains. A pre-fabricated tee connection shall be used and installed in accordance with manufacturer specifications.

2.8.7. Connection of catch basin/storm drain lateral leads to storm drain larger than eighteen inch (18”) diameter may be performed with the use of a coring machine and suitable connection device. The connecting pipe shall not be more than half the size of the main receiving pipe in order to use a coring tee-type connection.

2.8.8. Underdrains shall be six inch (6”) diameter perforated pipe SDR 35 PVC or corrugated ADPE with smooth interior wall (AASHTO M252 Type S). They shall have a minimum of two rows of perforations.

2.9. CATCH BASINS

2.9.1. All catch basins and catch basin inlets shall be designed and constructed in accordance with Figures II-07 through II-11.

2.9.2. Catch basin drain pipes of less than ten inches (10”) in diameter are not permitted.

2.9.3. All catch basins shall have a four-foot (4’) granite headstone of catch basin

inlets conforming to City standards as shown in Figure II-11.

2.9.4. No radius catch basin stones shall be permitted.

2.9.5. All catch basins shall be constructed with a minimum sump of three feet (3').

2.9.6. Catch basins shall not be located in driveway openings.

2.9.7. No storm drains or storm drain laterals, with the exception of street underdrains, shall be connected into a catch basin structure.

2.9.8. Catch basin drains and catch basin inlet drain pipe slopes shall be such that minimum flow velocities shall not be less than three feet per second (3 ft/s).

2.9.9. Bee hive casting shall be used on drainage structures located at low points in grassed off road locations.

2.9.10. Field inlets or Type-F catch basins may be used when outside of city street right of ways within lawn areas, with Department of Public Works approval. They must have a minimum of a twelve-inch (12") sump and can be plastic or concrete.

2.9.11. All catch basins are required to have a hood on the outlet pipe as shown in Figure II-09.

2.10. SUBSURFACE WASTEWATER DISPOSAL

2.10.1. To ensure that adequate provisions have been made for subsurface wastewater disposal, developers are required to locate, design, and install all septic systems in accordance with the latest version of the Maine Subsurface Wastewater Disposal Rules,144 CMR minimum 241, as described in Chapter 6, Section 6-18(A) of the City Code.

2.10.2. Developers are required to obtain a permit through the City of Portland Inspections Division prior to the installation of any subsurface wastewater disposal system identified on an approved site plan.

2.11. GREASE INTERCEPTORS

2.11.1. Grease control equipment is required for all food establishments based on the City of Portland's Fats, Oils, and Grease Program found in the Rules and Regulations for Use of the Sewer System.

2.11.2. Concrete grease interceptors must have two chambers. Chamber A, where influent enters, must be two thirds (2/3) of the tank volume.

2.11.3. Concrete grease interceptors must have three twenty-four-inch (24") access points.

2.11.4. Tank must be designed for H-20 traffic wheel load and a concrete strength of 5000 PSI at 28 days.

2.11.5. Joints must be sealed with butyl rubber joint sealant such as CS-102 Butyl Rubber Sealant.

2.11.6. Tees inside grease interceptors must be supported. Galvanized riser clamps on drops must be rodded to tank wall with galvanized fasteners six inch (6") below service weight tee. Tees must be accessible via an unobstructed view for cleaning through top of grease interceptor.

2.11.7. High density polyethylene grease interceptors are accepted as an equivalent to concrete grease interceptors. Polyethylene units shall be properly anchored to prevent floatation.

2.11.8. A control manhole must be installed downstream of the interceptor before it enters the city sewer system.

2.12. AGGREGATE SPECIFICATIONS

2.12.1. The provisions of Section 703 of the State of Maine Department of Transportation (MDOT) *Standard Specifications for Highways and Bridges* shall apply with the following additions and modifications:

2.12.2. 703.18 Common Borrow: Common borrow shall not contain any particle of bituminous material.

2.12.3. 703.19 Granular Borrow: Granular borrow shall contain no particles which will not pass a three inch (3") square mesh sieve.

2.12.4. 703.20 Gravel Borrow: Gravel borrow shall not contain particles of rock which will not pass three inch ("3") square mesh sieve.

2.12.5. 703.13 Crushed Stone ¾" for Pipe Bedding and Underdrain: "Crushed Stone" shall be defined as rock of uniform quality and shall consist of clean, angular fragments of quarried rock, free from soft disintegrated pieces or other objectionable matter. Crushed stone used as a bedding material for pipe and underdrain shall be uniformly graded and shall meet the follow gradations. The stone shall be free from vegetable matter, lumps or balls of clay, and other inappropriate substances.

Sieve Designation	**City of Portland Percentage by Weight Passing Square Mesh Sieve**
1 inch	100
¾ inch	90-100
½ inch	20-55
$^{3}/_{8}$ inch	0-15
No. 4	0-5

3. PUBLIC SAFETY STANDARDS

3.1. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) PRINCIPLES

3.1.1. Natural Surveillance: Site plans shall be designed so that they create formal and informal natural surveillance networks on the site to increase on-site visibility and the safety of legitimate users and to deter potential offenders.

a. Physical Features – The placement and design of physical features shall maximize visibility to allow for surveillance opportunities to and from site features such as entrances and exits, walkways, assembly areas, corridors, stairways, windows, parking lots, landscaping, fences or walls, and any other physical attributes.

b. Lighting – The lighting of the site and building shall meet the City's technical standards for site lighting, as detailed in Section 12 of this manual, and enable users to observe movement and activities on the site during the day and at night. Motion sensor activated lighting is permitted to provide adequate illumination of the site at night while still complying with applicable lighting curfew standards of Section 12 of the Technical Manual. Specifically, the lighting plan should satisfy the following criteria:

i. Create nighttime illumination of pedestrian travel paths and gathering areas, entrances and exits, and parking lots and garages by achieving the following:
   - Provide a clear view of an area from a distance and enable anyone moving in or immediately around it to be easily seen.
   - Deny potential hiding spaces adjacent to existing and proposed pedestrian travel routes.
   - Permit facial identification at a distance of at least 30' and create the perception of being identified.

c. Mechanical Surveillance Systems – If necessary, mechanical surveillance systems such as CCTV may be installed to monitor areas not easily observed such as parking lots and garages.

3.1.2. Access Management**:** Site plans shall be designed to provide visible pathways and to offer proper guidance for legitimate users to access the site and to discourage unauthorized use of the site.

a. Orientation and Wayfinding – The site shall be designed so that the layout, features and/or signage clearly guide the movement of vehicles and pedestrians along safe and predictable paths both during the daytime and nighttime. Specifically, the site plan shall satisfy the following criteria:

- Placement of signage, lighting fixtures, landmarks, and landscape design features shall clearly guide users to and from the facility.
- Site features shall be designed to avoid the creation of entrapment zones that afford users no opportunity to escape or retreat from an approaching hazard.

b. Mechanical Access Control – If necessary, mechanical access control systems may be implemented such as assigning personnel at key building entry points or establishing other procedures such as mechanical auto closing devices, key cards, gates and other locking devices.

3.1.3. **Territorial Reinforcement:** Proposed developments shall be designed to clearly delineate private, semi-private, and public space.

3.2. FIRE HYDRANT STANDARDS

3.2.1. All development constructed within the limits of the City of Portland shall have a hydrant within five hundred (500') feet of all structures.

3.2.2. All hydrants, private and public, shall comply with city code Chapter 10 and Portland Water District standards.

3.2.3. Private hydrants shall be maintained by the property owner. A maintenance agreement, or other documentation if deemed acceptable by the Reviewing Authority, shall be required for all private hydrants. A follow-up will be conducted and a financial penalty will be levied for non-compliance. All compliances shall meet city code Chapter 10, which adopts by reference National Fore Protection Association (NFPA) #1 and #101.

3.2.4. A 6 ft. clear space shall be maintained around the circumference of fire hydrants, private or public, except as otherwise required or approved.

3.3. SINGLE AND TWO FAMILY RESIDENTIAL DEVELOPMENT

3.3.1. As of September 16, 2010 all new construction of one- and two-family homes are required to be sprinkled in compliance with adopted NFPA code.

3.4. SITE ACCESS STANDARDS

3.4.1. Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

3.4.2. Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

3.4.3. Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- Building Height.
- Building Occupancy.
- Construction Type.
- Impediments to the Structures.
- Safety Features Provided.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

3.4.6. Elevators shall be sized to accommodate an 84 x 24 inch stretcher.

3.4.7 Street name and street numbering shall be determined during development / subdivision review and shall comply with Portland's 911 numbering system.

3.4.8. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

3.5. STANDARDS FOR EMERGENCY ACCESS LANES AND GATES

3.5.1. No inside turning radius shall be less than twenty-five (25') feet.

3.5.2. No outside turning radius shall be less than one hundred (100') feet.

3.5.3. New emergency access lanes shall be a minimum of sixteen (16') feet wide but may be required to be up to twenty (20') feet wide where one or more of the following conditions occur:

- The access is likely to be used by Fire Department ladder trucks to set up for buildings adjacent to the lane or;
- The access lane is likely to be used by Fire Department Engine companies to set up pumping operations to fight a fire at buildings adjacent to the

lane.

3.5.4. Access lanes shall be engineered and maintained to support the weight of emergency vehicles during all weather conditions.

3.5.5. Appropriate "No Parking" signs shall be posted in accordance with instructions from the Fire Department having jurisdiction, and a method of enforcing such provisions shall be provided.

3.5.6. All gates shall be located a minimum of thirty (30') feet from the public right-of-way and shall open inward to the site.

3.5.7. Fire department personnel shall have ready access to locking mechanisms on any gate restricting access to a fire lane. Proposed changes to access shall be pre-approved by the Reviewing Authority.

3.5.8. The clear opening provided through all gates shall be two (2') feet wider than the traveled way.

3.5.9. Blockading of any emergency lane shall be done by gates which are secured by chain and padlock. Padlocks shall be a "Knox" lock.

3.5.10. Emergency lanes shall be maintained and made accessible for emergency use at all times. No parking of vehicles or other use that might obstruct the emergency access lane shall be permitted. An access maintenance agreement or other suitable document acceptable to the Reviewing Authority shall be required (please refer to attached model access maintenance agreement at the end of this section).

3.5.11. The use of automatic gates such as the "Click2enter" systems requires prior approval from the Reviewing Authority.

3.5.12. Reserved

3.6. SUBDIVISION STANDARDS

3.6.1. Subdivisions shall comply with the following minimum street access requirements:

- 1-34 units: A single access road.
- 35-67 units: Two (2) access roads or a single access road and an emergency access lane.
- 68 or more units: Two (2) access roads.

3.6.2. Where residential units are provided with an approved sprinkler system designed to NFPA #13D, the following minimum street access requirements shall apply:

- 1-67 units: One (1) access road.
- 68-99 units: One (1) access road and an emergency access lane.
- 100 units or more: Two (2) access roads.

3.6.3. All planned building groups shall meet the requirements of NFPA 1141.

3.6.4. Reserved.

3.7. STANDARDS FOR BLASTING AND REGULATION OF EXPLOSIVES

3.7.1. Definitions

Small Blast: Trench blast or removal of under fifty (50) cubic yards of rock material.
Medium Blast: Removal of 50-300 cubic yards of rock material.
Large Blast: Removal of over 300 cubic yards of rock material.

3.7.2. Submittal Requirements:

3.7.2.1. All Blast Operations:

Applicants for all blasting operations shall obtain a blasting permit from the Planning and Urban Development Department prior to any blasting. Application forms may be obtained through the Inspections Division or can be downloaded from the City of Portland website.

3.7.2.2. Medium Blast Operations:

For medium blast operations, the blasting contractor will also be required to submit a blasting submittal with the blasting application form. The blasting submittal must include, at a minimum, the following information:

- Description of Test Blast, Drill Pattern
- Description of Production Blasting, Drill Pattern
- Explosives to be used during wet and dry conditions
- Stemming material and depth
- Description of matting used to prevent fly rock
- Description and location of blasting signs
- Type of seismograph to be used
- Description of proposed transportation and storage of explosives
- Signature of blasting contractor testifying to the accuracy of the above information

3.7.2.3. Large Blast Operations:

For large blast operations, the blasting contractor will also be required to submit a drilling pattern and loading plan, referred to herein as a blasting plan, with the blasting application for review and approval. Blasting plans must be submitted at least two weeks prior to the start of any drilling and/or blasting operations. A model blasting plan is provided at the end of this section and shall include, at a minimum, the following information:

- The sequence and schedule of blasting rounds, including a general description of the proposed approach for developing each bedrock excavation area.
- A diagrammatic description of the typical blast pattern to be used,

including pre-splitting pattern if pre-splitting is required.

- Diameter, spacing, burden, depth and orientation of each drill hole relative to the "free face", along with details of the delay pattern.
- A diagrammatic description of the loading plan for a typical production hole including charge weights and distribution of primer, explosives and stemming within a typical hole.
- Estimation of ground vibration levels at nearest adjacent structures.
- Written evidence of the licensing, experience, and qualifications of the blaster who will be responsible for loading and firing each shot.
- A listing of the number and type of instrumentation proposed to be used to monitor vibrations and airblast overpressures.
- Safety procedures, security measures, and warning sequences.

3.7.3. Pre-Blast Survey

Pre-blast surveys are required for all blasting operations. The blasting contractor will hire an independent seismologist or blasting consultant to perform pre-blast surveys on all structures (contingent upon property owner agreement) within the distances specified below. The independent seismologist or blasting consultant shall not be an employee of the contractor, subcontractor, explosives manufacturer, or explosives distributor.

Size of Blast	Scope of pre-blast survey
Small Blast	Within 250 feet of the perimeter of the blasting site
Medium Blast	Within 500 feet of the perimeter of the blasting site
Large Blast	Within 600 feet of the perimeter of the blasting site

3.7.3.1. Pre-Blast Survey Offer Notice:

Prior to commencement of the pre-blast surveys, the contractor shall provide the following documentation to the Planning and Urban Development Department:

- A list of property owners to be contacted (in accordance with the distances listed in the table, above).
- Verification that the subject property owners were notified of the pre-blast survey work.
- A copy of the pre-blast survey offer notice.
- Whether each offer to conduct a pre-blast survey was either accepted, rejected, or there was no response.

The contractor shall retain a copy of each pre-blast survey offer notice for their records until the development project receives a final certificate of occupancy or is otherwise deemed complete by the City. Nothing herein shall be construed to discourage repeated efforts by the blasting contractor to contact eligible property owners via phone, hand delivery, or other method in addition to provision of the required offer notice letter.

3.7.3.2. Pre-Blast Survey Documentation:

All pre-blast surveys shall include documentation of interior subgrade and above grade accessible walls, ceilings, floors, roof and visible exterior as viewed from the grade level. Where significant cracks or damage exist, or for more complex structural defects, photographs or video shall be taken.

A high- quality videotape survey with appropriate audio description of the locations, conditions, and defects may substitute for a written pre-blast survey. Where necessary, notes and sketches may also be submitted as part of a video pre-blast survey in order to highlight or elaborate on certain aspects of the video documentation.

3.7.3.3. Pre-Blast Survey Conditions Report:

The pre-blast surveys shall include a conditions report for each property. The conditions report may be presented as narrative, photographs, video or a combination thereof. Conditions reports shall summarize the condition of each building and define areas of concern, including deteriorated structures or utilities, structures housing sensitive equipment, and/or manufacturing processes that are sensitive to vibrations.

3.7.3.4. Verification:

Verification that all pre-blast surveys and conditions reports have been completed shall be submitted to the Planning and Urban Development Department at least two weeks prior to commencing any drilling and/or blasting operations.

3.7.4. Notification to Neighbors

Notice of blasting operations shall be provided in accordance with the requirements listed in Section VIII of the Land Use Code. For medium and large blasts, please also refer to the additional notification requirements during construction, described in Section 3.7.8 of this section (*Blasting Schedule*).

3.7.5. Complaint Protocol

The blasting contractor shall be solely and completely responsible for the safety of all persons and property during the performance of work. The blasting contractor shall have full and complete responsibility for the handling, discharging, or settling of any and all damage or annoyance claims resulting from the blasting activities on the project.

Complaints may be submitted to the Blasting Contractor and to the Planning and Urban Development Department or to the Fire Department throughout the duration of blasting operations. If a property owner submits a complaint regarding alleged blasting- related damages, the independent seismologist or blasting consultant shall meet with the property owner within 24 hours of receiving the complaint to discuss the basis for the complaint, review applicable blasting

records, and evaluate the reasonableness of the complaint. If a reasonable basis for the complaint is verified, the independent seismologist or blasting consultant shall conduct a second condition survey of the property within 48 hours of receiving the complaint to identify any changes in the property conditions. A condition survey report summary shall be submitted to the Applicant, and verification that the condition survey was completed shall be submitted to the Planning and Urban Development Department within two weeks of the second condition survey being conducted.

3.7.6. Hours of Blasting and Storage of Explosives

3.7.6.1. Hours of blasting operations shall be limited to those defined in Chapter 14, Section VIII, *Regulation of Explosives* of the City Code of Ordinances.

3.7.6.2. Only the amount of explosives necessary for the day's work shall be brought to the site, and explosives shall be transported and stored in approved magazines when not in use.

3.7.7. Blast Warning

3.7.7.1. International Blast Warnings shall be utilized for all blasting operations, as described below:

3 horns	5 minutes before blast
2 horns	1 minute before blast
1 horn	All clear

3.7.7.2. Large Blasts:

For large blasts, all persons within 600 feet of the blasting area shall be notified of the "warning" and "all-clear" signals through notices left in mailboxes and signs posted in the vicinity of the blasting site.

3.7.8. Blasting Schedule (Medium and Large Blasts, only)

For medium and large blasts, the blasting contractor shall prepare and submit a blasting schedule to the property owner, the general contractor and the Planning and Urban Development Department at least 10 business days prior to commencing blasting operations. The schedule shall include name and contact information for the blasting contractor, blasting area locations, planned dates and times of blasts, access restrictions to the blast areas, and warning signal protocols.

During construction, the blasting contractor shall coordinate the blasting schedule with the property owner, the general contractor, the Planning and Urban Development Department and the Fire Department on a weekly basis.

The morning of a planned detonation, the blasting contractor shall notify the Fire Department and the Planning and Urban Development Department of the planned time of the blast (+/- one hour), the location where the blasting is to occur, and the amount of explosives to be used.

At least 24 hours prior to any blast, the blasting contractor shall inform all property owners who requested notice of the blasting schedule (+/- one hour).

3.7.9. Vibration Limits and Ground Vibration Monitoring

The seismograph must be set up at the closest structure to record each blast event. Ground vibration from all blasting operations shall be measured in terms peak particle velocity (inches per second, ips) and frequency (Hertz). The permissible maximum ground vibration at existing nearby structures shall be limited to values established by the U.S. Bureau of Mines[3] to avoid cracking or structural damage in residential structures. Particle velocity shall be recorded in three mutually perpendicular directions. Ground vibration for residential structures shall not exceed the following limits:

Type of Structure	Maximum PPV (ins/s)	
	Frequencies below 40 HZ	Frequencies 40 HZ or greater
Modern Homes (drywall interior)	.75	2.0
Older Homes (Plaster on wood lath for interior walls)	.50	2.0

Deteriorated structures or utilities, structures housing sensitive equipment, and/or manufacturing processes that are sensitive to vibrations may require lower PPV limits than those listed above. If information obtained from the pre-blast surveys indicates lower limits are required for certain structures, the independent seismologist or blasting consultant shall identify the limits applicable to a specific structure, and the blasting contractor shall incorporate such provisions in the features of the blasting plan.

In the event the blasting contractor's blasting round results in ground vibrations closely approaching the stated limits, the blasting operations shall be modified to reduce ground vibrations.

In the event the blasting contractor's blasting round results in ground vibrations exceeding the stated limits at structures, the blasting contractor shall cease all blasting activities and submit a written report to the property owner and the general contractor, copied to the Planning and Urban Development Department and the Fire Department. This report shall describe corrective action to be taken on the next shot. The next shot shall not be loaded until the property owner and the general contractor acknowledge, in writing, copied to the Planning and Urban Development Department and the Fire Department, that a design change is being attempted.

[3] United States Bureau of Mines. *Structure Response And Damage Produced By Ground Vibration From Surface Mine Blasting*. Prepared by D.E. Siskind, M.S. Stagg, J.W. Kopp, and C.H. Dowding, Report of Investigations #8507, Appendix B, 1980.

3.7.10. Flyrock Control (Large Blasts, only)

For large blasts, blasting mats, soil, or other equally serviceable material shall be utilized for all blast rounds to prevent the throw of flyrock from the blasting area.

3.7.11. Pre-Blast Safety Meeting (Medium and Large Blasts, only)

For medium and large blasts, prior to any blasting the blasting contractor will conduct a pre-blast safety meeting with all contractors to familiarize them with blast signals and precautions.

3.7.12. Test Blasts (Large Blasts, only)

For large blasts, prior to commencing full-scale blasting, the blasting contractor shall demonstrate the adequacy of the proposed blasting plan by drilling, blasting, and excavating short test sections using small charges and the required monitoring instruments. The blasting contractor shall develop site specific scaled distance relationships from the test blast rounds to determine the allowable charge weight of explosives to be detonated per delay.

3.7.13. Personnel

All employees of the blasting contractor working on site during the blasting operation shall be trained in the use and handling of explosives.

3.7.13.1. Large Scale Blasts:

For large scale blasts, the blasting contractor shall be required to carry liability insurance (XCU) coverage in an amount no less than $2,000,000.

For large blasts, the blasting contractor shall a company specializing in the use of explosives for breaking rock and licensed in the State of Maine. The blaster or foreman responsible for the loading and firing of each shot, as well as the person responsible for designing and directing the blasting operation, shall have at least five years of documented experience with similar work responsibilities. If controlled blasting methods are required, these individuals shall have at least five years of documented experience in controlled blasting techniques.

At least two weeks prior to the commencement of pre-blast surveys, the contractor will submit the name and qualifications of the independent seismologist or blasting consultant proposed to conduct the pre-blast surveys to the Planning and Urban Development Department and the applicant, if other than the blasting contractor.

At least two weeks prior to the commencement of drilling and blasting operations, the contractor will submit to the City of Portland and applicant the name and qualifications of the independent seismologist or blasting consultant proposed to monitor and report blasting vibrations.

3.7.14. Record Keeping and Reporting

3.7.14.1. For large blasts, Blast monitoring and analysis shall be conducted by the independent seismologist or blasting consultant. A minimum of two (2) seismograph instruments will be used to monitor vibrations and airblast pressures for each blast. The seismographs used by the seismologist or blasting consultant for blast monitoring shall comply with the following requirements:

- Velocity range: 0.005 to 10.0 inches per second.
- Seismic frequency range: 2 to 250 Hz, within zero to -3 dB of an ideal flat response.
- Acoustic frequency range: 2 to 250 Hz flat, -3 dB at 2 Hz ± 1 dB.
- Sound range: 100 to 140 dB (linear).
- Measure, display, and provide a permanent time history record of the event, including both ground vibration and airblast.
- Measure the three mutually perpendicular components of particle velocity in directions vertical, radial, and perpendicular to the vibration source.
- The seismograph shall display and provide a record of:
  - the date and time of the event
  - identifying information concerning the company
  - the location of the seismograph and of the blast
  - trigger levels
  - verification the instrument was set for “continuous” and not “manual” readings
  - instrument serial number
  - the date of the most recent calibration
- The seismograph shall be calibrated as often as necessary, but at least once every 12 months, and must be performed to a standard traceable to the National Institute of Standards and Technology.

Blast monitoring data obtained by the independent seismologist or blasting consultant must be available for inspection on the blasting site, be submitted in writing to the Applicant within 24 hours following each blast, and be submitted to the Planning and Urban Development Department on a weekly basis. A model blast monitoring report is included at the end of this section.

3.7.14.2. Blasting Log:

A blasting log summarizing details of the round as shot, weather conditions, proximity of the blast location to nearest structures, exact locations of monitoring instruments, and the results of blast monitoring at each instrument location shall be maintained daily for every blast. The blasting log shall be available for inspection on-site, shall be submitted in writing to the Applicant within 24 hours following each blast, and shall be submitted to the City on a weekly basis.

3.7.15. Airblast Overpressure Limits

The peak airblast overpressure at any inhabited building not owned or controlled by the developer shall not be allowed to exceed 133 decibels (linear) when measured by an instrument with a high pass system and a lower frequency limit of 2 Hz.

The seismologist or blasting consultant shall monitor, record, analyze and report airblast pressure resulting from the blasting activities. In the event the blasting contractor's blasting round results in airblast overpressures approaching the stated limits, the Applicant may require the blasting contractor to modify the blasting operations to reduce airblast overpressures. In the event the blasting contractor's blasting round results in airblast overpressures exceeding the stated limits at structures, the blasting contractor shall cease all blasting activities and submit a written report to the Applicant, and copied to the City. This report shall discuss the corrective action to be taken on the next shot, and the next shot shall not be loaded until the Applicant acknowledges, in writing, that a design change is being attempted.

3.7.16. Carbon Monoxide (CO) Control

If any blasting operations are to occur within two hundred and fifty (250) feet of any structure, the blasting company shall:

- Submit a carbon monoxide (CO) management plan to the Planning and Urban Development Department with the Blasting Application for review and approval. The plan shall detail strategies that will be employed by the blasting company throughout blasting operations to prevent and mitigate the health and safety risks associated with possible CO migration away from the blast site and into abutting structures. CO management plans shall be tailored to the specific nature of blasting operations but shall include, at a minimum, two or more of the following actions:

    - Effort to determine the presence and location of one or more operable Carbon Monoxide detector(s) within abutting structures. Where operable Carbon Monoxide detectors are not present, they shall be temporarily provided and placed in the basement of the structure, or on the first floor if there is no basement, until at least 24 hours after completion of blasting operations.
    - Immediate excavation of individual shots, with holes remaining vented for an adequate time to allow any CO produced by the blast to dissipate into the atmosphere. Safe CO levels in the blast hole shall be confirmed by a CO detector before the hole is backfilled.
    - Identify and document active and abandoned sewer connection locations and sealed drains locations for abutting

structures as part of the pre-blast survey in order to identify structures that may pose an increase risk for CO migration. This information is available through the City of Portland Department of Public Services.

- Notify all commercial and residential abutters of the blast site at least 24 hours prior to the start of blasting by means of door hangers left at both front and rear primary building entrances. Reasonable effort shall be made to also provide face-to-face notification to all building owners and/or occupants of abutting buildings. Door hangers shall be provided to the blasting company by the City of Portland and are available through the Fire Department or the Inspections Division. The language provided on the door hangar is provided at the end of this section.

If a carbon monoxide detector is in alarm during blasting operations, the blasting company or building occupant shall call 911 immediately. In addition to calling 911, the blasting company shall contact the Fire Department at (207) 874-8405 to notify them of the emergency. The blast location shall be excavated immediately and shall remain open to the atmosphere until CO is no longer detectable in the blast hole.

3.8. MODEL BLASTING PLAN

Removal of over 300 cubic yards of rock material

The purpose of the Blasting Plan is to describe anticipated rock excavation requirements for the project, and outline proposed blasting operations, vibration control criteria, and monitoring/reporting protocols, and to protect surrounding properties from damage related to proposed blasting activities.

1. Project:

2. Project Location:

3. Estimated Quantity (cubic yards in-ground measurement) of Rock to be Blasted:

4. Project Description
Describe the project for which blasting is required. Include lot size, building construction type, number of units, etc. Refer to site/grading plans. Specify anticipated depth of fills and cuts.

5. Site and Subsurface Conditions
Provide a detailed description of the site, including but not limited to existing conditions, elevations, terrain character, topography, soil conditions, groundwater depths, depth of bedrock, etc.

6. Surrounding Properties, Utilities and Wells
Describe surrounding properties, specifying use and type of construction. Include a vicinity map with the outlines of existing structures located within a site radius equal to the minimum radius required for pre-blast condition surveys.

Indicate the location of all utilities in the vicinity, including water, sewer, stormwater, and natural gas.

Indicate the location of drinking wells in a 2000ft radius of the property.

7. Anticipated Project Areas Requiring Blasting
Indicate on a site plan the areas where blasting is expected to occur. Provide a narrative characterizing the blasting/excavation work, the estimated total number of cubic yards of material to be removed by blasting, and an estimate of the number of blasts required to remove the specified amount of material.

Include a proposed Bedrock Excavation Plan showing approximate bedrock excavation areas, variations in the depth of bedrock excavation requiring blasting, and areas where controlled perimeter blasting methods will be used (if any).

Describe the distance of proposed blasting to the nearest structures and underground utilities.

Attachments:
A. Site Plan
B. Radius Plan
C. Proposed Bedrock Excavation Plan
D. Model Notification Letter
E. Model Offer of Pre-Blast Survey Notice
   Blasting Log
F. Model Blast Monitoring Report

3.9. MODEL NOTIFICATION LETTER

Date

Dear Neighbor:

We are sending you this letter to inform you that we will be blasting ledge in preparation for the _____project on _____Street.

As required by City Ordinance, prior to any blasting, neighbors within (250, 500, 600)feet of the blast area shall be notified in writing prior to the blast.

We will begin blasting on _____. We expect the blasting to last for _____. By City Ordinance, blasting will occur between 9:00am – 4:00pm, Monday through Friday.

The procedure for the blast will be as follows: Just before the blasting is due to begin, a horn will sound to signal people in the immediate area of the upcoming blast. The horn will blow in the following sequence:

3 long horns – 5 minutes before the blast
2 long horns – 1 minute before the blast
1 long horn - All clear for the blast to proceed.

Please Note: Toxic gases, including carbon monoxide (CO), are a byproduct of the detonation of explosives. Carbon monoxide is a poisonous, colorless, odorless, and tasteless gas. Exposure to raised levels of carbon monoxide can be hazardous or deadly. It is possible, in instances of incomplete combustion of explosives and where an open pathway is present, for carbon monoxide to travel from the blast site into nearby buildings. The Portland Fire Department encourages all Portland residents to install carbon monoxide detectors in their homes and workplaces to prevent exposure to hazardous levels of carbon monoxide. Carbon monoxide detectors should be installed in the basement or on the first floor of structures.

If you have any questions, please call any of the following numbers:

Blasting Contractor	_____
City of Portland Fire Prevention Bureau	(207) 874-8405
City of Portland Development Review Coordinator	(207) 874-8719
City of Portland Inspections Division	(207) 874-8703

For damage complaints, please call the Fire Prevention Bureau at (207) 874-8405 to log the complaint and request inspection and documentation of the damage.

Please do not hesitate to call if you have any questions or concerns.

Sincerely,

Blasting Contractor

3.10. MODEL OFFER OF PRE-BLAST SURVEY NOTICE

Date

Dear Neighbor:

We are sending you this letter to inform you that we will be blasting ledge in preparation for the _____project on _____Street.

As required by City Ordinance, prior to any blasting, a pre-blast survey of all structures within (250, 500, 600)feet of the blast area shall be conducted to establish a base line against which any claims of damage caused by this blasting can be judged.

Your property is within the (250, 500, 600) ft radius. A pre-blast survey will be performed at no cost to you if you would like to have it done.

To request that a pre-blast survey be done of your residence, please complete the enclosed survey form in its entirety and mail it back in the enclosed stamped envelope no later than_____.

Pre-blast condition surveys for this project will be performed by _____. A representative from _____ will call you to set up an appointment to perform the survey. A seismologist or a qualified technician working under the direction of a seismologist from _____ will then make a videotape of the interior and exterior condition of your residence. The pre-blast survey records will be kept in a locked file for a period of _____after the completion of blasting at which time they will be destroyed.

If you have any questions, please contact _____at _____.

Thank you,

Blasting Contractor

3.11. Door Hanger Model Language

Fact Sheet

This notice serves as a reminder that blasting operations will be occurring in your neighborhood in the next day or two. By now you should have also been notified in writing by the Blasting Company who will be doing this work. For the public's safety, theC ity of Portland requires contractors of blasting operations to monitor for the release of a ny carbon monoxide gas traveling into occupied buildings. This notice describes what c arbon monoxide is, identifies potential signs of carbon monoxide build-up and steps for y ou to follow.

What is carbon monoxide?

Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness or death.

Where is CO found?

CO is found in combustion fumes, such as those produced by cars and trucks, small gasoline engines, stoves, lanterns, burning charcoal and wood, and gas ranges and heating systems. ***CO is also a byproduct of blasting operations in the ground***. CO from any of these sources can build up in enclosed or semi-enclosed spaces. People and animals in these spaces can be poisoned by breathing it.

Protection from CO

The best protection from CO poisoning is early detection through the installation of a working carbon monoxide detector in your home.

What are the symptoms of CO poisoning?

The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. High levels of CO inhalation can cause loss of consciousness and death. Unless suspected, CO poisoning can be difficult to diagnose because symptoms mimic other illnesses. People who are sleeping or intoxicated can die from CO poisoning before ever experiencing symptoms.

Emergency Contact

If you or anybody in the building experiences any of the symptoms or your CO detector goes into alarm ***please call 911 immediately***.

If you have general questions regarding blasting operations in your neighborhood or carbon monoxide, please contact the Portland Fire Department Fire Prevention Bureau.

Portland Fire Department
Fire Prevention Bureau
380 Congress Street
Portland, ME 04101
874-8405

3.12. MODEL EMERGENCY ACCESS LANE MAINTENANCE AGREEMENT

IN CONSIDERATION OF the Subdivision approval granted by the Planning Board of the City of Portland to a plan entitled

dated , 20 and recorded in the Cumberland County Registry of Deeds in Plan Book , Page and pursuant to a conditions thereof,

_____

(Applicant, Nature of Applicant's Business-Corporation, Partnership or sole proprietorship and principal of business)

The owner of the subject premises, does hereby agree, for itself, its successors and assigns (the "Owner") as follows:

1. That the Owner shall be responsible for the maintenance and repair of, snow removal from, preservation of, and removal of obstructions and encumbrances including but not limited to debris, junked vehicles and other refuse, from the Emergency Access Lane depicted on the Plat (the "Emergency Access Lane") so that the Emergency Access Lane shall remain reasonably passable for fire-fighting and preventive apparatus and vehicles and other public emergency vehicles owned or operated by or on behalf of the City of Portland.

2. That the Owner shall remove snow from Emergency Access Lane so that at no time shall the snow accumulate thereto to an average depth in excess of four (4) inches and shall also remove snow from the Emergency Access Lane of a depth of less than four (4) inches if subsequent rain, hail or temperatures below thirty-two (32º) degrees Fahrenheit shall result in the snow accumulated on the Emergency Access Lane becoming so frozen as to render the Emergency Access drive impassable by such fire-fighting and public emergency vehicles. If the Owner shall fail to remove such non-frozen snow accumulating in excess of four (4) inches in depth within twenty-four (24) hours after the cessation of the storm creating such snow, or if the Owner shall fail to remove such ice within twenty-four (24) hours after ice has accumulated or formed to the state as to render the Emergency Access Lane impassable for said purposes, or if the Owner shall fail to remove said obstructions and encumbrances on the Emergency Access Lane (that are not the result of precipitation) which render the Emergency Access Lane (that are not the result of precipitation) which render the Emergency Access Lane impassable for said purposes within thirty-six (36) hours after such obstructions and up the Emergency Access Lane and adjacent land as necessary with men and machines in order to plow and clear, or cause to be plowed and cleared, such snow and ice and to remove said obstructions and encumbrances from the Emergency Access Lane and bill the Owner for the expense of the same. The City of Portland shall submit its itemized bill for such expenses to the Owner which the Owner shall pay to the City of Portland within sixty (60) days of receipt, or such longer period of time as the City of Portland shall agree to. The expenses billed to the Owner shall include the time spent for travel to and from the Property.

This Agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon its successors and assigns as their interests may appear.

Date at Portland, Maine this ____ day of _____, 20__

(Applicant)

BY _____

Its

State of Maine

Cumberland, ss _____, 20

Then personally appeared the above named _____,

and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of said Corporation.

Before me,

_____

Notary Public/Attorney-at-Law

_____

(Print or Type Name)

*If the approval is of a site plan, this clause should read "IN CONSIDERATION OF THE SITE PLAN APPROVAL granted by the Planning Board of the City of Portland to a site plan entitled , dated FORMTEXT , 20 , and file with the City of Portland, Department of Planning and Urban Development, 389 Congress Street, Portland, Maine,…"

4. LANDSCAPING AND LANDSCAPE PRESERVATION STANDARDS

4.1. DEFINITIONS

Feature mature tree: A tree that meets at least one of the following criteria:

1.) Any tree that is on the Register of Big Trees promulgated by the Maine Department of Agriculture, Conservation & Forestry (the "Big Tree List")

2.) Certain trees 24" in diameter or greater (diameter at breast height or DBH) as identified by the City Arborist

3.) Ornamental trees 12" in diameter or greater (diameter at breast height or DBH) as identified by the City Arborist

4.) Rare tree specimen to include either a tree species classified as rare or endangered at either the state or federal level, and/or stands of native trees that are rare or threatened as identified by the City Arborist.

4.2. PRESERVATION OF SIGNIFICANT SITE FEATURES

The applicant shall clearly identify all significant natural features on the site, as defined in Article 14 of the Land Use Code, on the submitted boundary survey and site plan, and shall clarify the proposed measures for the preservation and protection of all such features both during and after construction.

4.3. PRESERVATION OF EXISTING VEGETATION

4.3.1. The applicant shall provide a tree survey performed by a licensed land surveyor, arborist, forester, or landscape architect. The tree survey shall clearly indicate forest type and the location, size and species of all existing trees 10" diameter at breast height (DBH) or greater on the site and in the right-of-way, and all feature mature trees on the site and in the right-of-way. For sites with a high density of existing trees, the survey shall identify all existing shade and ornamental trees that may have been part of a prior landscape scheme for the site and the location, average size and species of groves of trees, and individual trees greater than 16" DBH.

4.3.2. Trees or groups of trees to be preserved shall be inspected and approved by the City Arborist or their designee and shall be clearly identified on the Site Plan, Subdivision Plat, Landscape Plan and Grading Plan. Where required by the reviewing authority, property deeds shall include language and plans to help ensure that current and future landowners are aware of all preservation requirements tied to the property.

4.3.3. Tree preservation efforts shall include posted signs clearly identifying the 'Tree Protection Zones' or 'Limit of Work Zones'.

4.3.4. Fencing or other protective barriers and signage shall be erected outside the drip line of individual, groupings of or perimeter trees to be preserved.

- No storage of construction equipment, digging, trenching or other soil disturbance shall be permitted within the drip-line of trees to be preserved.
- Areas of trees or other vegetation to be preserved shall not be used for temporary stormwater runoff storage during construction.
- Protective barriers and signage shall remain in place until completion of the project.

During the pre-construction meeting and prior to the onset of any construction including site work, the Department of Public Works or their designee shall inspect all installed protective barriers.

4.3.5. Tree preservation locations and measures to protect preserved vegetation shall be identified or noted in detail on the Landscape Plan and cross-referenced on the Site Plan, Subdivision Plat and Grading Plan.

4.3.6. Upon completion of the project, plant material that has been designated for preservation shall be subject to the maintenance and inspection requirements outlined in this section. Preserved vegetation that show signs of construction damage within a one year period following construction, including but not limited to bark damage or excessive root damage, grade changes other than those originally indicated in the approved grading plan, soil compaction due to heavy equipment traversing closely, or general decline due to mechanical or natural conditions shall be rejected and must be replaced prior to the release of any defect guarantee. Any rejected tree will be subject to the following replacement requirements:

- For every existing tree rejected that is between 10” and 16” in caliper DBH, one (1) replacement tree listed on the City of Portland approved list (Figure IV-1) shall be planted on the site.
- For every existing tree rejected that is 16” or more in caliper DBH, two (2) replacement trees listed on the City of Portland approved list (Figure IV-1) shall be planted on the site.

4.3.7. The developer shall be responsible for making all contractors aware of preservation requirements prior to any construction activities. See Figure IV-2 for typical tree preservation detail.

4.3.8 Where a waiver is requested under the landscape preservation standards of the land use code and planting of replacement trees is not feasible, financial contributions proportionate to the cost of required replacement trees shall be as indicated below.

Contribution per required replacement tree	$400.00
Contribution per existing feature mature tree removed*	$100.00 per inch diameter
Contribution where applicant plants a tree to replace feature mature tree*	$100.00 per inch diameter of removed existing feature mature tree less $400.00

*In cases of removal of a feature mature tree, these contribution amounts supersede the base replacement tree fee of $400.

4.4. Reserved.

4.5. SITE LANDSCAPING

4.5.1. All landscape design: Site landscaping should establish attractive, low-maintenance outdoor spaces that incorporate site definition and screening and be selected to achieve one or more of the following outcomes; promote a healthy and biodiverse urban ecosystem, further City goals around climate resiliency and mitigation, create or enhance areas of native habitat, improve stormwater treatment, and/or increase local food production.

4.5.2. Screening and buffers: Where required, buffer areas shall be comprised of existing trees and vegetation, new landscaping or a combination thereof to create a dense, mixed buffer incorporating both understory and tree canopy layers. While primarily of benefit from a ground level pedestrian viewpoint, such screening should also effectively provide screening when viewed from upper floors of surrounding properties, where applicable. New shrubs shall be approximately three (3) feet in mature height and shall be spaced six (6) to eight (8) feet apart. Figure IV-3 provides an example of buffering between compatible uses.

Buffers between land uses: Buffers between contrasting land uses may incorporate earthen berms not exceeding 4:1 slope, opaque fencing of high architectural quality, masonry wall or a combination thereof, in addition to landscape plantings. Where fencing or masonry wall is proposed as part of a buffer, less landscaping density is acceptable; however, buffers shall still include trees, shrubs and other vegetation.

Buffers between site components: Landscaped buffers within the site shall complement and enhance structures and site amenities, provide screening between structures, and buffer undesirable views from general public areas, from existing structures and from residents of proposed units. Accessory site elements such as parking and loading areas, utility structures, dumpsters, storage areas and other hardscaped or unvegetated areas, shall be located and screened from view from public areas and adjacent properties. Screening shall be accomplished with opaque fencing of high architectural quality, masonry wall and/or dense evergreen landscaping. Where fencing or masonry wall is proposed as part of a buffer, less landscaping density is acceptable; however, buffers shall still include trees, shrubs and other vegetation. Figures IV-6 and IV-7 provide an example of screening of accessory site elements.

4.5.3. Industrial and commercial development: In addition to other requirements of the City Code and of this section, industrial and commercial developments shall incorporate landscaping that:

- Enhances proposed buildings with foundation plantings in the vicinity of public entrances to all buildings and in areas with uninterrupted or predominantly blank facades (Figure IV-5 provides an example of interior site landscaping).

- Defines roadways and driveway entrances.

4.5.4. Planned Residential Unit Development (PRUDs): Required trees to be planted and/or preserved shall separate and screen proposed buildings and separate and screen proposed recreational uses. Where cul de sacs are provided, landscaping consisting of native or adapted low maintenance vegetation shall be provided.

4.5.5. Parking areas: Landscaping shall be incorporated into the development of surface parking to reduce adverse environmental and aesthetic impacts, to shade pavement to reduce heat island effect and to screen parking areas from public view. Plant materials shall be selected for appearance, durability, and tolerance to salt. Figures IV-6a and IV-6b provide examples of parking lot screening.

Landscaping that abuts areas of vehicular use shall be adequately protected and separated from vehicles. Protection should take the form of physical or visual separation, such as curb stops, bollards, or continuous curbing. Protection shall be designed with adequate visibility and durability in order to withstand normal snow plowing operations.

Landscaped islands shall be curbed and a minimum of eight (8) feet in width, not including curbing. The incorporation of bioretention into landscaped islands is strongly encouraged.

4.5.6. Snow storage: Snow storage areas may be located in landscaped areas provided that appropriate landscape materials are selected which can withstand such snow storage. Snow storage shall not be located where it would adversely impact the functionality of bioretention or other stormwater management systems.

4.5.7. Walls and fences: Fences and walls within public view must be of high architectural quality. Chain link and wire mesh fences shall be vinyl coated, dark in color, out of direct public view and shall be complemented with landscaping.

- For residential development, chain link fence shall be a minimum of 6-gauge fence fabric.
- For commercial or industrial development chain link fence shall be 9-gauge fence fabric mounted on schedule 40 pipe posts.

Masonry walls shall be constructed of stone, brick or other durable and attractive materials.

Concrete block walls are not permitted except where variety in color, design and detailing of the materials are of high architectural quality. Electrified or barbed fencing is not permitted.

4.5.8. Slope stabilization: Stabilization of slopes between 5% and 50% shall incorporate installation of a mixture of vegetation, organic mulch and/or erosion control seed mix.

Stabilization of slopes greater than 50% must incorporate biotechnical and/or structural methods including but not limited to terracing rip rap or retaining walls in addition to vegetation. Retaining walls, if four (4) feet in height or greater from the bottom of the footing to the top of the wall and/or if supporting a surcharge, must be designed by a licensed engineer and require a City of Portland Building Permit.

4.5.9. Low Impact Development (LID) practices: It is the City's policy to encourage Low Impact Design (LID) strategies and practices to capture and infiltrate stormwater runoff. LID is the process of developing land to mimic the natural hydrologic regime. It incorporates land planning and design practices and technologies to achieve this goal. LID is also discussed in Section V of this Technical Manual.

LID strategies and practices relating to site landscaping requirements include but are not limited to bioretention, grassed filter strips, green roofs, rain gardens and vegetated swales.

4.5.10. Climate positive planting: Site landscaping should be selected in part to further

the City's goals around mitigating the effects of a locally changing climate, with consideration given to the viability of species in a warming environment, the equitable extension of tree canopy to address the urban heat island effect, and the use of landscaping elements to reduce energy consumption.

4.6. STREET TREES

Arrangement and spacing of trees proposed in the City right of way and/or private roadway, shall be coordinated with the Portland City Arborist or their designee. Tree species shall be selected according to the City of Portland recommended tree list (Figure IV-1). Trees proposed in the sidewalk shall be planted in tree wells, as shown in Figures IV-4a, 4b, and 4c and as required by the City Arborist based upon site context and prospects for tree survival. Adequate soil volume to ensure tree survival shall also be required, as determined by the City Arborist.

4.6.1. Residential development:

Single-family residential: Single-family residential developments shall provide a minimum of two (2) street trees per unit, planted in the City right of way and/or along private roadways unless otherwise approved and spaced twenty-five (25) to thirty-five (35) feet on center.

Multi-family residential: Multi-family residential developments shall provide a minimum of one tree per unit, planted in the City right of way and/or along private roadways unless otherwise approved and spaced twenty-five (25) to thirty-five (35) feet on center.

Single-family residential subdivisions: Single-family residential subdivisions shall provide a minimum of two (2) trees per lot, planted in the City right of way and/or along private roadways unless otherwise approved and spaced twenty-five (25) to thirty-five (35) feet on center.

4.6.2. Planned Residential Unit Developments (PRUDs): Where a manufactured housing park or subdivision is also a planned residential unit development (PRUD), the development shall provide a minimum of two (2) street trees per unit, planted within ten (10) feet of the City right of way and/or private roadway proposed as part of the development.

4.6.3. Commercial, industrial and institutional development: Commercial, industrial and institutional developments shall provide street trees twenty-five (25) to thirty-five (35) feet on center in the City right of way along all street frontages unless otherwise approved.

4.6.4. Street tree alternatives: Section 14.6.2 of the Land Use Code states that where

the applicant can demonstrate that site constraints prevent the planting of required street trees in the City right-of-way and/or along private roadways, the review authority may permit the following to be counted towards the street tree requirement. The alternatives to a street tree in the right-of-way should help achieve the objectives of a street tree and contribute to the street environment. The following specifications are provided to guide the applicant; the acceptability of the alternative to a street tree shall be at the discretion of the City Arborist.

- Existing healthy street trees located in the right-of-way along the frontage of the site may be counted as street trees. Plans for protection and preservation of these trees during construction shall be included as part of the development review.

- Existing healthy trees that are six (6) inches or more in caliper, visible from the right of way and on the site within twenty (20) feet of the property line may be counted as street trees. Plans for the protection and preservation of these trees during construction shall be included as part of the development review.

- New street trees may be planted where visible from the right-of-way within twenty (20) feet of the property line, subject to the species being appropriate to the location and from the Recommended Tree List (Figure IV-1). Applicants should note that trees planted within the site would be subject to the Performance Guarantee defect period provisions and should be documented on deed plans for future preservation.

- The preferable location for new street trees that cannot be located in the right-of-way along the frontage of the site is on public land elsewhere in the neighborhood or in areas of the City with minimal tree coverage. Locations may include esplanades, sidewalks and existing empty street tree wells or planting strips, and also places such as parks, playgrounds, and other areas where public benefit would be derived from the addition of new trees. Evidence that the planting site was unlikely to be redeveloped in the near future and that the trees would be protected and maintained are required.

- Where the other alternatives are demonstrated to be infeasible, a contribution for each required street tree may be made into the City of Portland's Tree Fund in accordance with the table below. The contribution shall be used by the City to provide street trees in the right of way or in the neighborhood of the proposals site or in other areas of the City with minimal tree coverage. The contribution would be considered a "one-time" infrastructure contribution which is payable prior to the issuance of a building permit.

- Where the proposed development involves the removal of an existing street tree determined by the City Arborist to be a feature mature tree, the applicant shall be required to contribute to the tree fund as indicated below.

Contribution for new street tree	$400.00
Contribution for tree to replace feature mature tree	$100.00 per inch diameter of the removed existing feature mature tree
Contribution where applicant plants a tree to replace feature mature tree	$100.00 per inch diameter of removed existing feature mature tree less $400.00

4.7. PLANT SELECTION

4.7.1. All trees and shrubs shall comply with the standards set forth by the American Standard for Nursery Stock (ANSI Z60.1 - 2004). These standards are available through the Department of Public Works.

4.7.2. All trees and shrubs shall be nursery grown, healthy, free of disease and insect pests, and shall have a well-developed and compact root system. Plant material showing signs of a lack of proper nursery care or a lack of pruning or cultivation, or which is not true to name will be classified as collected stock regardless of its source and shall be rejected.

4.7.3. Proposed trees and shrubs installed as part of the landscaping plan shall be comprised of at least 50% native species.

4.7.4. The developer shall be responsible for preventing the spread of existing or the introduction of new invasive species on the site, as identified below. If, within one (1) year following construction, invasive species are identified on the site or if such species are pre-existing on the site but are determined to have spread by the City Arborist, the applicant shall be required to implement appropriate control measures prior to the release of the defect guarantee. Accepted mechanical and chemical control methods are provided by the Maine Natural Areas Program (MNAP) of the Maine Department of Conservation in their Invasive Plant Fact Sheets (available through the Department of Public Services and through the MNAP program website: http://www.maine.gov/doc/nrimc/mnap/features/invasives.htm.

The following plant species are recognized as invasive species that are characteristically adaptable, aggressive, and have a high reproductive capacity.

1) Asiatic Bittersweet (*Celastrus orbiculata*);
2) Autumn and Russian Olive *(Elaeagnus umbellata and Elaeagnus angustifolia*);
3) Black Swallowwort *(Cynanchum louiseae*);
4) Brazilian Waterweed *(Egeria densa);*
5) Common and Glossy Buckthor*n (Rhamnus cathartica and Frangula alnus*);
6) Common Reed *(Phragmites australis);*
7) Eurasian Milfoil *(Myriophyllum spicatum*);
8) Fanwort (*Cabomba caroliniana);*
9) Garlic Mustard (*Alliaria petiolata*);
10) Hydrilla (*Hydrilla verticillata);*
11) Japanese Barberry *(Berberis thunbergii*);
12) Japanese Honeysuckle *(Lonicera japonica*);
13) Japanese Knotweed *(Fallopia japonica);*
14) Japanese Stilt Grass *(Microstegium vimineum);*
15) Lesser Celandine *(Ranunculus ficaria*);
16) Mile-a-Minute Weed *(Polygonum perfoliatum*);
17) Morrow and Tartarian Honeysuckle *(Lonicera morrowii and Lonicera tartarica*);
18) Multiflora/Rambler Rose *(Rosa multiflora*);
19) Porcelainberry (*Ampelopsis*
20) Milfoil *(Myriophyllum heterophyllum*);
21) Water Chestnut *(Trapa natans);*
22) Norway Maple (*Acer platanoides*)
23) Yellow-flag Iris (*Iris pseudacorus).*

4.7.5. Trees selected from the Recommended Tree List (Figure IV-1) shall conform, at a minimum, to the sizes specified on the list.

4.7.6. All upright deciduous and evergreen shrubs shall be a minimum of 3 feet tall at mature height. All spreading evergreen and deciduous shrubs shall be a minimum of 2-2.5 feet in width at maturity.

4.7.7. Ground covers planted in lieu of grass shall be planted at a level of coverage equivalent to one complete growing season. Grass areas shall be planted with Kentucky Bluegrass (*Poa pratensis*), Red Fescue (*Festuca rubra*), Tall Fescue (*Festuca arundinacea*) or Perennial Ryegrass (*Lolium perenne L.).* Rolled turf, erosion reducing net or suitable vegetation along with landscaping shall be used in swales or other areas subject to erosion.

4.7.8. Mulching material shall be a minimum of three (3) inch deep wood chip or bark mulch. Inorganic mulches are not permitted.

4.7.9. No plantings used to satisfy City landscaping requirements shall be comprised of inorganic materials.

4.8 INSTALLATION AND MAINTENANCE OF PLANTINGS

4.8.1. Landscaping, earth moving and grading activities shall be performed according to standards accepted good planting and grading procedures and in accordance with the approved Site Plan, Subdivision Plat, Grading Plan and Landscape Plan.

4.8.2. No plant shall be moved after the bud break unless so authorized by the City Arborist or their designee. Planting periods are between April 1st and to July 1st and/or September 1st and November 1st.

4.8.3. Tree planting and other landscaping for subdivisions that cannot be installed prior to release of the performance guarantee must be insured by a defect bond as described in Section Article 15 of the City Land Use Code.

4.8.4. All bare soil areas shall be vegetated and/or mulched prior to the issuance of a Certificate of Occupancy.

4.8.5. New vegetation that shows signs of construction damage within a one year period following construction, including but not limited to bark damage or excessive root damage, grade changes other than those originally indicated in the approved grading plan, soil compaction due to heavy equipment traversing closely, or general decline due to mechanical or natural conditions shall be rejected and must be replaced prior to the release of any defect guarantee.

5. PORTLAND STORMWATER MANAGEMENT STANDARDS AND MAINE DEP CHAPTER 500 STORMWATER MANAGEMENT

I. INTENTION

The goal of the City of Portland's Stormwater Management Program is to address the effects of development on both the quantity and quality of stormwater runoff in order to protect and improve water quality and meet Clean Water Act requirements. The Technical Manual standards support the review criteria contained in Portland's site plan and subdivision ordinances and with the stormwater management requirements within Chapter 32. Please see Chapter 32 of the City Code of Ordinances for regulations governing stormwater systems, illicit discharges and Post-Construction Stormwater Management Plans in Portland.

II. APPLICABILITY IN PORTLAND

PROJECTS REQUIRING STATE PERMITS:

Projects that require a Stormwater Permit pursuant to 38 M.R.S.A. Sec. 420-D (Stormwater Management Law) and projects that may substantially affect the environment and require a site location of development (Site Law) permit pursuant to 38 M.R.S. A Sec 481-490 shall be reviewed for conformance with Chapter 500 under the City's Delegated Review Authority or by the Maine Department of Environmental Protection.

PROJECTS REQUIRING MUNICIPAL REVIEW IN PORTLAND:

The City of Portland's applicability requirements for all development within Portland, which are specified below, supersede the applicability thresholds specified within the Chapter 500 Rules. The City of Portland conducts reviews under the City's Code of Ordinances, specifically Chapter 32 Stormwater and Chapter 14 Land Use Code. With the intent of improving water quality within Portland's urban environment, the City has adopted codes and regulations that require development proposals of a scale smaller, than the thresholds established under the state laws, to comply with the provisions of Chapter 500.

As outlined in the Article 14 of the City of Portland Land Use Code, the developments specified below shall comply with the Urban Impaired Stream, Basic, General, and Flooding Standards of the most recent version of the Maine Department of Environmental Protection (Maine DEP) Chapter 500 Rules for Stormwater Management (http://www.maine.gov/dep/land/stormwater/storm.html)

A. Development within Urban Impaired Stream Watersheds: All development, except single and two-family homes subject to City of Portland review under the minor residential site plan application, shall be required to comply with the Urban Impaired Stream Standard pursuant to Maine DEP Chapter 500 Stormwater Management Rules if they are located within the following watersheds:

- Capisic Brook,
- Fall Brook,
- Nasons Brook,
- As listed in the most recent version of the Maine DEP Chapter 502 Rules.

Developments which will result in the creation of up to 1,000 square-feet of new impervious area or up to 10,000 square-feet of new non-impervious developed area, as defined under Definitions in the Maine DEP Chapter 500, are considered de minimis and are exempt from the Urban Impaired Stream Standard. Development within the Long Creek watershed shall be subject to the requirements set forth by the Long Creek Watershed Management District.

The City of Portland has an approved Compensation Fee Utilization Plan (CFUP) and can therefore receive in-lieu-fee payments to meet the UIS Standard.

B. Basic Erosion and Sedimentation Control Standards for all Development: All development subject to City of Portland site plan review, including but not limited to minor and major site plans, shall comply with the Basic Standard pursuant to Maine DEP Chapter 500 Stormwater Management Rules; single and two-family homes (minor residential applications) shall be exempt from the Inspection and Maintenance Documentation Requirements of Appendix B1c.

C. Stormwater Management Plans for New Development: Except as provided in below, the following development proposals shall submit a stormwater management plan pursuant to the regulations of Maine DEP Chapter 500 Stormwater Management Rules, including General and Flooding standards:

1. Minor site plans which will result in the creation of more than 1,000 square-feet of new impervious area or 10,000 square-feet of new non-impervious developed area, as defined under Developed Area and listed under Definitions of Chapter 500.
2. Major site plans.
3. Subdivisions as defined in Article 15 of the Land Use Code, except for those projects which do not result in the creation of more than 1,000 square-feet of new impervious area or 10,000 square-feet of new non-impervious developed area, as defined under Developed Area and listed under Definitions of Chapter 500.

4. Other projects that the Planning Authority determines that special conditions warrant a stormwater management plan; and
5. Projects that require a Stormwater Permit pursuant to 38 M.R.S.A. Sec. 420-D (Stormwater Management Law), a development that may substantially affect the environment and requires a site location of development (Site Law) permit pursuant to 38 M.R.S.A. Sec 481-490; and certain projects that may be eligible for license by rule for the infiltration of stormwater pursuant to 38 M.R.S.A. Sec 413.

Exemption:

1. Minor residential, as defined in the Technical Manual - Section 16.

D . Redevelopment Projects: All projects not subject to requirements of an existing Site Law or Stormwater Management Law Permit that include redevelopment of non-roof impervious area greater than 5,000 square-feet and are subject to City of Portland review shall provide stormwater quality treatment in accordance with the General Standards for no less than 50% of the redeveloped impervious area. The runoff from any upgradient area must be either directed away from the stormwater treatment measure or that measure must be sized to treat the runoff from the upgradient area.

E. Low Impact Development and Stormwater Quality Treatment: Developments that are not required to comply with the General and Flooding standards are encouraged to incorporate Low Impact Development (LID) and stormwater quality treatment techniques in their design to the maximum extent practicable; however, only projects that meet or exceed the General and Flooding Standards may qualify for a credit from the Stormwater Service Charge in accordance with the Stormwater Credit Manual. A separate application must be completed and submitted to the City for consideration of Stormwater Service Charge credits.

III. STORMWATER MANAGEMENT STANDARDS

Developments as specified under Section II Applicability in Portland must comply with the most recent version of the Maine Department of Environmental Protection (Maine DEP) Chapter 500 Rules for Stormwater Management (http://www.maine.gov/dep/land/stormwater/storm.html), including but not limited to the standards for Urban Impaired Stream, Basic, General, and Flooding Standards for the suitability, design, installation, and maintenance of systems to comply with the General and Flooding Standards are provided in Volume III of the Maine Stormwater Best Management Practices Manual.

Developments shall also comply with Chapter 32 Stormwater of the City Code and with the Subdivision and Site Plan Ordinances contained in the Land Use Code.

IV. SUBMISSION REQUIREMENTS

Applicants are required to submit a stormwater management and drainage plan as part of development review application and to provide the following submission items to demonstrate compliance with the applicable stormwater management standards:

- Urban Impaired Stream Standard: Calculations for the Compensation Fee or Mitigation Credit per the tables provided in Chapter 500 Rules and other associated Maine DEP regulations. (Note: The City of Portland has an approved Compensation Fee Utilization Plan (CFUP) and can therefore receive in-lieu-fee payments to meet the UIS Standard.)
- Basic Standard: An Erosion & Sediment Control management plan, notes, and details per the Chapter 500 Rules
- General Standard: Written narrative demonstrating compliance, site plans showing grading and drainage infrastructure, site plan showing water quality treatment area(s) with table showing compliance, BMP sizing calculations, construction details, and a Post-Construction Stormwater Inspection & Maintenance Plan per Maine DEP Chapter 500 Appendix B with reporting requirements per Chapter 32 of City of Portland Code of Ordinances, and a Stormwater Maintenance Agreement.
- Flooding Standard: Subcatchment plans with flow paths, full hydrology computations/model output of pre- and post-development conditions, summary of pre- and post-development flowrates, and a written request for waiver with rationale for waiver as noted in Section 5.II.F. (as applicable)

The following references provide guidance on LID techniques:

- *LID Guidance Manual for Maine Communities*, prepared for the Maine Coastal Program, dated September 21, 2007.
- *Low-Impact Development Design Strategies – An Integrated Design Approach,* prepared by Prince George's County, Maryland & Department of Environmental Resources, Programs and Planning Division, dated June 1999.

6. EROSION AND SEDIMENTATION CONTROL STANDARDS

Last revised May 2024

The following are the mandatory minimum standards for Construction Activity subject to Chapter 32, Article IV of the City of Portland Code of Ordinances. Minor and Major Site Plans are defined by Chapter 14 of the City of Portland Code of Ordinances.

For projects that require a **major site plan approval, or those projects that do not require site plan approval which result in 1 acre or more of Disturbed Area**, a Comprehensive Erosion and Sedimentation Control Plan as detailed in section 6.2 below is required for all Construction Activity.

For projects that require a **minor site plan approval, or those projects that do not require site plan approval which result in less than 1 acre** or more of Disturbed Area, a Basic Erosion Control Plan as detailed in section 6.1 below is required of all Construction Activity.

Minor residential projects must use effective erosion and sedimentation controls for the duration of the Construction Activity, but are not required to submit an Erosion and Sedimentation Control Plan.

In all circumstances, the City reserves the right to require a Comprehensive Erosion and Sedimentation Control Plan, or any component thereof, when site conditions dictate (e.g. proximity to sensitive natural resources, steep grades).

	Plan Submission Required	**Inspector Requirements**	**Inspection Report Submittal**
Major Site Plan >1 acre disturbance	Comprehensive	Third-party inspector	Weekly to Water Resources & Planning
Major Site Plan <1 acre disturbance	Comprehensive	Qualified professional	Weekly to Water Resources & Planning (may be waived)
Minor Site Plan	Basic	Self-inspection	None
Minor Residential	None	Self-inspection	None

6.1 Basic Erosion and Sedimentation Control Plan

Erosion Control BMPs must meet the requirements of sections 6.3 and 6.4 below. The Basic Erosion and Sedimentation Control Plan (Basic ESC Plan) shall consist of a graphic representation of the site at a scale no smaller than 1 inch = 100. The Basic ESC Plan must include the following:

a. Name(s) of and contact information for the person(s) responsible for installation, inspection, and maintenance of ESC BMPs;
b. Parcel boundaries;

c. Locations of coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams or brooks;
d. Locations of all Erosion and Sedimentation Control BMPs to be used; and
e. Details for all Erosion and Sedimentation Control BMPs, meeting the requirements of section 6.3, to be used.

6.1.1 Basic Inspection and Maintenance Requirements

1) All areas of disturbance, impervious areas, ESC BMPs, materials storage areas exposed to precipitation, and locations where vehicles enter or exit the Site shall be inspected:
    a. Once before any disturbance begins and after all Erosion and Sedimentation Control BMPs specified in the Erosion and Sedimentation Control Plan are in place;
    b. At least once a week as well as before and within 24 hours after a storm event (rainfall); and
    c. Once at project completion to ensure the Site has reached permanent stabilization and all temporary erosion and sedimentation controls have been removed.
2) The applicant is responsible for inspecting the site and maintaining erosion and sedimentation controls in good working order.
3) In general, sites that require a basic ESC plan and have less than 1 acre of disturbance are not required to submit an inspection report, however the City reserves the right to require and review reports for any project.
4) If ESC BMPs need to be maintained, repaired, or enhanced, the work shall be initiated upon discovery of the problem but no later than the end of the next workday or prior to a precipitation event, whichever comes first. If additional ESC BMPs or significant repair of ESC BMPs are necessary, implementation must be completed prior to any storm event (rainfall) and within 7 calendar days of identification. All measures must be maintained in effective operating condition until areas are permanently stabilized.

6.2 Comprehensive Erosion and Sedimentation Control Plan

A Comprehensive Erosion and Sedimentation Control Plan (Comprehensive ESC Plan) shall be prepared by a Qualified Professional as defined in City of Portland Code of Ordinances Chapter 32, Article IV.

The Comprehensive ESC Plan shall consist of a graphic representation of the Site at a scale no smaller than 1 inch = 100. The Comprehensive ESC Plan must include the following:

a. Name(s) of and contract information for the person(s) responsible for installation, inspection, and maintenance of ESC BMPs;
b. Parcel boundaries;
c. Topography for site pre-and post-construction conditions as 2-foot elevation contours;
d. Limits of clearing and site work;
e. Locations of coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams or brooks;
f. Locations of areas not to be disturbed by Construction Activity including trees, vegetation, and areas intended for infiltration;
g. Locations of all Erosion and Sedimentation Control BMPs to be used;
h. Details for all Erosion and Sedimentation Control BMPs to be used;
i. Example **inspection form** meeting the requirements of section 6.2.2;
j. **ESC Phasing Plan** for Construction as detailed in section 6.5;
k. **Dewatering Plan** as detailed in section 6.6 and application for review and approval if necessary; and

l. **Good Housekeeping and Pollution Prevention Plan** as detailed in section 6.7.

6.2.1 Pre-Construction Meeting

For sites with a Comprehensive Erosion Control Plan, a pre-construction meeting is required. Once an approved Performance Guarantee, if required, is in hand and at least five (5) days prior to commencing Construction Activity, the applicant shall request a pre-construction meeting with the Enforcement Authority. At a minimum, attendance at the meeting is required by the Enforcement Authority and the applicant or their representative in charge of construction. If the representative in charge of construction is not the primary earthwork contractor, a representative of the earth work contractor must also attend the pre-construction meeting. Erosion and sediment controls should be installed for inspection during the pre-construction meeting and must be installed and inspected prior to the start of construction.

6.2.2 Comprehensive Inspection and Maintenance Requirements

Erosion and Sedimentation Controls must be inspected, as detailed below, to confirm that BMPs are in place and functioning. Corrective actions must be taken if erosion is occurring or there is a discharge of sediment or turbid water from the construction Site.

1) For all sites with one acre or greater of disturbance, the applicant shall retain the services of a qualified professional third-party inspector to inspect the site weekly, for the duration of construction until final site stabilization is in place. For sites less than one acre of disturbance that are required to have a comprehensive erosion and sediment control plan, the applicant shall retain the services of a qualified professional.
2) The inspection is required in order to ensure that all construction and stabilization activities comply with the approved drawings and specifications; that field decisions regarding erosion control implementation, stormwater system installation, and natural resource protection are based on sound engineering and environmental considerations; and that any changes to the development's erosion control plan, stormwater management plan, or final stabilization plan is communicated to the City of Portland for additional review and approval.
3) All areas of disturbance, impervious areas, ESC BMPs, materials storage areas exposed to precipitation, and locations where vehicles enter or exit the Site shall be inspected at least once a week as well as before and within 24 hours after a storm event (rainfall) and prior to completing permanent stabilization measures.
4) For all sites with one acre or greater of disturbance, the inspector will submit weekly written reports to the Stormwater Coordinator(s) in the Water Resources Division of Public Works and the Development Review Coordinator(s) in Planning. Reports must include: project ID, project address, the date(s) and time(s) of inspection(s), site photographs of areas under construction, and the date(s) and approximate duration(s) of any rainfall events in the prior week. The report will identify and describe any erosion problems or discharge of pollutants and what actions will be taken to address these issues and repair any damage to other properties or natural resources, actions to eliminate the erosion source, and actions to prevent future sediment discharges from the area. Sites with less than 1 acre of disturbance may request a waiver to be reviewed and approved by Water Resources for the weekly inspection report submission requirement, as allowed by Chapter 32, Section 48 of the Code of Ordinances.
5) If ESC BMPs need to be maintained, repaired, or enhanced, the work shall be initiated upon discovery of the problem but no later than the end of the next workday or prior to a precipitation event, whichever comes first. Immediate corrective actions are required to

address active discharges of sediment to municipal streets or storm drains or to surface waters. If additional ESC BMPs or significant repair of ESC BMPs are necessary, implementation must be completed prior to any storm event (rainfall) and within 7 calendar days of identification. All measures must be maintained in effective operating condition until areas are permanently stabilized.

6) An inspection log summarizing the inspections and any corrective actions must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of ESC BMPs, materials storage areas, and vehicle access points to the parcel. Inspection documentation must include maintenance needed, ESC BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional ESC BMPs are needed. The inspection log must also document what corrective actions are needed and when corrective actions were completed. The inspection log shall be maintained for at least three years from the completion of permanent stabilization.

6.3 Erosion and Sedimentation Control BMPs

Where not otherwise specified in this section, the Erosion and Sedimentation Control (ESC) best management practices (BMPs) shall be designed using performance standards specified in the most recent Maine Erosion and Sediment Control BMPs Manual for Designers and Engineers developed by the Maine Department of Environmental Protection.

6.3.1 Minimizing Disturbed Areas

Minimize Disturbed Area and protect natural downgradient buffer areas, and any areas where stormwater may flow off-Site to the extent practicable. Control stormwater volume and velocity within the Site to minimize soil erosion. Minimize the disturbance of steep slopes. Control stormwater Discharges, including both peak flow rates and volume, to minimize erosion at outlets. The Discharge shall not result in erosion of any open drainage channels, swales, stream channels or stream banks, upland, or coastal or freshwater wetlands off the project Site.

1) Whenever practicable, no disturbance activities shall take place within 50 feet of any Protected Natural Resource.
2) If it is not practicable to maintain the 50-foot buffer of no disturbance, the Erosion and Sedimentation Control Plan must include redundant (at least two) perimeter control measures that are appropriate for the soil and slope.

6.3.2 Sediment Barriers

Prior to construction, properly install sediment barriers at the downgradient edge of any area to be disturbed and adjacent to any drainage channels within the Disturbed Area. Sediment barriers shall be installed downgradient of soil and sediment stockpiles and stormwater must be prevented from running onto the stockpile. Maintain the sediment barriers by removing accumulated sediment, or removing and replacing the barrier, until the Disturbed Area is permanently stabilized. Where a Discharge to a storm drain inlet occurs, you must install and maintain protection measures that remove sediment from the Discharge. Storm drain inlet protection must include effective curb inlet or “back throat” protection, where applicable.

6.3.3 Stabilized Construction Entrance

Prior to construction, properly install a stabilized construction entrance (SCE) at all points of egress from the Site. The SCE is typically a stabilized pad of aggregate, underlain by a geotextile filter fabric, or an engineered track out control mat which has been approved by Maine DEP which is used to prevent

traffic from tracking material away from the Site onto public ROWs. Maintain the SCE until all Disturbed Areas are stabilized. If an alternate SCE has been approved by Maine DEP, provide proof of this with the Plan or application.

6.3.4 Stormwater Channels

Each channel shall be constructed in sections so that the section's grading, shaping, and installation of the permanent lining can be completed the same day. If a channel's final grading or lining installation must be delayed, then diversion berms must be used to divert stormwater away from the channel, properly-spaced check dams must be installed in the channel to slow the water velocity, and a temporary lining installed along the channel to prevent scouring.

6.3.5 Sediment Basins

Sediment basins that will be used to control sediment during construction activities must be designed to provide storage for either the calculated runoff from a 2-year, 24-hour storm or provide for 3,600 cubic feet of capacity per acre draining to the basin. Outlet structures must discharge water from the surface of the basin whenever possible. Erosion controls and velocity dissipation devices must be used if the discharging waters are likely to create erosion. Accumulated sediment must be removed as needed from the basin to maintain at least half of the design capacity of the basin. Clearly visible staking must be installed with marks showing the elevation of half design capacity for easier inspection. The use of cationic treatment chemicals in Sediment Basins, such as polymers, flocculants, or other chemicals that contain an overall positive charge designed to reduce turbidity in stormwater may only be used if the basin does not directly discharge to surface waters and if proof of approval by Maine DEP is provided.

6.4 Timing of ESC Installation and Removal

6.4.1 ESC BMPs Required Prior to Earth Disturbance

Erosion and Sedimentation Control BMPs must be in place prior to earth disturbance. For sites with 1 acre or more of disturbance which require a Comprehensive ESC Plan, ESC BMPs should be installed prior to the required pre-construction meeting.

6.4.2 Temporary Stabilization

Within 7 days of the cessation of Construction Activities in an area that will not be worked for more than 7 days, stabilize any exposed soil with mulch, or other non-erodible cover. Stabilize areas within 75 feet of a wetland or waterbody within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

6.4.3 Permanent Stabilization

If the Site or a portion of the Site will not be worked for more than one year or has been brought to final grade, then permanently stabilize the area within 7 days by planting vegetation, seeding, sod, or through the use of permanent mulch, or riprap, or road sub-base. If using vegetation for stabilization, select the proper vegetation for the light, moisture, and soil conditions; amend the Disturbed Area subsoils with topsoil, compost, or fertilizers; protect seeded areas with mulch or, if necessary, erosion control blankets; and schedule sodding, planting, and seeding so to avoid die-off from summer drought and fall frosts. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established with 90% cover by healthy vegetation. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident. Permanent Stabilization Definitions are as follows:

1) Seeded Areas: For seeded areas, permanent stabilization means a 90% cover of the Disturbed Area with mature, healthy plants with no evidence of washing or rilling of the topsoil.
2) Sodded Areas: For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.
3) Permanent Mulch: For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion control mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.
4) Riprap: For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.
5) Paved Areas: For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed, provided it is free of fine materials that may runoff with a rain event.
6) Ditches, Channels, and Swales: For open channels, permanent stabilization means the channel is stabilized with a 90% cover of healthy vegetation, with a well-graded riprap lining, turf reinforcement mat, or with another non-erosive lining such as concrete or asphalt pavement. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.

6.4.4 Removal of Temporary Measures

Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

6.4.5 Winter Construction

Winter construction is Construction Activity performed during the period from November 1 through April 15. If Disturbed Areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by the following additional winter construction measures and restrictions:

1) Site Stabilization: Hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.
2) Sediment Barriers: All areas within 75 feet of a Protected Natural Resource must be protected with a double row of sediment barriers.
3) Ditch Lines: Ditch lines must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the Maine DEP. If release from Maine DEP has been granted, provide proof of this with the Plan or application.
4) Slopes: Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes. Unvegetated slopes less than 8% must be protected with an erosion control blanket, erosion control mix, or riprap.
5) Maintenance: Winter stabilization BMPs must be inspected and maintained as any other erosion and sedimentation control BMP.

6.5 ESC Phasing Plan

Erosion and Sedimentation Control BMPs must be in place before construction begins; additional Erosion and Sedimentation Control BMPs shall be installed as needed and shall be phased in if phasing is used; and ESC BMPs shall be maintained until permanent stabilization is achieved.

Phasing Plan Requirements: No phasing plan is required if the contractor will limit the Disturbed Area to a maximum of 5 acres of disturbance across the Site at any time. If the Construction Activity will result in more than 5 acres of Disturbed Area at any one time, the Contractor shall provide a phasing plan showing:

1. the initial 5-acre area to be disturbed;
2. which portions of the initial disturbance will be stabilized, and what temporary or permanent stabilization methods will be used;
3. which areas will be subsequently disturbed and what temporary or permanent stabilization methods will be used; and
4. each phase of disturbance and stabilization must clearly show the total areas in square feet or acres such that the 5-acre Disturbed Area limit at any one time is met throughout the entire project.

6.6 Dewatering Plan

The Erosion and Sedimentation Control Plan must include provisions to remove or properly disperse the collected water in a manner that prevents sediment from entering stormwater. The City of Portland requires a Dewatering Plan and Application for any construction dewatering discharging to City infrastructure, as detailed in the *Rules and Regulations for Use of the Sewer System*.

6.7 Good Housekeeping and Pollution Prevention Plan

A Good Housekeeping and Pollution Prevention Plan is required as part of a Comprehensive ESC Plan. The Good Housekeeping and Pollution Prevention Plan must be site specific and address the following:

6.7.1 Spill Prevention: Controls must be used to prevent pollutants from construction and waste materials stored on-Site from entering stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The Site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

6.7.2 Groundwater Protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the Site draining to an infiltration area. An infiltration area is any area of the Site that by design or as a result of soils, topography, and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the Site for the purposes of storage and handling of these materials.

6.7.3 Fugitive Sediment and Dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance shall be included to minimize tracking of mud and sediment. If off-Site tracking occurs, public roads shall be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, shall wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

6.7.4 Debris and Other Materials: Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source. Sediment generated by concrete or mortar mixing, brick cutting & saw cutting activities must be contained (e.g., sausage boom, straw bales, etc.) and cleaned up using dry methods (i.e., sweeping or vacuuming) to prevent it from entering drainage structures or water resources. These activities shall be done on vegetated areas whenever possible and away from drainage structures and water resources.

6.7.5 Excavation Dewatering: Excavation dewatering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or otherwise treated to collect the maximum amount of sediment possible, like a coffer dam sedimentation or sediment filter bag. Avoid allowing the water to flow over Disturbed Areas of the Site. If the Maine DEP has approved equivalent measures, provide proof of approval. Note that discharge of excavation dewater fluids from the Site must be visually clear (no visible suspended or settleable solids). Any dewatering discharges from a site to the City right-of-way or infrastructure are prohibited unless the City has provided approval of a Dewatering Plan and Application submitted by the Contractor. Discharges from the Site into the City's storm drain or sewer system must first obtain City approval through the Dewatering Program, as detailed in the *Rules and Regulations for Use of the Sewer System.*

6.7.6 Washout from Concrete, Stucco, Paint, Curing Compounds, or Other Construction Materials: If washout/cleanout is to be completed on the Site, a designated area(s) shall be established and marked on the Erosion and Sedimentation Control Plan. This area shall be a minimum of 50 feet from all drainage structures, ditches, waterbodies, and resource areas, as well as property boundaries if possible. The area shall not have an outlet to discharge wastes or flows. No detergents shall be used or vehicles washed in this location. A leak-proof pit or container shall be established in the washout area(s), to which washings shall be directed. This area shall be used for washout containment and dewatering by evaporation only. The pit shall not allow infiltration to occur. To prevent clean water from entering the pit, the washout area shall be covered during precipitation events. Inspections of the pit shall be conducted daily to ensure no leaks are present and no discharge is occurring.

6.7.7 Non-stormwater Discharges

Except as allowed or exempted herein, no person shall create, initiate, originate or maintain a non-storm water discharge to the storm drainage system. Such non-storm water discharges are prohibited, notwithstanding the fact that the City may have approved the connections, drains or conveyances by which a person discharges un-allowed non-storm water discharges to the storm drainage system.

6.7.7.1 Authorized Non-stormwater Discharges

Where allowed non-stormwater discharges exist, they must be identified, and steps shall be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

1) Discharges from firefighting activity
2) Hydrant flushing if dechlorinated to 0.05 mg/l or less

3) Vehicle wash water if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage, and transmission washing is prohibited)
4) Dust control runoff if it does not cause erosion
5) Routine external building washdown, not including surface paint removal, that does not involve detergents
6) Pavement wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used
7) Uncontaminated air conditioning or compressor condensate
8) Uncontaminated groundwater or spring water
9) Foundation or footer drain-water where flows are not contaminated
10) Uncontaminated excavation dewatering per item 5 Excavation Dewatering
11) Potable water including waterline flushings
12) Landscape irrigation

6.7.7.2 Unauthorized Non-stormwater Discharges

The following discharges are prohibited:

1) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds, or other construction materials;
2) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
3) Soaps, solvents, or detergents used in vehicle and equipment washing;
4) Sediment laden discharges; and
5) Toxic or hazardous substances from a spill or other release.

7. SOIL SURVEY STANDARDS

7.1. APPLICABILITY

Development proposals required to submit soil surveys include:

- Major site plans as defined in the site plan standards of the Land Use Code
- Subdivisions as defined in the subdivision standards of the Land Use Code except for those projects which do not involve construction of significant new infrastructure.
- Other projects where the review authority determines that unusual conditions specific to the site warrant a high intensity soil survey.

7.2. STANDARDS

Soil surveys are divided into four levels or classes, depending on the intensity desired. These are the minimum standards for each class of soil survey.

Class A (high intensity)

- Mapping units of 1/8 acre or less
- Scale is 1 inch equals 100 feet or larger
- Ground control – base line and test pits accurately located under the direction of a registered land surveyor or qualified professional engineer.
- Base map with 2 foot contour lines with ground survey, or aerial survey with ground control.

Class B (high intensity)

- Mapping units of 1 acre or less
- Scale of 1 inch equals 200 feet or larger.
- Ground control – test pits located by means of compass by chaining, pacing or taping from known survey points.
- Base map with 5 foot contour lines.

Class C (medium high intensity)

- Mapping units of 3 acres or less
- Scale of 1 inch equals 500 feet or larger.
- Ground control – as determined by the mapper.
- Base map – as determined by the mapper.

7.2.1. Use of the USDA National Cooperative Soil Survey and Classification:

The soil survey shall be designed using the National Cooperative Soil Survey as a guide and the soils classified at the series level. Soil map units will be phases of

soil series.

7.2.2. Map Legend and Map Unit Narratives:

The soil map legend shall include a symbol for each map unit and special symbol for areas too small to be mapped, and the name of each map unit.
The soil scientist shall provide a description for each map unit.

7.2.3. Map Unit Purity:

The soil(s) within an area enclosed by a soil boundary (map unit) will have a minimum of 75 percent of the soil(s) that provide the name of that map unit or similar soil(s). The total amount of dissimilar soils shall not exceed 25 percent of the map unit.

7.2.4. Accurate Soil Boundary Placement:

Soil boundaries must be observed throughout their length and their placement must correspond to changes in soils and/or land forms.

7.2.5. Map Preparation by a Maine Certified Soil Scientist:

All soil surveys submitted for the public record, with the exception of Soil Conservation Service soil surveys, shall be stamped and signed by a Maine Certified Soil Scientist licensed by the Maine Board of Certification for Geologists and Soil Scientists.

7.3. Reserved.

7.4. SUBMISSIONS

The following submissions will support the contention that the development will be built on suitable soils:

High Intensity Soil Survey:

A soil survey prepared by a Maine Certified Soil Scientist (CSS), completed at the appropriate mapping intensity. The soil survey must be mapped at a scale as required by the Maine Association of Professional Soil Scientists (MAPSS) Soil Survey Guidelines (available through the Department of Public Services or through the MAPSS website at http://www.mapss.org/publications.htm). The map must identify the soil mapping intensity under which the mapping was conducted.
The guidelines for each intensity level of soil mapping and the level at which various types of projects must be mapped are as follows:

- **Class A (High-Intensity) Soil Survey**:

Specific land area, within any project, which is proposed to be used for

phosphorus control measures. Phosphorus control measures include wet ponds, infiltration facilities, and buffer strips.

For residential and commercial subdivisions where any lot is less than 2 acres and on site subsurface wastewater disposal is proposed.

- **Class B (High-Intensity) Soil Survey:**

  For residential and commercial subdivisions where any lot is less than 2 acres with more than 15 lots and 20 acres of area, no on site wastewater disposal is proposed, and new city streets are to be constructed.

  The land area of condominium developments which is to be disturbed during construction. Condominium developments include single or multi-family attached dwellings where greater than 3 acres of new non-vegetated surface is constructed and/or it results in the development of an area exceeding 20 acres.

  Shopping centers, or similar commercial and industrial developments, where large areas are to be utilized or disturbed such that greater than 3 acres of new non-vegetated surface is proposed for construction and/or results in the development of an area exceeding 20 acres.

- **Class C (Medium High-Intensity) Soil Survey:**

  Residential and commercial subdivisions where all lots are greater than 2 acres and on site subsurface wastewater disposal is proposed.

  Golf courses, ski areas and trails, and other multi-use recreational developments.

  Any project which the City has determined will require a hydrogeological investigation.

- **Class D (Medium Intensity) Soil Survey (published by Soil Conservation Service for Cumberland County)**

  All other developments.

  In the event that greater than 50 percent of a proposed development site is currently developed, an applicant may petition the Planning Authority to accept a lower class soil survey. The Planning Authority shall review the request, and their decision on the appropriate level of mapping shall be final.

  A Maine Certified Soil Scientist shall accurately map and mark in the field the boundaries of any hydric soils identified by the Soil Survey.

These standards are a minimum. The Planning Authority reserves the right to request the preparation of a high intensity soil map or require more intense hydric

soil boundary delineation, when special conditions warrant it. All soil maps, with the exception of U.S. Soil Conservation Service Soil surveys, shall be signed and stamped by a Maine Certified Soil Scientist. The soil survey shall meet the standards for the degree of mapping intensity as adopted by the Maine Association of Professional Soil Scientists, dated 4-4-89.

7.4.1. Geotechnical Investigation:

If proposed buildings, facilities or infrastructure require a geotechnical investigation for their design and construction, or a geotechnical investigation is determined to be necessary by the Planning Authority, the applicant shall submit a report of this investigation prepared and endorsed by a registered professional engineer and/or other licensed professionals, as appropriate, for review and approval. This report shall identify all major limitations to the development posed by existing soils and other surface and subsurface features of the site and describe the techniques to be used to overcome these limitations. Depending on the nature of the proposed development, the requirement for a soil survey map and report may be waived if the Planning Authority determines that the geotechnical report will provide sufficient information.

7.4.2. Soils Report:

A report, completed by a Certified Soil Scientist, identifying all major limitations to the proposed development by the soil characteristics, as well as the SCS Hydrologic Soil Group classification for each soil series. A soil report shall not be required for those projects where a Class D Soil Survey is determined to be sufficient.

7.4.3. Site Engineering Report:

A Site Engineering report prepared by a qualified professional such as a soils or geotechnical engineer that describes the techniques to be used to overcome the soil limitations identified in the soil survey. The application will not be considered complete until a Site Engineering Report is submitted if the Planning Authority determines one is required.

8. STANDARDS FOR DEVELOPMENT IN AND ADJACENT TO WETLANDS

8.1. APPLICABILITY

All projects which may impact wetlands as defined by the Shoreland Zoning Ordinance or are classified as a river, stream, or brook as defined by the Natural Resources Protection Act are subject to these standards. Some wetlands which may not be regulated by the City of Portland may be regulated under State and Federal law.

8.2. STANDARDS

All wetlands shall be delineated and mapped according to the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987).

Maine State Jurisdictional Wetlands and wetlands as defined by the Shoreland Zoning Ordinance (hereafter referred to as wetlands) should be identified according to the Natural Resources Protection Act (Title 38 M.R.S.A. Section 480-B) and identified on a map.

Design the development to minimize wetland impacts by either avoiding direct wetland impacts or minimizing them when they are unavoidable. Activities in or adjacent wetlands should be carried out in accordance with the standards set forth in the Maine Wetlands Protection Rules (Chapter 310 Wetlands and Waterbodies Protection) or following the specific design criteria:

8.2.1. The development should be designed to avoid disturbance in wetlands and the developer must establish undisturbed buffer strips from the wetland boundary. For developments located adjacent to perennial streams, a minimum one hundred (100) foot buffer strip on either side of the stream should be maintained. For intermittent streams, the buffer strip may be reduced to twenty five (25) feet. The undisturbed buffer must be placed in deed restrictions. In cases where State and Local rules are in conflict, the most stringent rules will apply.

8.3. Reserved.

8.4. SUBMISSIONS

8.4.1. The following submissions will support the contention that the wetland impacts have been avoided:

- A topographic map with wetlands delineated according to the U.S. Army

Corps of Engineers Wetlands Delineation Manual (1987). State of Maine Jurisdictional Wetlands will be identified according to the Natural Resources Protection Act on the same map. The scale should be 1 inch equals 100 feet.

- A site plan that shows all development activity including lots, common areas, roads, driveways, and building windows in conjunction with wetlands.

If any wetlands filling or alteration is proposed:

- Areas of wetland fill or alteration must be clearly marked and individually identified on the site plan.
- A report that contains surface area amounts of wetland fill or alteration for the individually identified fill or alteration locations.
- A letter from the Department of Inland Fisheries and Wildlife indicating the wetlands on the site contain no significant or valuable wildlife habitat.
- A letter of non-jurisdiction, a copy of permits received from other regulatory agencies (i.e. Maine Department of Environmental Protection of the U.S. Army Corps. Of Engineers) or report from a qualified professional stating that the proposed work will not require a permit from state of local agencies must be submitted for all projects proposing work either in or adjacent to wetlands prior to issuance of a building permit. This includes wetlands not regulated by the City of Portland.

9. WATER SUPPLY STANDARDS

9.1. APPLICABILITY

All applications for approval of proposed developments shall include evidence that demonstrates that the developer has made adequate provisions for securing and maintaining a sufficient and healthful water supply.

9.2. STANDARDS

9.2.1. Documentation.

If water is to be supplied from an off-site source, provide a letter from the appropriate utility or water district stating that a sufficient and healthful water supply exists and may be utilized by the development.

For on-site water supply wells, provide evidence in the form of well inventory and water quality data on existing water supplies located within one thousand feet of any property boundary of the proposed development. The well inventory data must show a probability that proposed wells will produce a safe and adequate water supply. Positive findings by a Maine Certified Geologist must be supported by a report which summarizes and interprets hydrogeologic and groundwater data for the region, with emphasis on the project site. It should include information such as: number of wells established in the vicinity of the proposed project; identification and locations of these wells on a site map, such as a USGS topographic map; the type and depths of the wells; the types and depths of soil and bedrock encountered at the well sites; and water quality data from these wells (if applicable).

9.2.2. A common water supply will be required if there is a reasonable doubt that sufficient water quality or quantity will be available from individual wells. A common water supply must have adequate safe yield and storage to supply a minimum of seventy-five (75) gallons per day per person. For a single family home, the well must be able to supply a minimum of three hundred (300) gallons per day, per household.

9.2.3. The Maine Center for Disease Control (MeCDC), Division of Environmental Health's Drinking Water Program must review and approve of any public drinking water system (if such a system serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year, or has fifteen (15) service connections.)

9.2.4. If the water supply wells and subsurface wastewater disposal systems are on-site and any proposed lots are less than 2 acres in area, locations of the wells and subsurface disposal systems must be identified on the site plan.

9.2.5. A water supply report must be submitted, if any well services five (5) or more homes, or any development uses greater than 1500 gallons per day.

9.2.6. If there is a reasonable doubt that sufficient and healthful water supply can be provided by on site wells, the following are required:

- potability test of water from the development site.
- establishment of one or more test wells on the development site
- pump tests of the well(s)
- A report by a Maine Certified Geologist discussing the yield and potability of water obtained.
- A complete hydrogeological assessment of groundwater quality and quantity may also be required.

For developments with shallow to bedrock soils, wells must be cased 20 feet into the solid bedrock surface and the annual space cement/bentonite grouted.

9.3. Reserved

9.4. SUBMISSIONS

For developments to be serviced by individual wells, provide evidence, from the Certified Geologist knowledgeable about the project, which indicates a sufficient and healthful water supply is likely to be available as follows:

- Well inventory data indicating number of wells, depth, yield and approximate locations shown on a USGS topographic map. This data may be available upon request from the inventory data base at the Maine Geological Survey.

- Water quality data from an area well or wells showing potability.

- If a common well or wells are to service any portion of a development, submit a detailed water supply report prepared by a Maine Certified Geologist. The report must indicate that the water supply conforms to Maine State Drinking Water Regulations, Title 22 M.R.S.A. Section 601 and it must contain the following information:

  - Determination of the long term safe yield of each well including a prediction of operating levels.
  - Determination of the cone of influence (cone of depression) for the well or wells.
  - Water quality analysis results in accordance with requirements of the Maine State Drinking Water Regulations, Title 22 M.R.S.A. Section 601.

- Delineation of well head protection zones A, B, and C.
- Well head protection plan for each zone.
- Determination of any off-site wells which may be at risk due to groundwater withdrawal.
- Storage, treatment and distribution system designed, signed, stamped and dated by a Maine Registered Professional Engineer
- Evidence that adequate provisions will be made for the establishment of an entity to provide long-term maintenance and operation of the water supply system.

10. MUNICIPAL STREET LIGHTING STANDARDS

10.1. APPLICABILITY

Street lighting on city streets and public rights-of-way not subject to decorative street lighting shall follow the General Standards under 10.2 of this section.

In addition to the General Standards for lighting applicable throughout the city, the City of Portland has established special street lighting standards for decorative lighting in the following areas and according to the tables and figures in this section:

- Downtown (includes portions of Cumberland Avenue)
- Old Port
- Peninsula - Eastern Waterfront and Bayside
- Waterfront - Commercial/Thames Street
- Off-Peninsula/Forest Avenue
- Historic Landscape Districts (including Baxter Boulevard, the Eastern and Western Promenades, Lincoln Park, and Deering Oaks Park)
- Trails and pathways (including Eastern Promenade Trail, Fore River Trail, and Bayside Trail).

Decorative street lighting specifications include but are not limited to fixture type, pole and base type, pole height to top of fixture, pole spacing, and color. Please refer to Section 10.4 Standards for Decorative Lighting and Figure X-4 for the map of Portland's decorative lighting locations.

Developments subject to site plan review, with the exception of minor residential or low impact site development projects, as defined in Chapter 16 of this Technical Manual, that are on an existing or proposed street that is not currently illuminated with street lighting meeting City standards shall install the requisite type and number of street lights along all frontages.

Where lighting is being installed in the public way as part of a private development, developers are responsible for purchasing and installing all street lighting, including light poles, brackets, slip fitters, bases and all electrical wiring and conduit. The new street lighting shall be connected to an existing metered service, unless otherwise directed by the City. Once installed and operational, and upon acceptance by the City, street lighting located in the City right of way shall become the property of the City of Portland.

10.2. GENERAL STANDARDS

Location: For areas not designated with decorative lighting, street lighting may be placed on only one side of the street within the furnishing zone. However, when deemed necessary for traffic safety, the Reviewing Authority may require some street lights to be placed the opposite side of a street.

Specification: For areas not designated with decorative lighting, the City of Portland has adopted the following typical street light pole and fixture standards:

- Residential (Local/Minor) Street [see *Figure X-1*]

  a) The standard pole height is a minimum 14', not to exceed 15' and shall be black aluminum. Poles shall be mounted on reinforced concrete pole bases with at least 2" but no more than 4" reveal above grade, with 4 bolts per pole. Street light pole base design, mounting bolt pattern, bolt spacing, and bolt size shall be approved by the Department of Public Works.

  b) Light levels and pole spacing shall be in accordance with the table in section 10.2.1

  c) Streetlights shall be full cutoff, using LEDs at a 3000 Kelvin color temperature, and shall seek to match uniformity, lumen output, and color of existing streetlights along the roadway, where applicable.

- Commercial/Industrial (Arterial/Collector) Road [see *Figures X-2A to X-2G*]

  a) The standard pole height shall be either 20' or 30' according to the table in section 10.2.1 and shall be a grey.

  b) Poles selection and finish:
     - Within .5 mi. of shoreline shall use Beacon RSA-B-SHO-S AA-10 Cobra [Figure X-2F]
     - More than .5 mi. away from shoreline shall use Hubbell RTA Upsweep Style [Figure X-2G]

  c) Poles shall be mounted on reinforced concrete pole bases with at least 2" but no more than 4" reveal above grade, with 4 bolts per pole.

  d) Light levels, pole spacing shall be in accordance with the tables in 10.2.1.

  e) Streetlights shall be full cutoff, using cost-effective and innovative

technologies and shall seek to match uniformity, lumen output, and color of existing streetlights along the roadway, where applicable.

10.2.1 Lighting Design – Standard street lighting design shall conform to the following table:

STREET CLASSIFICATION	**COMMERCIAL/INDUSTRIAL**		**RESIDENTIAL**	
	Min. Avg. Foot Candles	Maximum Pole Spacing	Min. Avg. Foot Candles	Maximum Pole Spacing
Arterial	2.0	160’ (30’ pole)	1.0	130’ (30’ pole)
Collector	1.2	130’ (30’ pole)	0.6	60’ (14’ pole)
Local/Minor	0.9	130’ (30’ pole)	0.4	120’ (14’ pole)

STANDARD COBRAHEAD				
Fixture – Figures X-2A through X-2G				
Location	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
One-lane Roadways: Without parking with low traffic	COBRAHEAD A	20’	One side: 65’ – 70’ Alt. sides: 125’ – 135’	Grey (Manufacturer’s Specification)
One-lane Roadways: With on-street parking with low traffic	COBRAHEAD A	30’	One side: 70’ – 80’ Alt. sides: 120’ – 130’	
Two-lane Roadways: With on-street parking with medium traffic	COBRAHEAD B	20’	One side: 75’ – 80’ Alt. sides: 145’ – 155’	
Two-lane Roadways: With on-street parking with low traffic	COBRAHEAD B	30’	One side: 80’ – 90’ Alt. sides: 175’ – 185’	
Two-lane Roadways: With on-street parking with medium traffic	COBRAHEAD C	20’	One side: 90’ – 100’ Alt. sides: 180’ – 190’	
Two-lane Roadways: With on-street parking with medium traffic	COBRAHEAD C	30’	One side: 100’ – 110’ Alt. sides: 200’ – 210’	
Two or more lane Roadways: With on-street with high/medium traffic	COBRAHEAD D	20’	One side: 95’ – 105’ Alt. sides: 195’ – 210’	
Two or more lane Roadways: With on-street parking with high traffic	COBRAHEAD D	30’	One side: 115’ – 125’ Alt. sides: 245’ – 255’	
	COBRAHEAD E	20’	One side: 100’ – 110’ Alt. sides: 200’ – 215’	
	COBRAHEAD E	30’	One side: 115’ – 130’ Alt. sides: 240’ – 255’	

10.2.2. New Metered Services for Light Fixtures

- New light fixtures shall:
    a) Not to be tied to the existing power utility leased lighting system.
    b) Be provided with a NEMA 7-pin receptacle for future connection to the City of Portland lighting control system. Coordinate with the City of Portland for final connection and control testing.
    c) Be specified with a color temperature of 3000K.
- The developer is to provide a new metered electrical service in an APX outdoor rated enclosure (see section 10.3.1 for unit specification), preventing any new fixtures from being directly connected to the power utility.
- The developer will be required to:
    a) Provide an astronomical timeclock inside the electrical enclosure (see section 10.3.1 for unit specification) to control light fixtures or
    b) Provide a standard photocell for each fixture, to be used until lighting control module is installed.

10.3. ACCESSORIES & BOLLARDS

10.3.1. Cabinets – The city standard cabinet specifications are as follows:

CABINET				
Location	**Fixture Type**	**Fixture Height**	**Layout**	**Color**
Public Right-of-way	APX Enclosures, Inc. Cabinet APX NEMA 3R Pedestal Enclosure APXPE401615	Per Manufacturer's Specification	Mounted on the back side of sidewalk with door facing street, meter facing building street wall. If site constraints require box to be mounted within sidewalk furnishing zone, then door should face building/private property and meter should be mounted opposite side of travel direction.	Grey/Silver or Clear Coat (Manufacturer's Specification)

- Cabinet base can be stand-alone type other than above, provided it is not in a sidewalk or on the edge of a plowed pathway, street, or parking lot. Circuits may also be wired into existing traffic signal boxes or other light circuit boxes. This will be determined on a case-by-case basis.

- Additional specifications for multiuse box with external power for festivals and special events (not required – determined by Department of Public Works):

  Square D power panel QO816L100DF/S or QO112L125G with cover QO16US
  Circuits required:
  1= 125/250V 50 Amp NEMA 14-50 Receptacle
  1= 125/250V 30 Amp NEMA 14-30 Receptacle
  2= 125V 20A Standard Receptacle

10.3.2 Wiring & Electrical

- 2” inch conduit (minimum) underground in light pole bases and cabinet base.
- Each light fused individually at base Fuse holder type is a (Buchanan 65 kit Cat # 65U)
- Regular outlet on each pole just below the fixture to be fused at the bottom of the pole base with the same fuse kit as listed above.
- Any single photo cell control for all lights shall be in the cabinet, rated for the circuit. This may require an all-purpose contactor.
- Wire size and circuit size shall be calculated by the design engineer and inspected by the city inspector to make sure it is correct. This would be done on a case by case basis because not all circuits, lights and systems are the same.

10.3.3 Bollards

This section includes standards for typical lighted bollards. Non-lighted bollards appear in *Section 1. Transportation Systems and Street Design Standards.*

Location: Bollards may be used in areas such as underpasses and similar conditions where height is restricted for pedestrian lighting. Spacing and number to be determined by Department of Public Works. Locations must be approved by Department of Public Works and the Planning Authority. The City may approve additional bollard types for streetscape or special projects such as parks or as use for security bollards; any additional bollard selection must be of equivalent structural strength as approved bollards.

Specification:

- Bollards shall be mounted on reinforced concrete bases with at least 2” but no more than 4” reveal above grade, with 4 bolts per pole.

- The City of Portland has adopted the following typical lighted bollard standards:

LIGHTED BOLLARD				
Fixture – Figure X-3				
Location *(including but not limited to)*	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
Underpasses: Park Avenue, St. James Street, St. John Street, Forest Avenue, Preble Street, Franklin Street, Commercial Street, Harborview Park, Tukey's Bridge, Veranda Street	Holophane Freeport Series	45"	To be determined by Department of Public Works	Black (Manufacturer's Specification)
Waterfront Piers				

10.4. STANDARDS FOR DECORATIVE LIGHTING

Locations, Specifications, and Finish:

- Figure X-4 identifies the decorative street light locations. The following tables and Figures X-5 through X-12 illustrate the requirements for **fixture type, height, layout, and finish for each decorative light fixture**, according to street.
- All light poles shall be mounted on reinforced concrete pole bases with at least 2" but no more than 4" reveal above grade, with 4 bolts per pole.

DECORATIVE LIGHT – Downtown				
Map - Figures X-5A, X-5D ***Fixtures – Figures X-5B, X-5C, X-5E, X-5F*** ***The Technical Manual supersedes the previously adopted City of Portland Downtown Sidewalk and Street Lighting Plan (1994); that plan may be used for reference or clarification of the standards in this manual.***				
Location	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
Oak Street, Casco Street, Brown Street, Chestnut Street, Shepley Street **Center Street:** Congress to Free St **Cross Street:** Free to Spring St **Monument Square and Monument Way:** Pedestrian ways	PEDESTRIAN 1 – Single or Double Arm [Figure X-5B]	12’ 6”	One side: 60’ – 80’ Alt. sides: 100’ – 175’ Single-arm fixture placed in furnishing zone with luminaire oriented over sidewalk. Double-arm fixture placed with bracket arms parallel to sidewalk. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.	Dark Green – Tiger Drylac RAL 6012
	PEDESTRIAN 2 [Figure X-5C]	25’ 0”	One side: 90’ – 100’ Alt. sides: 175’ – 225’ Double-arm fixture placed with bracket arms parallel to sidewalk.	Dark Green – Tiger Drylac RAL 6012
Congress Street **Other locations on a case-by-case basis**	STREET – Single or Double Arm [Figure X-5E]	30’ 0”	One side: 90’ – 100’ Alt. sides: 175’ – 225’ Double-arm fixture used in median conditions with luminaire overhanging street.	Dark Green – Tiger Drylac RAL 6012
Congress Street: St. John to Franklin St	STREET/PED COMBO [Figure X-5F]	30’ 0”	One side: 90’ – 100’ Alt. sides: 175’ – 225’	Dark Green – Tiger Drylac RAL 6012
Cumberland Avenue: High to Franklin St				
Spring Street: High to Temple/Union St				
Free Street: Between High St and Temple St				
Forest Avenue: Congress to Cumberland Ave				
Center Street: Free to Spring St				
Temple Street: Congress to Spring/Middle St				
Myrtle, Chestnut, Elm and Preble Streets: Congress to Cumberland Ave	STREET/PED COMBO [Figure X-5F]	30’ 0”	One side: 90’ – 100'	Dark Green – Tiger Drylac RAL 6012
Federal Street: Congress to Temple St				

DECORATIVE LIGHT – Old Port				
Map - Figure X-6A ***Fixture – Figure X-6B***				
Location	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
Exchange Street: Congress to Fore St	STREET [Figure X-6B]	14’ 3”	Alt. sides: 60’- 80’	Black (Manufacturer’s Specification)
Fore Street: Center to Franklin Ave				
Streets between Spring/Middle to Commercial Street: Center Street, Cotton Street, Cross Street, Union Street, Dana Street, Patton Court, Moulton Street, Market Street, Silver Street, Pearl Street, Custom House Street, Portland Square, Milk Street, Wharf Street, Gold Street				
Federal Street W, Middle Street, Newbury Street W: Temple/Union to Franklin St				
Church Street				
Parks: Tommy’s, Post Office Park				

DECORATIVE LIGHT – Peninsula				
Map - Figures X-7A, X-7C ***Fixtures – Figures X-7B, X-7D, X-7E***				
Location	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
Wilmot Street, Chapel Street, Stone Street, and Cedar Street	MEDIUM STREET (Figure X-7B)	19’ 3”	One side: 80’ – 100’ Use Type 2 IES distribution. Fixture placed in furnishing zone overhang towards the street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk with light overhanging sidewalk. Where street lighting is provided by existing cobrahead fixtures, decorative fixtures are not needed on that side of street. If a project includes placing utilities underground, street/pedestrian lighting provided by decorative fixtures.	Black (Manufacturer’s Specification)
Alder St, Hanover St, Parris St, Brattle St, Mechanic St				
Mountfort St, Hancock St, Hampshire St, Newbury St E, Federal St E				
Preble Street and Elm Street: Cumberland Ave to Marginal Way				
Pearl St, Chestnut St, Myrtle St: Cumberland Ave to Marginal Way				
Oxford Street W, Lancaster Street, Kennebec Street, Somerset Street				
Portland Street				
Anderson St: Everett to Plowman St				
Fox Street				
Washington Ave: Congress to I-295				
India Street				
Middle Street: Franklin to Hancock St				
Fore Street: Franklin to Waterville St				
Marginal Way	LARGE STREET (Figure X-7D)	24’ 3”	One side: 90’ – 110’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)
Forest Avenue: Cumberland Ave to Park/Portland St				
*** No streets shall use PEDESTRIAN scale light unless site conditions such as sidewalk width or overhead utilities prevent installation of MEDIUM STREET fixture (Figure X-7D)**	PEDESTRIAN (Figure X-7E)	14’ 6”	One side: 60’ – 80’ Alt. sides: 100’ – 175’ Fixture shall be oriented to overhang sidewalk. Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.	Black (Manufacturer’s Specification)

DECORATIVE LIGHT – Trails, Waterfront

Map - Figure X-8A
Fixture – Figure X-8B
Trails - This fixture appropriate for any city trail installation. Standard lighted bollard may also be used in appropriate circumstances.
Bayside Trail - This fixture should only be used on the Bayside Trail if replacing six or more of the existing fixtures.
Waterfront – Commercial/Thames Street, this fixture is suitable to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing + Layout	Color
Fore River Trail: Casco Bay Bridge to US-1; Harborview Park trail path	TRAIL – Single Arm	18’ 4”	One side: 90’ – 125’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)
Commercial Street: Fore River Parkway to India St	TRAIL – Single Arm	18’ 4”	Supplemental pedestrian lighting as-needed. One side: 90’ – 125’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)
Thames Street: India St to Eastern Promenade Trail	TRAIL – Single Arm	18’ 4”	One side: 90’ – 125’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)
Eastern Promenade Trail	TRAIL – Single or Double Arm	18’ 4”	One side: 90’ – 125’ Alt. sides: 175’ – 225’ Single arm fixture oriented to overhang trail; Double arm fixture for medians or similar.	Black (Manufacturer’s Specification)

DECORATIVE LIGHT – Off-Peninsula

Map - Figure X-9A
Fixture – Figure X-9B
In addition to the specific locations indicated below, this fixture is suitable for off-peninsula, commercial corridors to supplement standard cobrahead lighting.

Location	Fixture Type	Fixture Height	Spacing + Layout	Color
Forest Avenue: Marginal Way to Woodlawn Ave	PEDESTRIAN – Single or Double Arm	18’ 6”	One side: 60’-80’ Alt. sides: 100’ - 175’ Placement on back of sidewalk with single arm fixture oriented to overhang sidewalk; Where site constraints require placement in furnishing zone, use double arm fixture parallel to sidewalk.	Graphite (Manufacturer’s Specification)

DECORATIVE LIGHT – Historic Landscape Street				
Map - Figure X-10A ***Fixture – Figure X-10B*** ***Fixture placement should comply with adopted master plans.***				
Location	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
Eastern Promenade (park side of street only): North St to Vesper St **Western Promenade (park side of street only):** Bramhall to Vaughan St **Baxter Boulevard (both sides of street):** Forest Ave to Bates St	STREET – with shield	21’ 0”	One side: 90’ – 100’ Alt sides: 175’ – 225’	Black (Manufacturer’s Specification)
Deering Oaks Park (Abutting Streets, park side only): Deering Ave, Park Ave, Forest Ave	STREET – without shield	21’ 0”	One side: 90’ – 100’ Park side of street only	Black (Manufacturer’s Specification)
Deering Oaks Park (within park): High Street, State Street	STREET – without shield	21’ 0”	One side: 90’ – 100’ Alt. sides: 175’ – 225’	Black (Manufacturer’s Specification)

DECORATIVE LIGHT – Historic Landscape Pedestrian				
Map - Figure X-11A ***Fixture - Figures X-11B*** ***Fixture placement should comply with adopted master plans.***				
Location	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
Eastern Promenade: Pedestrian paths	Pedestrian	14’ 6”	One side: 60’ – 80’	Black (Manufacturer’s Specification)
Western Promenade: Pedestrian paths	Pedestrian	14’ 6”	One side: 60’ – 80’	Black (Manufacturer’s Specification)
Deering Oaks Park (Interior): Pedestrian paths, High and State streets	Pedestrian	14’ 6”	Use existing light locations or refer to the Deering Oaks Master Plan (2003) for revised locations	Black (Manufacturer’s Specification)

DECORATIVE LIGHT – Deering Oaks Bridge				
Fixture –Figure X-12 ***Fixture placement should comply with adopted master plans.***				
Location	**Fixture Type**	**Fixture Height**	**Spacing + Layout**	**Color**
Deering Oaks Park (Bridge)	Bridge Light	6’ 0” (match existing)	Match existing	Match existing

10.5. CITY OF PORTLAND VERSUS CONSTRUCTION CONTRACTOR RESPONSIBILITIES

For projects where the construction contractor is required by the City to provide new street lighting, the new street lighting shall be connected to an existing metered service, unless otherwise directed by the City (see Section 10.2.2 for new metered services for lighting). The responsibilities of the construction contractor are as follows:

Construction Contractor Responsibilities:

a) The construction contractor shall furnish and install as part of the construction scope: Street lighting luminaires, street lighting poles, bracket arms, pole accessories, and decorative base enclosures all as stipulated by the City according to the City standards for the given project location.

b) Concrete foundation bases for new street lighting poles. Poles shall be mounted on reinforced concrete pole bases with at least 2" but no more than 4" reveal above grade, with 4 bolts per pole. The installation of the foundation bases shall be coordinated with sidewalk details and requirements as stipulated by the City of Portland Department of Public Works.

c) Underground conduit and wire between street lighting pole foundation bases. In addition, underground conduit and wire shall be provided to an electrical service panelboard and meter, as well as to an existing service connection.

d) Wiring to be installed within each street lighting pole and shall be extended at the pole top (or bracket arm), with connection to the street lighting luminaire(s).

e) Upon completion of the erection of the street lighting fixtures, including the installation of all lighting poles and conduit/wire, the construction contractor shall notify the City that the system is ready for operation. THE LUMINAIRES SHALL BE ENERGIZED PRIOR TO THE CONSTRUCTION CONTRACTOR'S REQUEST FOR A CITY CERTIFICATE OF OCCUPANCY.

f) It shall be the construction contractor's responsibility to pay all costs associated with the provision of required street lighting including costs associated with street lighting luminaires, street lighting poles, brackets, bases, conduit and wire, panelboards, and metering equipment.

City of Portland Responsibilities:

a) To approve the proposed point of connection for electrical service for new municipal street lighting where a new metered service is provided.

b) Connection of the construction contractor's secondary service conductors at an existing service point, where a new service is provided.

c) To review and approve the location of the street light fixtures within the public right-of-way.

10.6. Reserved.

10.7. SUBMISSION REQUIREMENTS

A lighting plan shall be provided which shall show the quantity and location of all existing and proposed street lights. This shall be incorporated into the site plan or presented on an individual lighting plan. Descriptive information including engineering detail drawings depicting the entire proposed fixture (luminaire, bracket arm, slip fitter) along with the proposed finish shall be included on the individual lighting plan.

11. SHADOW STANDARDS

11.1. DEFINITIONS

For the purposes of this section, the following definitions shall apply:

- **Shadow:** A shadow is defined as the circumstance in which a built structure blocks the sun from the land.
- **Adverse Shadow Impact:** An adverse shadow impact occurs when the shadow cast by a proposed development falls on publicly accessible open space or other important natural features where such a shadow impact would adversely affects its use and/or the viability of existing landscaping and vegetation. For the purposes of this section, the above locations shall also be referred to as "significant public resources".
- **Shadow Analysis:** A shadow analysis refers to a document and its supporting graphics, which illustrate how the shadow cast by a proposed development, will impact adjacent properties and land uses.

11.2. APPLICABILITY

All minor and major site plan applications, exempting applications defined as minor residential or low-impact site development per Section 16 of the Technical Manual, **outside the B3, B5 B6 and B7 zones** that would result in new shadows long enough to reach significant public resources (except within an hour and a half of sunrise or sunset) are required to submit a preliminary shadow analysis to the Planning Authority for review. If a preliminary analysis indicates the potential for adverse shadow impact, applicants are then required to submit a shadow analysis, as outlined below. In many cases, it may be appropriate to use the services of an architect or other professional skilled in use of computer analysis to perform a shadow analysis; however, this is not a requirement. Anyone undertaking a shadow analysis must use the longitude, latitude and time information for Portland, Maine.

11.3. REQUIRED SUBMITTALS

Preliminary Shadow Analysis*:* A preliminary shadow analysis shall be required for all applicable minor or major site plan applications that include new structures or additions to structures greater than 45 ft tall, in order to determine if additional shadow analysis is required.

a) Shadow Length: The longest shadow that any structure will cast in Portland, Maine during the year (except within an hour of sunrise or sunset) is 4.26 times its height. To conduct a preliminary analysis, multiply this factor by the height of each

proposed structure. If no significant public resources, as defined above, are located within that distance from the project site in any direction, no further analysis is required. If a resource is identified, the location of the site in relationship to the resource shall be evaluated to determine the potential for adverse shadow impact and the need for further analysis.

For example, if a development would result in a 48 ft tall building, its longest shadow would be approximately 192 feet. If there are no significant public resources within 192 feet of the project site, then no further shadow analysis is required.

b) Evaluate Site Location: Because of the path that the sun travels across the sky, no shadow can be cast in a triangular area to the south of any given project site. Therefore, if the resource in question is located within that triangular area, no further shadow analysis is required. In Portland, Maine that area lies between -122 degrees from true north and 122 degrees from true north. Thus, any significant public resource would have to be at an angle from true north greater than -122 degrees or 122 degrees in order to be shaded at any time by the proposed development.

c) Evaluate Significant Public Resource: Finally, the preliminary shadow analysis shall consider the sensitivity of the significant public resource(s) to shadow. Open spaces or natural features that require direct sunlight for a portion of the day to sustain existing vegetation or to maintain the viability of its current use (e.g. - sitting or sunning areas, public gathering spaces, turfed sports fields or children's play areas) require further analysis.

Some significant open space resources may not be sensitive to sunlight, such as paved areas or landscaped areas with all shade-tolerant species. For these types of conditions, no further shadow analysis is needed.

If the above steps are not able to determine that shadows from a proposed development would not reach a shadow-sensitive significant public resource during any time of the year, a full shadow analysis is required.

11.4. SHADOW ANALYSIS

A shadow analysis shall define the extent and duration of additional shadow that a proposed development would cast on significant public resources in the project vicinity during the year, along with the effect that new shadowing would have on any sun-sensitive aspects of the resource(s). Applicants are encouraged to use professional resources and/or computer analysis to calculate and graphically display shadows; especially if proposed structures are irregularly shaped or if the project site is located in a densely developed area. A shadow analysis shall include the following times of year:

- March 21st or September 21st

- June 21st
- May 6th or August 6th
- December 21st

A shadow analysis should identify the types of significant public resources, types of vegetation and common use(s) of the site, along with discussion of the corresponding sunlight requirements for each. The uses and vegetation of open space areas establish its susceptibility to adverse shadow impact. Uses that rely on sunlight include sitting areas, gardens, and play areas. Vegetation that relies on sunlight includes tree canopy, shade-intolerant flowering plants and turf. Shadow- sensitive landscapes and uses generally require a minimum of four to six hours of sunlight a day. If necessary, applicants are encouraged to use the professional services of a landscape architect or recreation planner to inventory and assess the sensitivity of various landscape features to shadow.

In presenting the results of a shadow analysis, the following information shall be included for each date:

- Duration of incremental shadow on affected features
- Times of shadow penetration
- Description of affected features (e.g.- landscaping, seating, active uses, historic resource)
- Time of sunrise and sunset for the date being analyzed.

In addition to a narrative description, the analysis shall include clear graphic representations of the following, as applicable:

- Relationship between the project site and significant public resources,
- Calculation of the angles from north for project shadows entering and existing the affected areas of the resource(s)
- A map showing pre-development condition shadows and the incremental shadows from the proposed structure(s) on all significant public resource(s) on each representative date.
- In the case of public open space resources, a site plan of the open space should be used to illustrate the placement of incremental shadows to allow for clear presentation of any impact to sensitive features. The length of time of the project's shadows should be indicated on each map.
- Photographs of the resource(s), focusing on elements sensitive to sunlight loss that may be impacted by new shadows from the development.
- Plan of the significant public resource, showing composite shadows and the location and duration of sunlight.

11.5. DETERMINING SIGNIFICANCE OF SHADOW IMPACT

A significant shadow impact occurs if the new shadow added by the development proposal reduces sunlight to a level where it would have an adverse impact on existing sunlight-sensitive uses. This includes but is not limited to the following scenarios:

- Substantial reduction in sunlight where a sensitive use is already subject to substandard sunlight.
- Reduction in sunlight to vegetation resulting in less available sunlight than the minimum necessary for its survival.
- Substantial reduction in the usability of an open space area.

11.6. Reserved.

11.7. ALTERNATIVES AND MITIGATION

Where an adverse shadow impact is identified, mitigation must be assessed. Types of mitigation that may be appropriate include but are not limited to relocating facilities within an open space to avoid sunlight loss, relocating or replanting vegetation, undertaking additional maintenance to reduce the likelihood of species loss, replacement facilities on another nearby site. Where affected open space is a City park, it is appropriate for the applicant to coordinate mitigation options with the Parks Division of the City of Portland Department of Public Services.

Alternatives that may reduce shadow impacts include but are not limited to

- Reorientation of the structure(s) bulk to avoid adverse shadow impacts on sensitive significant public resources.
- Reorientation of the site plan to include replacement facilities.
- Where possible, reorientation of the sun sensitive features of the resource itself.
- Incorporation of architectural design techniques and/or reflective façade materials to increase available light.

12. SITE LIGHTING STANDARDS

12.1. PURPOSE

The requirements set forth in this chapter are intended to promote and protect public health, safety and general welfare, and encourage the preservation of the natural nighttime outdoor environment. Specifically, the intent of this chapter is to limit light trespass, glare and light pollution to safeguard adequate safety, night vision, and comfort of the neighboring properties.

12.2. APPLICABILITY

The following types of development proposals are required to submit a lighting management plan for review and approval:

- All developments subject to site lighting standards of Section 14.6.4 of the Land Use Code.
- Other projects where the Reviewing Authority determines that special conditions warrant a lighting management plan.

12.3. GENERAL STANDARDS

Outdoor lighting standards listed below apply to all new developments.

1. Uniformity: As measured in foot candles at grade, maximum to minimum illumination levels shall not exceed a ratio of twenty (20) to one (1.)

2. Illumination Levels: Minimum, Maximum, and Average illumination levels for areas intended to be lighted, as measured at grade, shall be:

Minimum	0.2 foot candles (fc)
Maximum	5.0 foot candles (fc)
Average	1.25 foot candles (fc)

Average illuminance levels for exterior areas specified below, measured in foot candles (fc) at ground level unless noted, shall not exceed the following levels:

Uses	Average (Foot candle)	Uniformity Ratio (average-to-minimum)	Maximum (Foot candle)
Automated Teller Machine (ATM) Surrounding Area (10 ft perimeter)	10.0	3:1	20.0
Drive-through Canopy	10.0	3:1	20.0
Auto Service Station			
• **Approaches and Drives**	1.5	3:1	3.0
• **Service Areas**	2.0	3:1	4.0
• **Pump Island Areas**	10.0	3:1	20.0
Parking Lot			
• **Surface**	0.5	3:1	4.0
• **Structure**	0.8	3:1	2.0

3. Lumens: No fixture shall exceed 20,000 lumens (± 3%).

Types of Lighting	Maximum Lumens Allowed
Path lighting	1,500 lumens
Building Entrance	3,500 lumens
Residential/ Commercial Pole at 20'	15,000 Lumens
Industrial Pole at 30'	20,000 lumens
ATM Drive-Through Canopy	6,000 lumens
Auto Service Station	
• **Approaches and Drives**	4,000 lumens
• **Service Areas**	6,000 lumens
• **Pump Island Areas**	8,000 lumens per fuel pump

4. Light Trespass: The maximum illumination level at a property line shall not exceed 0.1-foot candle, as measured at grade, except where abutting industrial, or other non-sensitive uses. When a commercial or industrial use abuts a public right-of-way, or another commercial or industrial use, lighting must be designed so that the illumination at the property boundary line does not exceed 1.0 foot-candles.

   All residential uses and natural resource protection areas are to be considered sensitive to light trespass. In certain instances where a proposed

development is adjacent to a sensitive use, house-side shielding (see 12.3.5.1) may be necessary to comply with this standard.

5. Luminaire Types: All fixtures must be LED and shall not exceed 3000K Correlated Color Temperature (CCT). Screw in light fixtures must have LED lamps specified to be maximum of 3000K CCT.

6. Full Cut-off Fixtures and Shielding Required: All outdoor lighting fixtures, including pole mounted and wall mounted luminaires, shall be constructed Full "cut-off" or with full shielding, type where lenses, refractors or lamp sources do not extend below the surface of the fixture housing and no direct light shall be directed at or above the horizontal plane.

   Where the light source from an outdoor light fixture is visible beyond the property line, shielding shall be required to reduce glare so that the light source is not visible from within any residential dwelling unit.

   Light fixtures mounted under a canopy shall be recessed so that the lens cover is recessed into, or flush with, the underside (ceiling) of the canopy.

7. Pedestrian Walkway Lighting: Pedestrian walkway light fixtures can be a combination of freestanding pole, bollard, in-place step or building mounted fixtures. For building mounted fixtures, the proposed fixture type will be in scale with the building elevation on which it is to be installed and meet the fixture height provisions of 12.3.8. Pedestrian lighting (bollards) shall meet the technical manual standards for full cut-off or an exception may be considered under 12.2.11.

8. Fixture Height: Fixtures shall be mounted at the lowest height necessary to meet city standards and the height is measured from grade to the bottom of the lighting fixture.

Type of Lighting	Maximum Fixture Height
Residential (Pedestrian) Uses	20 feet
Commercial/ Office Uses	20 feet
Large Industrial Uses (50,000 sf or more- gross floor area)	30 feet
Building Mounted/ Entrances	below the roof eave and not to exceed 20 feet, whichever is lower
Bollard Fixtures	42 inches (3.5 feet)

9. Lighting Curfew: For surface and structured parking, lighting in vehicle parking areas containing twenty (20) or more parking spaces shall be reduced to 50% of permitted levels from one hour after the business closing

to one hour before business opening. If lighting levels are already below 50% of permitted levels, no curfew adjustment is required. Motion sensor activated lighting shall be permitted during closed hours to activate additional lighting above the 50% permitted, for the purposes of public safety.

10. Continued Maintenance: Lighting installations must be maintained in good repair to meet the provision of this ordinance on an on-going basis.

11. General Exceptions: Proposed uses that demonstrate a need to exceed the specific site lighting limits shown below for safe and reasonable exercise of the proposed use must provide a professionally produced lighting plan which adheres to the current Illuminating Engineering Society of North America (IESNA) recommendations for the proposed use. The Planning Authority may grant exceptions to the lighting standards with the finding that the light impacts do not create a public nuisance for abutting residential property. Unless otherwise specified below, exterior lighting shall conform to the recommendations put forth in Lighting for Exterior Environments RP-33-14, or its successor, published by the Illuminating Engineering Society of North America (IESNA). Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass.

12. Historic District, Architectural and Pedestrian Walkway Exception: Sites which are part of an historic district or require specific decorative lighting fixtures as means to achieve compatibility within an existing architectural context must meet the following standards:
    a. Lighting fixtures other than full cut-off fixtures may be allowed only if acceptable luminaires shall include internal and/or external glare control louvers and installed so as to minimize uplight and offsite light trespass.
    b. Low pressure sodium and metal halide lamps are prohibited.

12.4. Reserved.

12.5. ARCHITECTURAL AND SPECIALTY LIGHTING AND UPLIGHTING

1. Lighting shall be designed to minimize lighting of night ski and shall accentuate individual architectural or aesthetic elements, not the entire structure.

2. Lighting shall be directed downward unless the development is located in an area of the city where uplighting is permitted as described in Section 14.6.4

of the Land Use Code. Where permitted, upward aimed lighting (uplighting) shall not exceed 4,000 mean lumens per accent feature, shall be placed as close as possible to the base of the building or feature that is being illuminated, shall be fully shielded from view off-site, and shall use a narrow cone of light for the purpose of confining the light to the object.

3. Building façade lighting. The exterior of a building may be lighted provided the following standards are met:
    a. The lighting is done to accentuate an architectural or aesthetic element of the building, not the entire building.
    b. The light must only be directed onto the building façade and not spillover beyond the plane of the building.
    c. Upward aimed lighting must not exceed 4,000 mean lumens per accent feature, must be fully shielded, and mounted as flush to the wall as possible.
    d. Lighting exceeding 4,000 mean lumens per accent feature must be aimed downward, fully shielded, and mounted as flush to the wall as possible.
    e. Stripe Lighting: Stripe lighting along building structures as articulation may be approved as specialty architectural lighting, provided that it does not create nuisance.

4. Flag poles, statues and similar monuments. A flag pole bearing a state flag, a flag of the United States or a flag of a foreign nation may be illuminated, provided the following standards are met:
    a. The luminaires must be fully shielded.
    b. Upward aiming luminaires must be placed as close to the base as possible.
    c. The luminaires must not collectively exceed 20,000 mean lumens. Public statues, memorials or other similar monuments may also be lighted upon approval by the Historic Preservation authority, provided the above standards are met.

12.6. SUBMISSION REQUIREMENTS, PHOTOMETRIC PLANS

1. The Lighting Plan shall be depicted on a site plan, indicating the location of each current and proposed outdoor lighting fixture with projected hours of use. This plan will need to be stamped and certified by a licensed professional, such as an architect or engineer. The lighting plan must include a KEY to the proposed lighting that provides the following information:
    a. Type and number of luminaire equipment (fixtures), including the "cut off characteristics", indicating manufacturer and model number(s).
    b. Lamp source type (bulb type, i.e. LED), lumen output, and wattage.

c. Mounting height with distance noted to the nearest property line for each luminaire.
d. Types of timing devices used to control the hours set for illumination, as well as the proposed hours when each fixture will be operated.
e. Lighting manufacturer-supplied specifications ("cut sheets") that include photographs of the fixtures, indicating the certified "cut off characteristics" of the fixture.

2. A photometric plan shall be provided at 20 scale or larger which shall show the extent of the areas designed and intended for lighting, and within those specific areas show a photometric grid of maximum 10' point spacing, and within those areas provide foot candle calculations of maximum, average, minimum, maximum to minimum ratio, and average to minimum ratio. On the same or additional plan, a photometric plot shall extend to all lot lines and as necessary to reach illumination levels of 0 (zero) foot candles. Additionally, the applicant shall provide descriptive information, including manufacturers catalog excerpts, for all proposed light fixtures, lamps, and poles.

13. BOUNDARY SURVEY STANDARDS

13.1. MINOR RESIDENTIAL GENERAL STANDARDS

In addition to a standard boundary survey, all applications must also include a Site Plan prepared in accordance with Section 16 of the Technical Manual.

The following items and information shall be shown on boundary surveys for minor residential development site plans (as defined in Section 16 of the Technical Manual) to ensure compliance with City of Portland planning requirements, engineering technical and design standards, and accurate documents are on record for future planning, GIS mapping, and engineering needs:

1. Name and address of the property owner, the applicant and name of the proposed development, and with references to the Deed Book and Page at the Cumberland County Registry of Deeds.
2. North arrow
3. Scale of not less than one (1) inch to fifty (50) feet
4. A graphic scale (scale bar)
5. Plan Size: Where possible, it is preferred that plans not exceed a maximum size of 24” x 36”.
6. Site Boundaries: The full parcel boundaries must be shown on the survey.
7. Total land area of the site.
8. Flood Zone statement, where applicable, based on FEMA, FIRM Flood Insurance Rate Maps.
9. Existing streets, right-of-way, restrictions or easements on the site.
10. A revision block with a number and date indicating the revision status. The revision block shall be located in the title block or adjacent to it.
11. Property Corners: Location and descriptions of all property corners set or found, proposed to be set, and all granite survey monuments set. Where no property markers exist, the City of Portland requires that the property markers be installed and that a licensed surveyor set and confirm proposed building locations on site prior to the issuance of a building permit.
12. Boundary Survey plans, based on State of Maine Professional Licensing Boards’ legal requirements, shall bear the seal of a Professional Land Surveyor licensed to practice in the State of Maine.
13. City Vertical Datum: It shall be stated on all plans that the City of Portland established vertical datum of NGVD 1929 is used or manhole rim elevation data is used for all information shown on the plan.

14. All plans shall state the Official City of Portland Benchmark used as supplied by the Department of Public Services Engineering Division Archivist.
15. It may be required, especially in areas of old subdivision plans and areas not previously subdivided, that the survey show tie bearings and distances to the nearest street line corner, or to the nearest City of Portland survey monument. Survey tie line precision shall be an inverse line with the bearing to the nearest second and the distance to the nearest hundredth of a foot. This requirement is to aid in adding and verifying the property location on the City of Portland digital GIS basemap.
16. All current conveyances of lots, parcels, easements, and other forms of right, title, and/or interest shall be shown on both the survey plan (as submitted and as amended), with references to the Deed Book and Page at the Cumberland County Registry of Deeds.
17. Street Status: The Status of the street shall be shown; IE Accepted City Street, Continued Paper Street, Discontinued City Street, Vacated Paper Street, or new Proposed Street as per the project submission.

13.2. OTHER GENERAL STANDARDS

The following items shall be shown on boundary surveys for all other site plans to ensure compliance with City of Portland planning requirements, engineering technical and design standards, and accurate documents are on record for future planning, GIS mapping, and engineering needs:

1. Name and address of the property owner, the applicant and name of the proposed development, and with references to the Deed Book and Page at the Cumberland County Registry of Deeds.
2. North arrow
3. Scale of not less than one (1) inch to fifty (50) feet.
4. Graphic scale (scale bar).
5. Plan Size: Where possible, it is preferred that plans not exceed a maximum size of 24” x 36”.
6. Site Boundaries: The full parcel boundaries must be shown on the survey.
7. Total land area of the site
8. Zoning district boundaries, if applicable
9. Flood Zone statement, where applicable, based on FEMA, FIRM Flood Insurance Rate Maps

10. Required zoning setbacks for the site

11. Existing and proposed grading contours at intervals of not more than two (2) feet

12. Existing structures or other improvements on the site and the approximate location of structures or improvements on adjoining lots within fifty feet (50') of the site boundary

13. Existing streets, right-of-way, restrictions or easements on the site

14. The location and size of existing utilities servicing the site, including fire hydrants

15. Significant natural features on or directly adjacent to the site, including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features as listed in Section 14.6.2 of the Land Use Code

16. Location of existing street trees and the general location of on-site trees and vegetation

17. Vicinity Map showing the relationship of the project to the surrounding area at a scale no greater than one inch equals 2,000 feet

18. A revision block with a number and date indicating the revision status. The revision block shall be located in the title block or adjacent to it

19. Rim elevations of all catch basin and manhole structures

20. Invert elevations of all pipes entering and/or exiting catch basins and manhole structures

21. The length, material, diameter, and slope of all storm sewer and sanitary sewer piping

22. The location, with dimensions from existing structures, at the main line pipe and at the street property line, of all sanitary sewer and storm drain laterals. The Public Services Department Engineering Archives may have this information available for existing infrastructure

23. Location, size, type of material, and invert elevations of culverts

24. Location of water lines and valves, gas lines and valves, buried electrical lines, buried communication cables, buried TV cables, telephone and electric manholes, utility hand-hold access boxes, transformer pads, utility and light poles

25. All curbing and sidewalks, stating type of material.

26. Property Corners: Location and descriptions of all property corners set or found, proposed to be set, and all granite survey monuments set. Where no property markers exist, the City of Portland requires that the property markers be installed and that a licensed surveyor set and confirm proposed building locations on site prior to the issuance of a building permit.

27. Boundary Survey plans, based on State of Maine Professional Licensing Boards' legal requirements, shall bear the seal of a Professional Land Surveyor licensed to practice in the State of Maine.

28. City Vertical Datum: It shall be stated on all plans that the City of Portland established vertical datum of NGVD 1929 is used or manhole rim elevation data is used for all information shown on the plan.

29. All plans shall state the Official City of Portland Benchmark used as supplied by the Public Services Engineering Division Archivist.

30. Distances, bearings, and angles shall be shown on the survey or subdivision plans, shall tie the property into the nearest accepted street line and be tied into established City of Portland survey monuments or record survey data at the Public Services Engineering Archives. Ties shall be considered as an inverse line with a bearing and distance to the nearest second and hundredth of a foot.

31. All current conveyances of lots, parcels, easements, and other forms of right, title, and/or interest shall be shown on both the survey plan (as submitted and as amended), with references to the Deed Book and Page at the Cumberland County Registry of Deeds.

32. Street Status. The Status of the street shall be shown; IE Accepted City Street, Continued Paper Street, Discontinued City Street, Vacated Paper Street, or new Proposed Street as per the project submission.

13.3. ADDITIONAL BOUNDARY SURVEY STANDARDS FOR MINOR AND MAJOR SITE PLANS

On minor and major site plans (excluding minor residential and low-impact site development as defined in Section 16 of the Technical Manual), the following items shall be addressed:

1. Prior to starting field surveys and design on a project it is strongly advised to contact the City Engineer's office, Public Services Department, Engineering Division at (207) 874-8846 for information on existing

infrastructure, additional requirements, or future projects that may affect the proposed project.

2. Proposed Survey Monument Locations, if required. Granite survey monuments shall be set on one side of the street as directed by the Public Services Engineering Division on the 3 foot offset Lines, as offset towards the street. Notes describing monuments found by the Project Surveyor shall include information describing the size, condition, and depth below grade to the top of any buried monuments found.

3. All proposed (if required by Planning) and existing survey monuments shall be shown in bold line type on all utility and site plans.

4. Projects shall be tied into the Maine State Plane Coordinate System (2-zone projection), West Zone using the NAD1983 Datum and the U.S. Survey Foot as the unit of measure. The survey methods, traverse or GPS observations/methods, geodetic control used, and coordinates of new monuments set shall be stated on the survey and subdivision plans.

5. When State Plane Coordinates are required, the State Plane Coordinates (to the nearest hundredth of a foot) of two survey property corners shall be displayed for any two property corners in the project which are the farthest distance apart. Please contact the Public Services Engineering Division for assistance in providing Survey Control Points or GPS Base Station Support.

6. Bearing Basis. When State Plane Coordinates are required, magnetic bearings may be shown on plans submitted, with a note stating that the project was submitted digitally to the City of Portland on State Plane Coordinates, but that the bearings on the plans are magnetic due to survey and boundary retracement considerations. The plan shall show the magnetic declination if magnetic bearings are shown.

7. All easements and conveyances proposed as part of the project shall be recorded, upon project approval, at the Cumberland County Registry of Deeds. Easement ownership and responsibility must be stated on the survey plans. Revised plans may be requested if deeds are executed during the progression of the project for easements or other conveyances.

13.4. WAIVER OF BOUNDARY SURVEY REQUIREMENTS

13.4.1. Minor and major site plans (excluding minor residential development as defined in Section 16 of the Technical Manual) – The reviewing authority may permit the submission of a partial survey depicting only the to-be- developed portion of the improved lot of record if the development:

1. Is proposed on an already improved lot of record; and
2. Comprises less than one (1) acre of said improved lot of record,

13.4.2. Minor residential development – If the proposed house is to be located on a lot within an existing subdivision, approved no earlier than 1968, the final subdivision recording plat may be used, provided that the applicant sufficiently documents all existing encumbrances, and can show that no new encumbrances have occu**rr**ed since recording of the final plat.

14. STANDARDS FOR LOCAL SITE LOCATION OF DEVELOPMENT REVIEW

14.1. Intention

These standards are intended to provide a flexible and practical means by which the City of Portland may exercise its police powers to control the location of those developments substantially affecting the local environment in order to ensure that such developments will be located in a manner which will have minimal adverse impact on the natural environment within the development sites and of their surroundings and to otherwise protect the health, safety and general welfare of the people.

14.2. APPLICABILITY

The Planning Board shall review:

(a) subdivisions;
(b) structures;
(c) developments generating passenger car equivalents of between 100-200 per peak hour for compliance with the following standards; and
(d) metallic mineral mining or advanced exploration activity.

For purposes of this section the following definitions shall be applied by the City of Portland Planning Board:

14.2.1. **Subdivisions.** The subdivision of land into 5 or more lots, other than lots for single-family, detached, residential housing, common areas or open space, to be offered for sale or lease to the general public during any 5-year period, if the aggregate land area includes more than 20 acres; or the division of a parcel of land into 15 or more lots for single-family, detached, residential housing, common areas or open space, to be offered for sale or lease to the general public within any 5-year period, if the aggregate land area includes more than 30 acres. The aggregate land area includes lots to be offered together with the roads, common areas, easement areas and all portions of the parcel of land in which rights or interests, whether express or implied, are to be offered. This definition of "subdivision" is subject to the following exceptions:

A. Lots of 40 or more acres but not more than 500 acres may not be counted as lots except where:

(1) The proposed subdivision is located wholly or partly within the shoreland zone;

B. Lots of more than 500 acres in size may not be counted as lots;

C. Five years after a subdivider establishes a single-family residence for

that subdivider's own use on a parcel and actually uses all or part of the parcel for that purpose during that period, a lot containing that residence may not be counted as a lot;

D. Unless intended to circumvent this article, the following transactions may not be considered lots offered for sale or lease to the general public:

(1) Sale or lease of lots to an abutting owner or to a spouse, child, parent, grandparent or sibling of the developer if those lots are not further divided or transferred to a person not so related to the developer within a 5-year period, except as provided in this subsection;

(2) Personal, nonprofit transactions, such as the transfer of lots by gift, if those lots are not further divided or transferred within a 5-year period or the transfer of lots by devise or inheritance; or

(3) Grant of a bona fide security interest in the whole lot or subsequent transfer of the whole lot by the original holder of the bona fide security interest or that person's successor in interest;

E. In those subdivisions that would otherwise not require site location approval, unless intended to circumvent this article, the following transactions may not, except as provided, be considered lots offered for sale or lease to the general public:

(1) Sale or lease of common lots created with a conservation easement as defined in Title 33, section 476, provided that the Department of Environmental Protection is made a party;

(2) The exception described in paragraph E does not apply, and the subdivision requires site location approval, whenever the use of a lot described in paragraph E changes or the lot is offered for sale or lease to the general public without the limitations set forth in paragraph E; and

F. The transfer of contiguous land by a permit holder to the owner of a lot within a permitted subdivision is exempt from review hereunder, provided that the land was not owned by the permit holder at the time the Department of Environmental Protection, the MDOT or the City approved the subdivision. Further division of the transferred land must be reviewed under these standards.

For the purposes of this section, a parcel of land is defined as all contiguous land in the same ownership provided that lands located on opposite sides of a public or private road are considered each a separate parcel of land unless that

road was established by the owner of land on both sides of the road subsequent to January 1, 1970. A lot to be offered for sale or lease to the general public is counted, for purposes of determining jurisdiction, from the time a municipal subdivision plan showing that lot is recorded or the lot is sold or leased, whichever occurs first, until 5 years after that recording, sale or lease.

14.2.2. **Structure**. A "structure" means any building, parking lot, road, paved area, wharf or area to be stripped or graded and not to be revegetated that cause a total project to occupy a ground area in excess of 3 acres. Stripped or graded areas that are not revegetated within a calendar year are included in calculating the 3-acre threshold; and

14.2.3. **Passenger car equivalents at peak hour**. "Passenger car equivalents at peak hour" means the number of passenger cars, or, in the case of non-passenger vehicles, the number of passenger cars that would be displaced by non-passenger vehicles, that pass through an intersection or on a roadway under prevailing roadway and traffic conditions at that hour of the day during which the traffic volume generated by the development is higher than the volume during any other hour of the day. A one tractor-trailer combination is the equivalent of 2 passenger cars.

14.3. STANDARDS

The following standards shall be applied in evaluating subdivisions or site plans as defined above, except where Portland elsewhere has adopted more restrictive standards, the more restrictive standards shall control:

1. Financial and technical capacity. The developer has the financial capacity and technical ability to develop the project in a manner consistent with state environmental standards and with the provisions of Portland's Code of Ordinances . The Planning Board may issue a permit that conditions any site alterations upon a developer providing the Planning Board with evidence that the developer has been granted a line of credit or a loan by a financial institution authorized to do business in this State or with evidence of any other form of financial assurance the Planning Board determines to be adequate. The Planning Board shall also assess any such application in accordance with the standards set forth in Chapter 373 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

2. Traffic movement. For any development that generates 100 or more passenger car equivalents at peak hour, the developer has made adequate provision for traffic movement of all types into and out of the development area. Before issuing a permit, the Planning Board shall determine that any traffic increase attributable to the proposed development will not result in unreasonable congestion or unsafe conditions on a road in the vicinity of the proposed development. The Department of Transportation or the City of Portland Traffic

Engineer shall provide the Planning Board with an analysis of traffic movement of all types into and out of the development area and with a statement of recommended findings on traffic issues. In making its determination under this subsection, the Planning Board shall consider the analysis and recommendations provided by the City's Traffic Engineer or the Department of Transportation. Traffic movement determinations are subject to the following:

A. A proposed development that involves fewer than 100 passenger car equivalents at peak hour is not subject to traffic review.

B. If any project qualifies for review hereunder solely because it generates 100 or more passenger car equivalents at peak hour then the review hereunder shall be limited only to issues relevant to the traffic movement standards in this section. Otherwise, all other standards of review shall be applied.

In all instances the appropriate representative of the municipality or municipalities where the project is located, shall discuss with the applicant the scope of impact evaluation required for the proposed development. The applicant shall provide notice to abutting municipalities.

C. If a development is located in an area designated as a growth area in a local growth management plan that has been found by the State to be consistent with the growth management program in Title 30-A, chapter 187, the Planning Board shall require improvements to the level of traffic service only if the level of service adjacent to or in the vicinity of the development is or would be level of service E or F, as determined by the City's Traffic Engineer in accordance with the "Highway Capacity Manual" (3rd ed. 1994). In these cases, improvements are limited only to those necessary to mitigate for the foreseeable impacts of the development.

D. The Planning Board shall also assess any such application in accordance with the standards set forth in Chapter 374 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

(3) No adverse effect on the natural environment. The developer has made adequate provision for fitting the development harmoniously into the existing natural environment and that the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 375 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

(4) Soil types. The proposed development will be built on soil types that are

suitable to the nature of the undertaking. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 376 of the Maine Department of Environmental Protection Site Law Regulations, as may be amended from time to time.

(5) Ground water. The proposed development will not pose an unreasonable risk that a discharge to a significant ground water aquifer will occur. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 500 and 502 of the Maine Department of Environmental Stormwater Management and Direct Watersheds of Waterbodies Most at Risk from New Development Rules as may be amended from time to time.

(6) Infrastructure. The developer has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services.

(7) Flooding. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 500 and 502 of the Maine Department of Environmental Stormwater Management and Direct Watersheds of Waterbodies Most at Risk from New Development Rules as may be amended from time to time.

(8) Storm water management and erosion and sedimentation control. The proposed development meets the standards for storm water management in 38 MRSA §420-D as amended from time to time (See Exhibit 1) and the standard for erosion and sedimentation control in 38 MRSA §420-C as amended from time to time. In making a determination under this subsection, the Planning Board shall apply the standards set forth in Chapter 500 and 502 of the Maine Department of Environmental Stormwater Management and Direct Watersheds of Waterbodies Most at Risk from New Development Rules, as may be amended from time to time.

16. APPLICATION SUBMISSION REQUIREMENTS

16.1 SITE PLAN

The applicant shall submit for review a packet of materials and submissions in a form and content as specified by the Department of Planning and Urban Development to demonstrate compliance of the development with the site plan standards listed in Article 14 of the Land Use Code. Such submissions shall contain, at a minimum, the following elements:

A. General Submission Requirements For all Applications

1. Application form;
2. Applicable fees;
3. Project description;
4. Evidence of right, title and interest;
5. Evidence of state and/or federal approvals, if applicable;
6. Written assessment of project compliance with applicable zoning requirements;
7. Written assessment of project compliance with site plan standards;
8. Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site;
9. Written requests for waivers from the city's site plan or technical standards, if applicable;
10. Evidence of financial and technical capacity;
11. Boundary survey stamped by a professional surveyor licensed to practice in the State of Maine, drawn to scale and tied into the State Plane Coordinates, NAD 1983, Maine West Zone, as specified in Section 13 of the Technical Manual. A boundary survey of the site, may be waived by the Planning Authority for a review of Master Development Plan, where an existing conditions plan is available. The Boundary Survey requirement shall be met for each phase of development.

B. Written Materials for Site Plan Applications

1. Construction Management Plan, including a traffic control plan;

2. A traffic study and other applicable transportation plans in accordance with Section 17 of the Technical Manual, where applicable;

3. A narrative describing any significant natural features, wildlife and fisheries habitats or archaeological sites subject to the provisions of Section 14.6.2 of the land use code that are located on or near the project site and a description of the methods that will be used to protect such areas or sites during and post construction;

4. A narrative describing site layout, on and off-site watershed hydrology, new and existing buildings and facilities, total impervious area, disturbed area and developed area created by the project;

5. Stormwater runoff calculations as described in Section 5 of the Technical Manual;

6. A narrative describing the development's consistency with applicable City Master Plans;

7. Evidence of Utility Capacity to Serve;

8. Estimated types and quantities of solid waste to be generated by the development. For new commercial and industrial development, a description of the estimated amount and type of recyclable material to be generated;

9. A code summary referencing NFPA 1 and all Fire Department technical standards;

10. Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14.6.4 of the land use code and/or in the City of Portland Design Manual;

11. Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

C. Plans Required for Site Plan Applications – Plan based upon a standard stamped boundary survey meeting City of Portland standards, stamped by a professional engineer licensed to practice in the State of Maine, and including the following information:

1. Existing and proposed structures, as applicable, and distance from property

lines;

2. Approximate location of structures on parcels abutting the site;

3. All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;

4. Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;

5. Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;

6. Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;

7. Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;

8. Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;

9. Location of all snow storage areas and/or a snow removal plan;

10. Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14.6.2 of the land use code;

11. Location and proposed alteration to any watercourse;

12. A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;

13. Proposed buffers and preservation measures for wetlands;

14. Existing soil conditions and location of test pits and test borings;

15. Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;

16. A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;

17. Grading plan;

18. Ground water protection measures;

19. Existing and proposed sewer mains and connections;

20. Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;

21. Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;

22. Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;

23. Location and size of all on-site solid waste receptacles, including on-site storage containers for recyclable materials for any commercial or industrial property;

24. Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;

25. A shadow analysis as described in Section 11 of the Technical Manual, if applicable;

26. A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;

27. Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;

28. An exterior lighting plan in accordance with Section 12 of the Technical Manual;

29. A master signage plan showing the location, dimensions, height, setback, materials, and illumination of all existing and proposed signs;

30. Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

D. Exceptions for Minor Site Plan Applications
On account of the scope and anticipated level of impact for certain types of Minor Site Plan applications, a complete submission package as detailed under

Section 16.1(B) and 16.1(C) is not required for the following types of development, which are defined for the purposes of application fee assignment and submittal requirements:

1. Minor Residential Development:
    a. Development of a single-family or a two-family building, regardless of its size, excluding building additions, decks, or accessory structures; or

    b. The addition of one or two dwelling units to a multifamily structure.

2. Low-Impact Site Development
    a. Alteration of a watercourse or wetland as defined in Article 3 of the Land Use Code;

    b. Alteration of a site where disturbance of land area is less than one (1) acre and consisting of either one or more of the following activities; stripping, grading, grubbing, filling or excavation. The Planning Authority shall exempt from review the loam and seeding of lawns and the cumulative placement of less than fifteen (15) cubic yards of fill on any lot provided such loaming or placement does not alter a drainage course, swale, wetland or redirect water onto adjoining property and does not violate any other provision of the Portland City Code or state or federal law. “Disturbed area” does not include routine maintenance, but does include re-development and new impervious areas;

    c. The construction of any temporary or permanent parking area, paving of existing unpaved surface parking areas between 1,000 and 7,500 square feet or 5-25 spaces, or creation of other impervious surface areas between 1,000 and 7,500 square feet;

    d. The rehabilitation or reconstruction, but not new construction, of piers, docks, wharves, bridges, retaining walls, and other structures located within the shoreland zone;

    e. A site alteration in which vehicle access is proposed from more than one (1) street.

3. Plan Requirements for Minor Residential and Low-Impact Site Development, to be provided in addition to the general submission requirements for all site plan applications, listed under Section 16.1(A). Site plans shall be based upon the boundary survey and show the following information:

a. Existing and proposed structures, as applicable, and distance from property lines;

b. Existing and proposed paved areas, if applicable;

c. Proposed ground floor area and finish floor or sill elevation;

d. For minor residential only, exterior building elevation drawings (all sides);

e. Location of proposed utilities;

f. Identification and proposed protection measures for any significant natural features, as defined in Section 14.6.2 of the land use code;

g. Identification and proposed protection for alterations of watercourses, if applicable;

h. Identification and, if applicable, proposed impacts and protection measures for wetlands;

i. For minor residential projects only, soil type;

j. Existing and proposed grades and contours;

k. Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed;

l. Proposed stormwater management control;

m. Soil erosion control plan;

n. Existing vegetation to be preserved, proposed site landscaping, screening, and proposed street trees, if applicable;

o. Existing and proposed curb and sidewalk;

p. Location, area, and limits of the proposed site disturbance or alteration;

q. Proposed pier, dock, wharf, pier, or slope stabilization in the Shoreland Zone, if applicable.

E. Master Development Plan. A Master Development Plan is an optional submittal as part as part of the site plan review process. If the applicant elects to submit a Master Development Plan for review, it shall include the following information in addition to general submission requirements listed above:

1. A neighborhood context map, at a scale not less than one (1) inch equals one hundred (100) feet, providing a graphic description of the neighborhood in which the tract lies, including roads, utilities and other public facilities, major existing buildings and structures. There shall also be a statement and/or plan as to the general impact of the proposed Master Development Plan upon the area, indicating how the Master Development Plan relates to surrounding properties and what measures will be taken to create appropriate transitions and access from the subject property to abutting public properties (i.e. parks, waterfront, etc.) or other neighboring tracts (if applicable).

2. A conceptual site plan drawn to a scale of not less than one (1) inch equaling fifty (50) feet, or series of drawings at the same scale, and any necessary supporting information, showing:

   a. The approximate boundary lines of existing and proposed lots within and immediately adjacent to the Master Development Plan, with approximate areas and dimensions. With respect to residential areas, the proposed density, lot configuration, circulation and a typical plot plan shall be included in the application.

   b. An analysis of the natural features of the site, including existing and/or adjacent natural waterways, wetlands, floodplains, topography, soil conditions and other natural features requested or required by the Planning Authority.

   c. An analysis of the designated view corridors, historic resources, and archeological resource associated with the site.

   d. Existing/proposed buildings and other significant structures, building groupings, exterior building elevations and entrances, parking areas, and other significant physical features of the site.

   e. The context and design approach, including context drawings, perspective renderings, photographic montages, or computer-generated graphics depicting the proposed development within the surrounding building and environmental context, and building elevations. These drawings shall include the following:

i. Illustrations of all sides of the structures;

ii. Views of major entries or prominent building features;

iii. Illustration of building articulation and elements;

iv. Building finish composition; and

v. Views of the pedestrian and streetscape experience.

The submission shall include a digital three-dimensional model tied to a specific location that is submitted as a KML, KMZ, DXF, or DWG file on a CD or DVD or such format as approved by the Planning Authority. It is the applicant's responsibility that the model is complete and represents the proposed development accurately using best practice modeling techniques and layering standards.

f. Major circulation patterns surrounding and serving the site, the existing and proposed lines of streets (including the street width), ways, easements and any public areas within or next to the site.

g. Major landscaping elements, features, open space, and plans for preservation of natural features.

h. An analysis of the public safety services needed to support the master plan.

i. An analysis of the anticipated impacts on the public-school system to support the Master Development Plan.

j. A generalized drainage plan for the site, indicating drainage ways, flow, points of outfall, and indicating impacts of development on affected drainage basins. The plan shall include contour information at not less than two-foot (2') contour intervals and document anticipated quantities of run-off characteristics. General statements concerning storm water management techniques shall also be submitted with the application.

k. The plan shall clearly show Master Development Plan boundaries, north arrow, date, scale, legend, the title "Master Development Plan Concept Site Plan" followed by the formal project name, and the name(s) of applicant(s), engineer(s), designer(s) and/or agent(s).

l. A traffic analysis and recommendations prepared by a registered professional engineer qualified to conduct such studies, including

current traffic counts for streets surrounding the project, analysis of the existing capacity of those streets, projections of the amount of traffic that will be generated by the proposed development, and the ability of the street system to absorb the increased traffic without decreasing the level of service below an acceptable level – said level to be determined by the Planning Authority in concert with the Department of Public Works. In cases where the Master Development Plan is subject to a Traffic Movement Permit (TMP) for all phases, the TMP submissions and review shall supersede these requirements.

m. A utilities analysis and recommendations prepared by a registered professional engineer qualified to conduct such studies. Said analysis shall contain an inventory of existing utilities including, but not limited to, storm sewers and drains, sanitary sewers, electrical lines, fire alarm boxes and lines, gas lines/mains, water mains, lighting, curb and gutter, etc. Said inventory shall illustrate utility locations, sizes, diameters, carrying capacity and present load on the system. The engineer's report shall state if the current system is capable of adequately serving the proposed development. If the current utility system is found to be inadequate for the proposed development, the report shall confirm the deficiencies and make recommendation(s) as to the infrastructure improvements necessary to properly service the proposed development and maintain the existing service. The report shall also present a formal plan for infrastructure improvements, documenting timing, funding mechanisms and coordination with the City; and

n. Any other supportive information the applicant feels may be beneficial in the evaluation of the request.

o. The Planning Authority or Planning Board may reduce the level of information required at the Master Development Plan review stage, provided more detailed supportive documentation is provided at final major site plan review of the Master Development Plan or phases thereof.

16. 2. SUBDIVISION

The applicant shall submit for review a packet of materials and submissions in a form and content as specified by the Department of Planning and Urban Development to demonstrate compliance of the development with the subdivision standards listed in Article 15 of the Land Use Code. Such submissions shall contain, at a minimum, the following elements:

A. Subdivision Plat. The following information shall be shown on the subdivision plat unless otherwise indicated:

1. Date, north point, title and graphic scale. Scale shall not be more than 60 feet to the inch unless lots are more than an acre, but in no event more than 100 feet to the inch;

2. Based on a recent survey by the subdivider, existing contours at two feet intervals or as otherwise required by the Public Works Authority. Existing structures which are to remain will shall be delineated;

3. Names of proposed streets, width of rights of way, and typical cross section reservation, and depth of construction materials;

4. Locations, widths and purposes of other rights of way or easements to be recorded;

5. All appropriate street curve information, including point of curvature, point of tangency, tangent distance, radii and interior angle, in standard engineering format;

6. Location of those utilities existing on or adjacent to the tract to be subdivided, including size and elevation of buried or underground utilities (may be shown on separate plan);

7. Tract boundary lines and property lines of lots, with accurate dimensions and either bearings or deflection angles. All lots shall be numbered;

8. Names of adjacent property owners with parcels over 25,000 square feet or names of adjacent subdivision;

9. Designation of flood hazard areas, as defined by the National Flood Insurance Program and shown on the city flood hazard boundary map, as well as any other areas in the subdivision subject to inundation by storm water or storm sewer overflow;

10. All potential wetlands within the proposed subdivision, regardless of the size of those wetlands;

11. Any river, stream or brook within or abutting the proposed subdivision. For purposes of this section, "river, stream or brook" has the same meaning as in 38 M.R.S. § 480 B, Subsection 9.

12. Existing historic sites and structures which either appear on the National

Register or are nominated to the National Register by the state historic preservation officer;

13. Proposed private and public utility system including water, gas, telephone, fire hydrants, and any other services which shall supply the area (may be shown on separate plan);

14. Sanitary sewer and storm drain plans and profiles showing size, kind and slope of pipe, proposed manhole rim and invert elevations and catch basin locations and drains (may be shown on separate plan);

15. Lighting plan showing the location, design, height and spacing from each other of the support poles, in accordance with standards and specifications established by the Public Works Authority (may be shown on separate plan);

16. Tree plan showing groups of existing, sizeable trees which the subdivider intends to preserve (may be shown on separate plan);

17. A detailed plan of the entire subdivision and the immediate vicinity showing all existing and proposed drainage both on- and off-site including drainage swales, ditches, etc., with directional flow arrows and approximate slope grades, and showing proposed finished "spot elevations" around the perimeter of the subdivision. Proposed drainage shall be shown as it may affect or restrict development on individual lots and with reference to improvements for which a performance guarantee is required under this article. Where deemed feasible by the Public Works Authority, proposed finished contours at intervals of two feet shall be provided on the drainage plan upon request (may be shown on separate plan);

18. Location and designation of any zoning district boundaries affecting the subdivision;

19. All future phases and sections of the subdivision proposed by the subdivider (may be shown on separate plan);

20. Proposed parks and school sites, or other public open space that the developer proposes to convey to the city;

21. Names, addresses and stamp or certification, if applicable, of registered professional engineer, subdivider, and owner:

22. At the option of the subdivider, any other information that may be necessary for the full and proper consideration of the subdivision shall be submitted in writing;

23. Streets and right of way monuments and property line markers;

24. Vicinity sketch (may be shown on separate plan);

25. Total site data, including total area of the subdivision, total area in streets, total area in recreation or open space and number of house lots;

26. Profiles of each street or way in the subdivision shall be shown on the subdivision plat. They shall be drawn to a longitudinal scale of 40 feet to one foot and a vertical scale of four feet to one inch. Such profiles shall include separate profiles of each side line and center line of the street or way. Any buildings abutting on the street shall be shown in standard engineering format as requested by the Public Works Authority.

B. Supplemental Submission Items. The following submission items shall be provided if required by the Planning Board and insofar as feasible:

1. When private sewage systems are used, the results and supporting data of a soil test of each lot in the subdivision conducted by a soil evaluator licensed in the state;

2. When the adequacy of the subdivision's load bearing capacity is in question, the results and supporting data of test borings conducted by a professional engineer registered in the state;

3. When conditions warrant, a program which shall be implemented by the subdivider to control dust, erosion and sedimentation and/or vehicular traffic during construction;

4. Evidence of the applicant's financial capability to carry out all phases of the proposed development;

5. Evidence of technical capacity to undertake the development;

6. Evidence of state and federal approvals, licenses or permits required by law, or the status of applications therefor;

7. Price range of houses that will be built in the subdivision;

8. Traffic impact analysis;

9. High intensity soil survey, if required by the Planning Authority;

10. Types and estimated quantities of solid waste to be generated by the development;

11. Construction plan outlining the anticipated sequence of construction of the major features of the project including without limitation roads, retention basins, sewer lines, seeding and other erosion and sedimentation control measures, and pollution abatement measures and also setting forth the approximate dates for commencement and completion of the project;

12. A narrative and a plan showing all proposed buffer strips, their dimensions, and maintenance plans and responsibilities;

13. A description of any wetlands, wildlife and fisheries habitats, archaeological sites or unusual natural areas located on or near the project site and a description of the methods that will be used to protect such area; and

14. Where submission drawings are available in electronic form, the applicant shall submit any available electronic CADD.DXF files with final plans.

C. Recording Plat. The Recording plat shall be an original ink drawing on linen or mylar, or as necessary to be acceptable to the Registry of Deeds, and shall be tied to an accepted street or to a proposed street under construction and bonded to insure construction. The plat shall show the following:

1. Title, date, graphic scale, north arrow, name, signature and registration number or seal of a registered land surveyor licensed in the state, name and address of developer and owner;

2. Tract boundary lines and property lines of lots, with accurate dimensions and either bearings or deflection angles. All lots shall be numbered;

3. All appropriate street curve information, including point of tangency, tangent distance, radii and interior angles, in standard engineering form;

4. Street names, width of street rights of way and typical cross section showing only surface dimensions of roadway pavement, esplanade and sidewalk reservation;

5. Street and right of way monuments and property markers. Iron pipes shall be designated by a small circle at the point of installation;

6. Locations, dimensions and purposes of any easement or right of way;

7. Purpose for which sites, other than residential lots, are dedicated or

reserved; it being understood that any reservations of areas shall be subject to the proper zoning thereof;

8. Reference to recorded subdivision plats of adjoining platted land by book and page number;

9. Space for the signatures of the Planning Board and date of approval;

10. Where required by 30 A M.R.S. § 4406, the fact that initial approval or subsequent amendment of a subdivision is based in part upon the granting of a variance from any of the applicable subdivision approval standards.

17. TRANSPORTATION STUDIES & PLANS

17.1. TRANSPORTATION STUDIES

17.1.1. Definitions: For the purposes of this section, **passenger car equivalents (PCE)** shall be defined as the number of passenger cars or, in the case of non-passenger vehicles, the number of passenger cars that would be displaced by non-passenger vehicles. One tractor trailer combination is the equivalent of two passenger cars.

17.1.2. Applicability: Developments that generate 100 PCE or more during a peak hour period, thus requiring a Traffic Movement Permit (TMP), shall meet the requirements of TMP regulations of State Law, in addition to all applicable transportation site plan standards of the City Code. The calculation of the PCE trip level for determination of TMP thresholds shall be made prior to trip reductions for other modes or shared trips.

For more information concerning state TMP requirements, please refer to https://www.maine.gov/mdot/traffic/docs/229c305.pdf or contact the Maine Department of Transportation (MaineDOT). The City of Portland is the delegated reviewing authority for TMP applications.

Developments generating at least 25 PCE and less than 100 PCE during a peak hour period may be required to complete a transportation study. The determination shall be made by the City Traffic Engineer, based upon the proximity of the development site to identified issues related to safety, congestion, and/or multi-modal accessibility.

17.1.3. Preparation: Transportation studies shall be prepared, stamped, and signed by a Professional Engineer licensed in the State of Maine.

17.1.4. Scope of study: The City Traffic Engineer, in consultation with the applicant's engineer, shall determine the scope of the transportation study. The scope of the study may include, but is not limited to, the following elements:

- A description of the development proposal.
- A description of the existing multi-modal transportation conditions and context.
- Estimated trip generation by the development and design hour volume for site driveway(s) and study intersections by mode. Trip generation will be based upon current Institute of Transportation Engineers data, or approved alternate methodology, by mode.
- Trip distribution.
- Multi-modal level of service analysis pre-and post-development at study area intersections and roadway segments.

- Capacity analysis at study area intersections, including level of service (LOS), delay, volume-to-capacity ratios, and queue analysis.
- Crash analysis within the study area, or expanded study area if deemed appropriate.
- Key findings regarding multi-modal traffic and safety issues in the existing condition or as a result of project-generated trips.
- Analysis of impacts to pedestrians, bicyclists, and transit service and users.
- Summary of findings and recommendations for transportation improvements and other impact mitigation measures.

17.1.5. Mitigation: Mitigation of development project impacts may be required under MaineDOT TMP regulations and/or by the City of Portland through a transportation study. In some cases, where safety or capacity improvements to vehicle operations are not feasible due to constraints, mitigation may consist of in-kind multi-modal improvements to pedestrian, bicycle, and/or transit facilities and service. Where required, mitigation measures shall be included in the applicant's transportation study, and shall be approved by the Department of Public Works prior to site plan approval.

17.2. PARKING STUDY

Parking studies shall be produced by a licensed transportation engineer.

Where a parking study is required, data shall be determined by values contained in the current version of the Institute of Transportation Engineers (ITE) publication titled Parking Generation, or through local, regional or other pertinent national data. If local or regional data is to be used, the scope and methodology of the parking study shall be coordinated with the City Traffic Engineer.

Parking studies for mixed-use developments shall reference best practices for shared parking, both in terms of calculations and studies, such as the Urban Land Institute's Shared Parking.

Where a parking study is required, the scope of study shall be determined in coordination with the City Traffic Engineer. The requirements for the study shall be based on standard transportation engineering practices.

17.3. TRANSPORTATION DEMAND MANAGEMENT (TDM)

All TDM Plans shall:

17.3.1. Include a transportation narrative:

Every TDM plan shall describe how the project fits within the multi-modal

transportation system serving the district in which the development or site is located. The narrative should address the specifics of the land uses, occupants, visitors, and location of the development and how it is anticipated to relate to its transportation context.

The narrative for the transportation context should address applicable existing conditions and TDM challenges and opportunities for the site related to vehicular access and circulation, the quality of the bicycling and pedestrian environment and facilities, transit service levels and the transit-supportive environment, and current levels of parking and parking policies. For existing developed sites, the current state of any TDM-related efforts should be described.

17.3.2. Identify a TDM Coordinator to administer the TDM plan:

Every TDM Plan shall identify a TDM coordinator or coordinators and establish the roles and responsibilities of the coordinator. The plan should demonstrate how the administration of the TDM plan and role of the TDM coordinator will reflect the scale of the site/development, proposed uses, parking and vehicle trip reduction targets, as well as the ownership and property management framework.

17.3.3. Document baseline TDM data:

The TDM plan shall identify baseline travel demand and supply data for the development or site in tabular format, against which future performance can be measured. Baseline data shall include:

- Future trip generation estimates (where applicable),
- Proposed parking supply and future demand estimates (where applicable), and
- Estimated modal split, recognizing modal split as the uniform metric to be used in TDM reporting in subsequent years.

Baseline data shall correspond to the transportation analysis required for the project, and shall represent best estimates of transportation demand and modal split at time of occupancy, given the transportation context.

1.13.4. Set TDM targets:

The TDM plan shall establish short-term (3-5 year) and long-term modal split targets, based on documented baseline transportation demand data, the combination of land uses, location, transportation context, and other data for the site. Modal split targets shall relate directly to the transportation infrastructure

provided, TDM strategies to be employed, and site context, and shall consider city-wide TDM goals as represented in plans such as *One Climate Future*. The metrics for TDM modal split targets shall be measurable, and shall include goals for reductions in single-occupancy vehicle trips and increases in non-single-occupancy trips, broken down by mode. The targets shall be described in both absolute values and percentage terms. The targets will be reviewed and updated based upon the annual TDM reporting.

17.3.5. Set customized modal split strategies:

Every TDM plan shall include a set of strategies designed to achieve the TDM target~~s~~. The strategies should be customized to reflect the specific mix of uses, the population that will access the site, the scale of development, the location, the modal split targets, and the transportation opportunities available to the site. The strategies should also reflect a broad mix of TDM approaches, including approaches that:

- Provide TDM infrastructure and operations to the site (e.g. on-site lockers and shower facilities, transit capital or operation funding, programming that supports TDM, such as guaranteed ride home or ride-matching programs)

- Incentivize TDM options (e.g. through parking cash-out, preferential carpool parking, subsidized transit passes, subsidized bicycle maintenance, or bikeshare memberships), and

- Educate users of the site about TDM options (e.g. through site-level information-sharing mechanisms, provision of transit maps and schedules, etc.).

For additional information on TDM strategies, see https://www.portlandmaine.gov/721/TDM-Parking.

17.3.6. Establish a monitoring and reporting plan:

All TDM plans must include provisions for monitoring program effectiveness over time to establish whether progress toward TDM targets is being met.

Responsibility: TDM Coordinators and/or plan administrators are responsible for monitoring the efficacy of the TDM plan and making adjustments to the plan as needed to achieve modal split targets.

Methods: The methods of monitoring shall be outlined in the TDM plan. Monitoring methods will typically involve use of an annual survey combined

with other data collection, such as parking utilization counts where needed.

Reporting: The results of TDM plan monitoring shall be reported to the City of Portland on an annual basis using reporting tools provided by the city.

17.4. CONSTRUCTION PERMITTING AND TRAFFIC CONTROL PLANS

17.4.1. Construction activity in the public right-of-way is controlled by Chapter 25 Article VII of the City Code of Ordinances. Required licenses and permits, restrictions on activity, and fees & charges are all outlined in that Chapter. Rules and Regulations for Excavation Activity are available through the Street Opening Clerk at the Department of Public Works.

17.4.2. Sewer and stormwater system connections are controlled by Chapters 24 and 32 of the City Code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works. See also Section II of the Technical Manual for lateral abandonment requirements associated with demolition permits.

17.4.3. Traffic Control Plans: Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. Projects that will occur along accepted city streets are required to submit a satisfactory 'maintenance of traffic' (MOT) plan prior to any site plan, subdivision, or street opening permit approval.

Maintenance of Traffic (MOT) plans shall provide for the safe passage of the public by all modes of transportation through or along the construction work zone. On a case-by-case basis applicants may be allowed to close a street and/or detour a mode of traffic when absolutely necessary for safety. These closures are to be limited to the shortest duration possible with durations specifically noted in the TCP documentation. MOT plans shall employ the appropriate techniques and devices as called for in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

- Construction speed signing may be used as needed to slow traffic
- Traffic Control signs shall not be placed where they are an obstruction to bicycles or pedestrians. ADA-compliant access shall be maintained at all times and documented within Traffic Control Plans.
- In some situations, flaggers may be required to allow for safe pedestrian and bicycle movement

Additional information for temporary traffic control plans is provided in Chapter

6 of the MUTCD. (https://mutcd.fhwa.dot.gov/htm/2009/part6/part6_toc.htm

17.4.4. All existing modes of travel in the work zone area shall be accommodated if impacted by the activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning out the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works.

- Traffic control for bicycle and pedestrian facilities or routes through work zones shall be maintained until the bicycle and pedestrian facilities or routes are ready for safe operation. Traffic control will not be removed to allow auto travel at the expense of bicycles and pedestrians.

- Where pedestrian traffic is significant, and/or where a detour would present a significant delay and/or safety issue to pedestrians, a temporary walkway in the shoulder/parking lane/outside travel lane may be required where possible. Any temporary walkway shall be ADA-accessible, including temporary ADA ramps leading to/from the walkway where needed, and solid, detectable barriers along the edges of the walkway. Temporary walkways shall be kept clear of snow, ice and debris by the contractor at all times. Temporary walkways shall have a minimum clear width of five (5) feet.

- Pedestrian detours shall be considered as a last resort where no other practical option is available. Where pedestrian detours are allowed, pedestrians shall be directed to cross at existing crosswalk locations where practical. Temporary crosswalks and curb ramps may be required to shorten the overall detour. Any temporary crosswalk shall be ADA-compliant and shall be located where sight distance is adequate. All temporary crosswalks shall be approved by the Department of Public Works.

- Where construction requires the closure of a bicycle lane or shared use pathway alongside a high-volume and/or high-speed roadway, bicycle traffic shall be managed by the contractor in coordination with the Department of Public Works. Treatments may include a barrier-protected bicycle lane or shared use path, or bicycle detours as a last resort.

- Barrier systems utilized to separate the construction activity from the public street and/or sidewalk shall not inhibit sight distances, particularly for visibility of pedestrians and bicyclists.

For reference, see also “How to Plan, Document, and Implement Pedestrian Mobility in and around Work Zones”

(https://portlandmaine.gov/DocumentCenter/View/30884/Work-Zone-ADA)

17.4.5. Use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

Design Review
Planning and Urban Development Department

Subject:	Design Review Memo for 203 Fore Street – Major Site Plan Application
Zone:	India Street Form Based Code (IS-FBC)
Date of Review:	April 10, 2025
Reviewer(s):	Eric Freeman (Planner), Matt Grooms (Deputy Director), Sean King (Urban Designer)
Project ID:	PL-002892-2024

I. INTRODUCTION

The project at 203 Fore Street for the proposed hotel project consisting of 132 keyed rooms is subject for review according to the India Street Form Based Code (IS-FBC) design standards from the City of Portland *Design Manual* as defined in the ***Land Use Code Section 14.6.4.I Design standards*** when the application was originally submitted.

The built context of the surrounding area contains a variety of building types, architectural styles and mix of uses that vary in height and close proximity to the street typically found throughout Portland's India Street neighborhood.

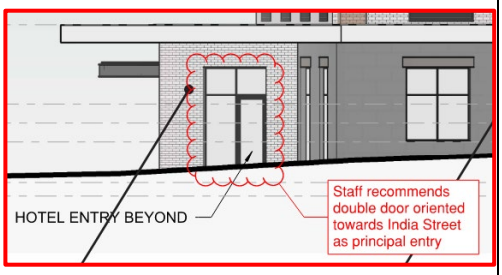
II. **DESIGN REVIEW COMMENTS**: red text denotes standards not met and require resubmission. Design standards are objective criteria that provide specific direction based on the stated intent. Standards are used to denote issues that are considered critical to achieving the stated intent. Standards use the term "shall" to indicate that compliance is required unless it can be demonstrated that an acceptable alternative meets one or more of the following conditions in which case a waiver may be requested:

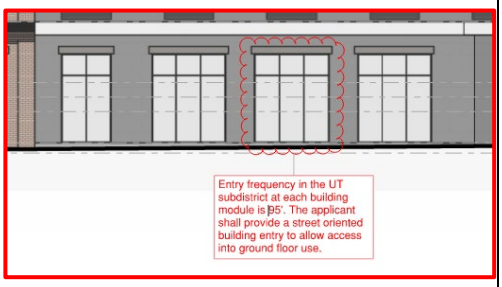
- The alternative better achieves the stated intent;
- The intent which the standard was created to address will not be achieved by application of the standard in this particular circumstance;
- The application of the other standards and guidelines to achieve stated intents will be improved by not applying this standard;
- Unique site factors make the standard impractical or cost prohibitive.

IS-FBC: Building Design Standards (BDS)					
	Complies	**More Info**	**Does Not Comply**	**N/A**	**Comments**
1. Neighborhood Context					
Intent	☒	☐	☐	☐	Staff finds that the proposed building is oriented towards Fore, India and Middle Street and responds to the neighborhood context with a high degree of architectural variation. **A public art project entitled *Portland Bricks* #8 and #11 are located within the public right-of-way in two locations at India and Middle Street. The Applicant has resubmitted plan C-2.1 to note that contractor shall locate, remove and store brick pavers which are part of the brick sidewalk public art project during construction. The pavers shall be kept and reinstalled in the same location to the satisfaction of the city.**
Guidelines	☒	☐	☐	☐	Staff finds that the proposed building respects the surrounding context to allow for the architectural expression of building modules, creates a relationship to the street with articulated building entries, arrangement of fenestration patterns and high-quality exterior material selection.
2. Massing & Proportion					
Intent	☒	☐	☐	☐	Staff finds the proposed massing is scaled for pedestrians throughout all street-facing facades.
Guidelines	☒	☐	☐	☐	Staff finds the proposed building exhibits appropriate variation in the building modules along the street frontage that mitigates floor elevation changes and provides clear proportions with the

					building's base, middle and termination at the roof line.
Standard 2.1	☒	☐	☐	☐	Staff finds the building modules along India Street are architecturally detailed to enhance the ground floor facades with clearly articulated building entries that can be accessed directly from the public sidewalk.
3. Articulation & Composition					
Intent	☒	☐	☐	☐	Staff finds a varied façade composition complements the surrounding context through ground-level articulation, retail bays and canopies that relate to each building module.
Guidelines	☒	☐	☐	☐	Staff finds the proposed building is architecturally scale to reduce the appearance of a large structure through an organized window fenestration pattern throughout each building module, horizontal delineation of floors and architectural detailing that express the character of facades facing the street.
Standard 3.1: required	☒	☐	☐	☐	The proposed building achieves ground-floor articulation by large storefront windows that delineate the upper floors with a belt course and projected canopies or awnings. In addition, the proposed building is scaled to create building modules that face the street with distinct exterior facade materials that relate to recessed elements along the façade and corners that staff finds appropriate.
Standard 3.2	☒	☐	☐	☐	Staff finds the exterior façade material changes are sufficient to provide at least 1" variation in wall plane.
Standard 3.3: Blank Wall	☒	☐	☐	☐	Staff finds no blank facades that exceed the maximum length allowed within the subdistricts
4. Fenestration					
Intent	☒	☐	☐	☐	Staff finds the proposed building design, arrangement of storefront windows, and window detailing provide high visibility

					along each street that reinforce safety and activity of the subdistrict streets.
Guidelines	☒	☐	☐	☐	Staff finds the fenestration pattern facing the street creates an active pedestrian environment and encourages visual transparency at the ground level.
Standard 4.1 (UA only)	☒	☐	☐	☐	Staff finds that between 60-90% of ground floor facade is composed of transparent materials to meet this standard.
Standard 4.2	☒	☐	☐	☐	Staff finds that at least 25% of upper facades are transparent glazing to meet this standard.
Standard 4.3	☒	☐	☐	☐	**The Applicant has provided transparent glass specifications to meet this standard for visual light transmittance (VLT) of at least .61.**
Standard 4.4	☒	☐	☐	☐	Staff finds this standard is met with no exemptions required.
5. Building Materials					
Intent	☒	☐	☐	☐	Staff finds that the building design and articulation of modules is complementary to the surrounding building context.
Guidelines	☒	☐	☐	☐	Staff finds the selection and arrangement of exterior façade material is appropriate to the surrounding context and reinforces the lower floors to include brick and masonry veneer that enhance the pedestrian environment.
6. Building Entries					
Intent	☒	☐	☐	☐	Staff finds that the proposed arrangement of street-facing entries reinforce pedestrian activity and circulation along the streets.
Guidelines	☒	☐	☐	☐	**The Applicant has resubmitted plans to clearly identify principal entrances oriented towards the street. Principal entrances are emphasized though either projecting canopies, awnings or changes in materials of greater detail that Staff finds appropriate.**
Standard 6.1	☒	☐	☐	☐	All principal entries for the hotel lobby and retail use are oriented directly and

					accessible to the public sidewalk and streets.
Standard 6.2 (UA only)	☒	☐	☐	☐	All principal entries for each building module directly face the UA streets along Middle Street and India Street.
Standard 6.3	☒	☒	☐	☐	**All street-oriented building entries are directly connected to the public sidewalk, the resubmitted plans create a stair transition from India Street to provide access to the hotel's principal entry. Staff recommends additional articulation or double entry door that visually identifies this principal entrance oriented towards India Street at the corner of India Street and Fore Street.** 
Standard 6.4	☒	☐	☐	☐	Each active use, proposed as retail and hotel lobby entries provide direct pedestrian access from the street
Standard 6.5	☒	☐	☐	☐	Staff finds the only recessed entry excluded from the setback requirements is at the corner of India Street and Fore Street.
Standard 6.6	☐	☐	☐	☒	No garage door proposed
Standard 6.7: Frequency	☒	☒	☐	☐	**Staff finds that the principal entrances along the UA streets are all oriented towards the street. The Applicant has resubmitted plans that include additional elevated stoop entries along India Street to access the building module floor elevations as non-principal entries which is allowed along a UA street.** **Entry frequency of 40 feet is generally met with the exception along India Street (UA street) for the principal entrance at the corner of India Street and Fore Street. Staff supports a partial waiver under *LUC 9.1.3.B for 4. Building entry frequency* and finds the proposed zoning alternative better achieves the zone and subdistrict intent**

					due to the existing topographic change along the India Street. **Staff finds that building entry frequency is not met along Fore Street (UT subdistrict). The resubmitted plans indicate a hotel lobby entrance with a canopy oriented towards Fore Street but eliminated a building entry at the "Fore Street Module 1". Building entry frequency in the UT subdistrict is 95', the Applicant shall provide a street-oriented building entry to allow access into the ground floor, see below for Staff recommendation.** 
7. Roof Lines					
Intent	☒	☐	☐	☐	Staff finds the roof line and building top termination with pronounced cornice is appropriate throughout the building modules.
Guidelines	☒	☐	☐	☐	The Applicant has resubmitted plans to adjust the roofline with articulation of a pronounced cornice detail that Staff finds appropriate to the surrounding context.
Standard 7.1	☒	☐	☐	☐	**The Applicant has resubmitted plans to indicate screening specifications for the proposed mechanical equipment at the roof level that Staff finds appropriate.**
Standard 7.2	☒	☐	☐	☐	The Applicant has resubmitted plans with a simple flat roof form with cornice articulation that Staff finds appropriate to each building module.
8. Structured Parking					
Intent	☒	☐	☐	☐	Staff finds the proposed development does not include structured parking, rather a parking deck covered by a pedestrian amenity outdoor space to minimize the

					visual and noise impact of the parking area below grade from Middle Street.
Guidelines	☐	☐	☐	☒	
Standard 8.1	☐	☐	☐	☒	
Standard 8.2	☐	☐	☐	☒	
Standard 8.3	☐	☐	☐	☒	
Standard 8.4	☐	☐	☐	☒	

Site Plan Review Standards (Sec. 13.6)		
Transportation Standards (Sec. 14.3.1)		
Standard	*Discussion*	*Finding*
Impact on Surrounding Street Systems	Updates Requested • DPW has repeatedly seen operational issues with the currently proposed configuration of hotel loading zones in other locations within the City. Frequently the loading zone will be full at hotel check-in which results in double parking into the travel lane essentially blocking vehicles from safely travelling down Fore Street and will cause issues into the intersection. DPW is not in support of this configuration on Fore Street and operations should utilize the existing Hampton Inn valet operations. • Delivery vehicles for the existing Hampton Inn frequently block the westbound travel lane on Fore Street, given that the existing Hampton Inn driveway can accommodate delivery vehicles and other service vehicles all vendors should be directed to do so for both the existing Hampton Inn and the proposed Home 2 Suites. • The City will need easement for existing lighting along the south side of Middle Street.	Not Met
Access and Circulation	Updates Requested • The primary entrance at the corner of Fore and India Street should front India Street. See attached design memo	Not Met
Traffic Movement Permit	Updates Requested • Per MaineDOT Traffic Movement Permit regulations, a Section 7 Study may be required. This determination was identified at the Scoping meeting. The revised report shall be noted as Section 7 of the Traffic Movement Permit. • There was considerable discussion regarding valet operations and routing to and from the on-street area where hotel guests will drop off and pick up their vehicles. ○ Figures 11 and 12 need to be revised account for all hotel trips (hotel guests and valet) arriving/departing	Not Met

curbside in front of hotel facing the westerly direction. The following are specific comments:

- It is my understanding that all hotel guests will arrive curbside and use valet services and not enter the parking lot. Figure 11 indicates 23 (24) trips will enter the site from Franklin Street. I'm not going to summarize all these types of inconsistencies, but the trip distribution must clearly account for hotel guests arriving to curbside, and valet services routing the vehicles from the curbside to a designated parking facility – and back to curbside. The report should be specific on valet routings (e.g., leaving curbside and u-turning into the site to return to India Street and the 1 India Street parking lot). This is a complicated assignment of trips, but I need to fully understand the final assignment. Feel free to send me graphic examples, so that I can offer comments, before the report is resubmitted.

  - The assignment of trips to the site assumes a significant portion arrives/departs via Fore Street east of India Street. I would expect most trips to arrive from Franklin Street/Congress Street/Washington Avenue.
  - The report shall speak to how the valet system will be managed from a curbside vehicle space capacity perspective and what strategies will be employed to ensure hotel guest vehicles will arrive in the appropriate direction on Fore Street. If the valet curbside space is unavailable, how will vehicles be managed. It should note the number of valet curbside spaces proposed and adequacy during peak periods. In general, the Section 7 report shall include a Valet Parking Management Plan.

- A concept plan shall be prepared depicting recommendations for the India Street intersections with Middle Street and Fore Street. The plan should consider the following:
  - Depicting the prohibition of parking spaces within 20 feet and the estimated loss of supply.
  - Curb extensions as noted in the report. Vehicle turning templates with and without the curb extensions shall be provided.
  - Installation of "All-Way" supplemental plates at the Middle Street intersection.

	○ Provide an opinion on the placement of STOP signs (and two sided) as it relates optimizing visibility. ○ Provide an opinion on the STOP Ahead warning sign in southbound India Street approaching Middle Street. ○ Provide an opinion on the W11-2 Pedestrian Warning sign on northbound India Street approaching Middle Street. ○ Recommend and include strategies that help to create intersections that prioritize pedestrian safety/movements. During field observations vehicles tended to "roll stop" both as through movements and turns creating unsafe pedestrian conditions. •	

Environmental Quality Standards (Sec. 13.6.2)

Standard	*Discussion*	*Finding*
Site Landscaping and Buffers	Updates Requested • The landscape plan should be updated to match the site plan.	Not Met
Water Quality, Stormwater Management and Erosion Control	Updates Requested • As a condition of this approval, the City of Portland requires the applicant to retain the services of a third-party inspector for the duration of construction until final site stabilization is in place. The inspector is required in order to ensure all construction and stabilization activities comply with the permit conditions and the approved drawings and specifications • The owner/operator of an approved stormwater management system, and all assigns shall comply with the conditions of Chapter 32, Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements. • A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds. The following stormwater management documentation shall be submitted to the Water Resources Division of Public Works and the Department of Planning and Urban Development prior to the issuance of a Certificate of Occupancy: ○ Final executed stormwater maintenance agreement with the final approved post stormwater management operation and maintenance plan.	Not Met

	○ Certification, based on initial comprehensive inspection from the project Engineer of Record, certifying that the approved stormwater systems were installed properly, are fully operational, and are functioning as intended. ○ As-built drawings including grading and drainage and updated details for any stormwater systems on site. ○ DPW Impervious Area Adjustment Form 5A ○ DPW Stormwater Credit Application Form 3 ○ DPW stormwater program forms can be found at the following link : https://www.portlandmaine.gov/1102/Credit-Manual-and-Applications	

Att. S5

Eric Freeman <efreeman@portlandmaine.gov>

203 Fore Street - Final Traffic Comments

2 messages

Tom Errico <thomas.errico@tylin.com> Fri, Jun 27, 2025 at 9:18 AM
To: Eric Freeman <efreeman@portlandmaine.gov>
Cc: Kristoffer DeVolder <kdevolder@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>

Hi Eric – I have reviewed the application materials and have the following final traffic review comments.

- The applicant shall conduct a trip generation analysis for the project. Additionally, the applicant should note if there are any High Crash Locations in the vicinity of the project. A determination on the need for a traffic study will be determined following receipt of this information.

Status: The applicant has determined that the project requires a Traffic Movement Permit. Accordingly, the applicant will be submitting a TMP Application, and a scoping meeting will be scheduled after receipt and approval of the application.

Final Status: The applicant submitted a TMP Application, and a Scoping Meeting was held on March 11, 2025. A Section 7 Traffic Study was submitted, and the following comments were provided.

1. Per MaineDOT Traffic Movement Permit regulations, a Section 7 Study may be required. This determination was identified at the Scoping meeting. The revised report shall be noted as Section 7 of the Traffic Movement Permit.

Status: The report has been revised, and I have no further comment.

2. There was considerable discussion regarding valet operations and routing to and from the on-street area where hotel guests will drop off and pick up their vehicles.
    - Figures 11 and 12 need to be revised account for all hotel trips (hotel guests and valet) arriving/departing curbside in front of hotel facing the westerly direction. The following are specific comments:
        - It is my understanding that all hotel guests will arrive curbside and use valet services and not enter the parking lot. Figure 11 indicates 23 (24) trips will enter the site from Franklin Street. I'm not going to summarize all these types of inconsistencies, but the trip distribution must clearly account for hotel guests arriving to curbside, and valet services routing the vehicles from the curbside to a designated parking facility – and back to curbside. The report should be specific on valet routings (e.g., leaving curbside and u-turning into the site to return to India Street and the 1 India Street parking lot). This is a complicated assignment of trips, but I need to fully understand the final assignment. Feel free to send me graphic examples, so that I can offer comments, before the report is resubmitted.

Status: The applicant has provided revised information, and I find it to be acceptable.

- The assignment of trips to the site assumes a significant portion arrives/departs via Fore Street east of India Street. I would expect most trips to arrive from Franklin Street/Congress Street/Washington Avenue.

Status: The assignment has been revised, and I find it to be acceptable.

- The report shall speak to how the valet system will be managed from a curbside vehicle space capacity perspective and what strategies will be employed to ensure hotel guest vehicles will arrive in the appropriate direction on Fore Street. If the valet curbside space is unavailable, how will vehicles be managed. It should note the number of valet curbside spaces proposed and adequacy during peak periods. In general, the Section 7 report shall include a Valet Parking Management Plan.

  Status: The applicant has proposed a Valet Management Plan that will ensure valet traffic operations will not create unsafe conditions at the Fore Street/India Street intersection. Key components of the Plan include appropriate staffing; travel information provided to guests; prioritizing use of on-site parking; and guest vehicle pick up will occur on-site and not curbside. I find the Plan to be acceptable.

3. A concept plan shall be prepared depicting recommendations for the India Street intersections with Middle Street and Fore Street. The plan should consider the following:
   - Depicting the prohibition of parking spaces within 20 feet and the estimated loss of supply.
   - Curb extensions as noted in the report. Vehicle turning templates with and without the curb extensions shall be provided.
   - Installation of “All-Way” supplemental plates at the Middle Street intersection.
   - Provide an opinion on the placement of STOP signs (and two sided) as it relates optimizing visibility.
   - Provide an opinion on the STOP Ahead warning sign in southbound India Street approaching Middle Street.
   - Provide an opinion on the W11-2 Pedestrian Warning sign on northbound India Street approaching Middle Street.
   - Recommend and include strategies that help to create intersections that prioritize pedestrian safety/movements. During field observations vehicles tended to “roll stop” both as through movements and turns creating unsafe pedestrian conditions.

Status: Refer to DPW comments. I would note that upon final approval of the concept plan, the applicant will be responsible for the implementation of all improvements following approval of final design plans.

- The applicant should provide on-site handicap parking spaces or provide documentation that those types of spaces are not required according to ADA requirements.

Status: The site plan has been revised to include on-site handicap parking spaces. The applicant should provide information on how those spaces will be managed from a driver/building access perspective.

Final Status: The applicant notes that given Valet operations, only an accessible loading zone is required. The plan has been revised for this zone.

- The site plan shall include dimensions for parking spaces and aisle widths.

Status: Dimensions have generally been provided. The applicant shall provide documentation in support of waivers for all parking lot dimensions that do not meet city standards.

Final Status: The applicant is requesting two waivers, the number of compact parking spaces and drive aisle width. Given that the on-site parking spaces will be used by valet drivers, I support the requested waivers.

- The site plan shall be revised to note Hotel Parking signs and not Valet Parking. Rather than have the Hotel Parking be in the middle of Pay to Park spaces, it is suggested the Hotel spaces be shifted toward India Street.

Status: The plan has been revised, and I have no further comment.

- I continue to review parking supply conditions. I would note that the Hampton Inn currently utilizes the entire site on busy days and further note these busy days occur both during the week and on weekends.

Status: The applicant shall conduct a detailed parking demand estimate for the site, particularly considering that current parking demand conditions where the Hampton Inn frequently exceeds demand. Additionally, the applicant shall provide documentation on off-site parking lot availability for the facilities noted. Lastly, the applicant shall note how parking will be managed between the two hotels.

Final Status: The applicant has generally provided information that documents demand and parking supply availability (parking lots that are under UPP control). I find their response to be reasonable, but would note that given Hampton Inn peak parking demand, the use of off-site parking facilities will be necessary.

- The applicant should note what the parking area bounded by parking spaces 73, 92, 93 and 94 is intended for.

Final Status: The applicant has noted that this space will be used for stormwater management, and I have no further comment.

- The applicant shall provide information on truck delivery accommodations for the site.

Final Status: The applicant has noted that deliveries will occur on-site via the existing driveway. I have no further comment.

Please contact me if you have any questions.

Best regards,

Tom Errico, P.E.
NE TRAFFIC ENG. DIRECTOR
T +1 207.347.4354
M +1 207.400.0719

TYLin

12 Northbrook Drive
Building A, Suite One
Falmouth, ME 04105, United States

TYLin.com

Eric Freeman <efreeman@portlandmaine.gov> Fri, Jun 27, 2025 at 9:21 AM
To: Andrew Graminski <agraminski@portlandmaine.gov>, Matt Grooms <mgrooms@portlandmaine.gov>

[Quoted text hidden]

--

Eric Freeman **(He/Him)**
Planning & Urban Development Department

389 Congress Street
Portland, Maine 04101
Phone: 207-874-8724
efreeman@portlandmaine.gov



Portside Condominium Association
207 Fore Street
Portland, Maine

To: City of Portland Planning Board
From: Portside Condominium Association
Subject: Review Comments, Traffic Impact Study, Proposed Home 2 Suites Hotel, 203 Fore Street, Portland
Date: June 29, 2025

The following comments related to the proposed Home 2 Suites development are being submitted by the Portside Condominium Association. We, the members of the 12-unit Association, continue to have serious concerns with public safety issues likely to be introduced by the completed development from offsite congestion brought on by increased uncontrolled vehicular and pedestrian traffic.

As members of the master condominium association that includes the Hampton Inn and the Friendly Toast Restaurant, we are co-owners of the property to be used for the proposed hotel operations. Of those residents living in the neighborhood surrounding the proposed development, we will be among those most affected by the increased congestion that will likely result. We would like to see the issues raised in our comments addressed during Planning Board review of the project.

We offer the following comments regarding statements made in the applicant's Traffic Impact Study (TIS) dated March 2025. We believe that certain statements and conclusions in the study show a disregard for the actual everyday traffic patterns in the study area, and do not acknowledge the detrimental impacts to public safety that will result should this project be implemented.

Statements made in the TIS and our comments are listed below.

Site Access and Parking

TIS Statement:

"*The site is proposed to be accessed via one full movement entrance.*"

Portside Review Comment:

This TIS statement is flawed as noted below:

> The statement is a misrepresentation of the proposed access to the new hotel that actually consists of “three valet spaces along the frontage of Fore Street.” The only use of the Hampton Inn access driveway will be for uses such as valet parking on low occupancy nights and trash trucks.

TIS Statements:

“*If valet spaces on Fore Street are occupied when a vehicle arrives, they will be directed off-street to enter the existing shared driveway. Once off-street, UPP can meet the needs of the guests and provide valet service. This approach is intended to avoid congestion on Fore Street*.”

Portside Review Comments:

These TIS statements are flawed as noted below:

1. The statements fail to acknowledge that the scenario where the valet spaces are occupied and waiting traffic needs to be directed elsewhere has already created congestion on Fore Street. Therefore, congestion has already occurred and cannot be avoided.
2. The statements do not take into account the recurring situation when there is no room in the existing shared driveway at the Hampton Inn because it is full of vehicles. This is a common occurrence, especially during times when Hampton Inn guests are arriving to check in (see **Attachment 1** for example photo). This situation will lead to driver confusion and enhanced vehicle congestion in a high-pedestrian usage area in front of the Hampton Inn. Where will the drivers of these vehicles go when the driveway is full?

TIS Statement:

“*In addition to the above off-site spaces, approximately 84 valet spaces are provided on-site*. “

Portside Review Comments:

This statement apparently attempts to convey some sort of comfort that there is an abundance of available parking in the Hampton Inn lot when in actuality the Hampton Inn parking lot is often overflowing with guest and other vehicles, and as a result valets park vehicles in spaces not intended for parking (e.g., the grass strip surrounding the parking lot and the area in front of the dumpster room). See **Attachment 2** for example photo.

Note that there are 125 rooms in the Hampton Inn, and when the hotel is full there is simply not enough room in the lot for all of the guest vehicles plus hotel vendors and hotel staff who typically park there. Under the "seamless" valet system referred to in the TIS, where will the drivers of the vehicles checking into the proposed hotel be directed when the three Fore Street valet spaces are full and there is no room on-site?

As an aside, how is the city being compensated for the loss of the three Fore Street parking spaces being taken over by the hotel developer?

Sight Distance

TIS Statements:

"*Based on the MaineDOT Map Viewer, the speed limit for Fore Street along the site frontage is 25 mph. The posted speed limit of 25 mph was used for the sight distance evaluation. Table 8 summarizes the measured sight distance at the existing entrance location based on the type of vehicle it is expected to accommodate. Table 8 – Sight Distance Summary Driveway Passenger Vehicle Required (feet) Observed Looking Left* (feet) Observed Looking Right* (feet) Full Movement Entrance 200 310 (To Intersection) 210 (To Intersection) *Assumes not blocked by parked cars Both distances could not be confirmed due to vehicles parked along the site frontage. However, the sight distance is expected to exceed requirements without parked vehicles. To improve the sight distance for this entrance, on-street parking in the immediate area would need to be removed; however, the City would need to do that if desired*."

Portside Review Comment:

The TIS acknowledges that sight distances in both directions from the driveway at the Hampton Inn cannot be confirmed due to parked vehicles along the site frontage. This situation results in traffic safety issues posed to vehicles leaving the Hampton Inn who cannot clearly see the traffic in either direction on Fore Street upon exiting. This safety issue will only be exacerbated by the additional traffic associated with the proposed development.

Bicycle, Pedestrian, and Transit

Portside Review Comments:

Although well-intended, the modest improvements (e.g., curb extensions, modified crosswalk striping, parking space reduction) recommended for the street intersections adjacent to the proposed development will do little, if anything, to address the public safety hazards posed by the proposed development described in our previous comments dated October 7, 2024 submitted to the Planning Board. For convenience, our concerns stated previously are summarized as follows:

- Despite best valet efforts, the potential will always exist for vehicles to back up behind the three designated Fore Street valet parking spaces into the India Street / Fore Street intersection, one of the busiest intersections in Portland's east end and the site of a pedestrian fatality earlier this year.
- Non-hotel related traffic heading southbound on Fore Street, encountering standing vehicles behind the three valet spaces will attempt to maneuver around by pulling into the northbound travel lane which often contains its own heavy traffic including standing vehicles making deliveries to the Hampton Inn.
- Guests arriving for check-in at the proposed hotel in the three designated parking spaces could potentially exit their vehicle onto the adjacent Fore Street travel lane into oncoming traffic, creating a serious safety issue.
- Most of the guest vehicles arriving at the proposed hotel will be heading northbound on Fore Street and will need to turn around in

the vicinity of the busy India Street / Fore Street intersection to access the three valet spaces.

We believe that as full-time residents of the property proposed for development, we are far more knowledgeable than the developer regarding the actual traffic conditions in the area, and trust that the Planning Board will take into account our concerns regarding the enhanced public safety hazards posed by the proposed project.

We conclude our comments with the following cautionary statement: Should the hotel development be approved and implemented as currently proposed and the public safety concerns we have described be realized, the situation would be permanent with no remedy options available.

Thank you for your time.



Attachment 1

Hampton Inn Driveway with Vehicles Entering and Exiting

Attachment 2 – See Next Page

Note vehicle overflow including vehicles parked on the perimeter grass strip at the top of the photo.


MICUCCI GROCERY

RANSOM Consulting, LLC a PINCHIN company

112 Corporate Drive
Portsmouth, NH 03801
603.436.1490

April 15, 2024

Project 212.06073

Kevin Kraft, Director
Planning and Urban Development
389 Congress Street, 4th Floor
Portland, Maine 04101

Re: Proposed Home 2 Suites Hotel
203 Fore Street
Portland, Maine

Dear Kevin:

Ransom Consulting, LLC (Ransom) is pleased to submit this Major Site Plan application, along with supporting materials, on behalf of Chatham Lodging Trust (dba Chatham Portland DT LLC). The project is located at 203 Fore Street and is identified as Chart and Block 029 L003.The property is located in the India Street Form Based Code District and is currently being used for parking for the Hampton Inn hotel and associated condo units on the adjacent parcel. The parcel has a history of petroleum contamination and is currently part of Maine's Voluntary Response Action Program (VRAP), which encourages the cleanup and redevelopment of contaminated properties.

The redevelopment proposed for this site includes a mixed use building with 5,519 square feet (sf) of retail space on the ground floor and 79,946 sf of hotel space throughout 5 floors – with a building footprint of approximately 16,612 sf. The parcel is bounded on the north by India Street, on the west by Middle Street, on the east by Fore Street, and on the south by the existing Hampton Inn. Topographic relief across the site from Middle Street to Fore Street is 7 feet to 8 feet and presents challenges for building entrances and uses.

The proposed 5 story structure will have multiple entrance points for different uses. The hotel entrance is proposed at the intersection of Fore Street and India Street with entrances for the 3 proposed retail units along Middle Street and India Street. Parking is expected to continue to be accessed through the existing curb cut for Hampton Inn valet driveway along Fore Street and is incorporated into the design to include a structural canopy with upper hotel floors above. A retaining wall is proposed adjacent to Middle Street to facilitate the change in grade, but will also include a structural landscaped deck above with parking at grade.

We look forward to continuing to work with you and Planning Staff on this project. Please feel free to reach out with any questions or comments you may have.

Sincerely,

RANSOM CONSULTING, LLC

Maureen P. McGlone, P.E.
Senior Project Manager

CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN
GENERAL DOCUMENT AND DRAWINGS CHECKLIST
Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

**** PLEASE FILL OUT AND UPLOAD THE ZONING ASSESSMENT TABLE AND WAIVER TABLE SEPARATELY AS NOTED BELOW ****

At the time of application submission, please contact the Department of Public Works regarding E-911 addressing for your project.

GENERAL APPLICATION DOCUMENTS	
Yes NA	**Project Description** • Cover letter with detailed project description
Yes NA	**Completed Checklist** (this document)
Yes NA	**Evidence of Right, Title, and Interest** • Deeds, leases, or purchase and sales agreements
Yes NA	**Evidence of State or Federal Approvals** • Permits or letters of non-jurisdiction, if applicable
Yes NA	**Zoning Assessment** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes NA	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) • Summary of project compliance with site plan standards of the land use code
Yes NA	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** • Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes NA	**Waiver Requests** (see Waiver Table) • Written request for waiver describing request and compliance with applicable waiver standards
Yes NA	**Financial Capability** • Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes NA	**Technical Capability** • Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN
STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

TRANSPORTATION	
Yes **NA**	**Impact on Surrounding Street Systems (14-14.6.1(A))** ● Describe incremental volume of traffic impacts and mitigation measures. If needed
Yes **NA**	**Access and Circulation (14-14.6.1(B))** Identify and describe the following: ● Site access and internal circulation, including ADA access ● Drive-up features, if applicable ● Loading and servicing needs, routes, and geometry, providing turning templates for delivery vehicles, if applicable ● Sidewalks and condition along street frontages and internal walkways ● Engineered details for ADA ramps and public sidewalks, meeting sidewalk material policy and construction requirements (Technical Manual, Section 1)
Yes **NA**	**Public Transit (14-14.6.1(C)), if applicable** Identify and describe the following: ● Existing available transit service and proposed transit improvements, including design details, such as easement, pad base, and shelter
Yes **NA**	**Off-Street Parking (14-14.6.1(D)), if applicable** Identify and describe the following: ● Proposed vehicular and bicycle parking supply (including ADA-compliant parking) in relation to applicable parking requirements in Article 19 of the land use code ● Curb cut separation and parking layout (Technical Manual, Section 1) ● Construction details for bicycle racks ● Management plan for snow storage and removal
Yes **NA**	**Transportation Demand Management (TDM) (14-14.6.1(E)), if applicable** ● Provide TDM plan drafted in accordance with Technical Manual Section 1 requirements

ENVIRONMENTAL	
Yes NA	**Preservation of Significant Natural Features (14-14.6.2(A)), if applicable** Identify and describe the following: ● High and moderate value waterfowl and wading habitat ● Aquifers (for Casco Bay Islands) ● Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) ● Proposed preservation areas and protection measures ● Documentation from environmental compliance consultants and determinations from applicable state and federal agencies
Yes NA	**Landscape Preservation (14-14.6.2(B))** Identify and describe the following: ● Measures to preserve trees, including within required zoning setbacks (Technical Manual, Section 4) ● Measures to protect existing vegetation during construction
Yes NA	**Site Landscaping and Buffers (14-14.6.2(C))** Identify and describe the following: ● Overall landscaping approach and consistency with standards ● The use of screening and buffering of service areas and between non-residential and residential uses ● Existing Heritage or Feature Trees on site and measures to preserve ● Compliance with street tree requirements
Yes NA	**Water Quality, Stormwater Management, and Erosion Control (14-14.6.2(D))** Identify and describe the following: ● Erosion and sedimentation control plan and measures ● Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater law, as applicable ● Subsurface sanitary sewage disposal and groundwater protection measures

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY		
Yes	**NA**	**Consistency with City Master Plans (14-14.6.3(A))** ● Describe proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes	**NA**	**Public Safety and Fire Prevention (14-14.6.3(B))** Identify and describe the following: ● Compliance with Crime Prevention through Environmental Design (CPTED) requirements (Technical Manual, Section 3) ● Emergency vehicle access ● Consistency with public safety standards (Technical Manual, Section 3)
Yes	**NA**	**Availability and Adequacy of Public Utilities (14-14.6.3(C)) (Technical Manual, Sections 2 & 9)** Identify and describe the following: ● Electrical services, including providing underground services ● Existing and proposed connections for public utilities and required public utility upgrades ● Sewer line connections
SITE DESIGN		
Yes	**NA**	**Massing, Ventilations and Wind Impact (14-14.6.4(A))** Identify and describe the following: ● Wind and ventilation impacts on adjoining structures and/or adjacent public spaces, including wind study, if applicable ● Bulk, location, or height impacts on adjoining structures
Yes	**NA**	**Shadows (14-14.6.4(B)), if applicable** ● Provide shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes	**NA**	**Snow and Ice Loading (14-14.6.4(C))** ● Describe building design measures to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes	**NA**	**View Corridors (14-14.6.4(D)), if applicable** ● Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
Yes	**NA**	**Historic Resources (14-14.6.4(E)), if applicable** Identify and describe the following: ● The site's status as a designated landmark, within a historic district or historic landscape district, or within 100 feet of any designated landmark, historic district, or historic landscape district ● Compliance with standards for preservation and documentation of archaeological resources

Yes	**NA**	**Exterior Lighting (14-14.6.4(F))** ● Describe how the proposed site lighting will adhere to photometrics requirements as it relates to light trespass and full cutoff fixture design, pursuant to Technical Manual Section 12
Yes	**NA**	**Noise and Vibration (14-14.6.4(G))** ● Provide data on noise levels for HVAC and other mechanical equipment, such as design specifications, to demonstrate consistency with state and federal noise emissions requirements as well as City code
Yes	**NA**	**Signage and Wayfinding (14-14.6.4(H)), if applicable** ● Provide signage plan showing the location, dimensions, height and setback of all existing and proposed signs ● Provide drawings of all commercial and directional signage on site
Yes	**NA**	**Zone-Related Design Standards (14-14.6.4(I))** ● Address any applicable design review standards by zone, including compliance with Design Manual

MAJOR SITE PLAN
DRAWINGS CHECKLIST

Please upload the following DRAWINGS with the listed details into e-Plan as separate pdfs.

All drawings must be submitted in a 24 x 36 sheet size.

BOUNDARY SURVEY (stamped by a Maine Licensed Surveyor and drawn as per Technical Manual Sec. 13)

SITE PLAN(s) (stamped by a Maine Licensed Professional Engineer) including:

All sheets – Include a title block with project title and the following information:

- Project street address
- Name and address of property owner & applicant
- Licensed design professional, incl firm that produced plans
- North arrow
- Date of preparation and revision history block
- Tax parcel (chart, block, and lot) number

Existing Conditions Plan with the following:

- Existing structures, with distance from primary building façade(s) to the property line
- Approximate location of structures on abutting properties
- All streets and intersections adjacent to the site
- Existing driveways, pedestrian ways, and bicycle infrastructure, including dimensions and materials
- Existing public transit infrastructure
- Existing vehicle & bicycle parking areas
- Existing utilities on site and within adjacent rights-of-way
- Existing grades (two-foot contours preferred)
- Location of water courses, wetlands, and vegetation, or other significant natural features
- Existing soil conditions and location of test pits and borings
- Zoning boundary lines, including overlays
- Location of all existing easements and rights-of-way

Proposed Site Plan with the following:

- Proposed structures, including distance from primary building façade(s) to property lines
- Ground floor area, and finished floor elevations for all buildings
- Any proposed geometric modifications to streets and intersections adjacent to site
- Location, dimensions and materials of all proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
- Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
- Location and dimensions of proposed loading areas, including turning templates
- Proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications
- Location of all snow storage areas
- Exterior lighting (please see Technical Manual Sec. 12 for photometrics requirements)

- Location of fire hydrants
- Location of solid waste management receptacles
- Location of all proposed HVAC and mechanical equipment, including proposed screening, where applicable
- Location of proposed easements and rights-of-way, including dimensions
- Please utilize color-coding and/or hatches and shading to delineate changes between the pre and post development condition as needed

UTILITY PLAN including:

- Proposed electrical infrastructure
- Location, sizing and directional flows of all proposed sewer and stormwater infrastructure
- Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site
- Electric utility infrastructure

GRADING AND DRAINAGE PLAN including:

- Proposed grades
- Proposed stormwater management measures meeting Technical Manual (Section 5) standards
- Any proposed alteration of a watercourse or wetlands
- Any groundwater protection measures
- Proposed buffers and preservation measures for wetlands or significant natural features

LANDSCAPE PLAN including:

- Existing vegetation to be preserved and preservation measures
- Proposed landscaping, screening, and street trees, including caliper widths for trees
- Planting schedule, including street trees

ARCHITECTURAL PLANS AND RENDERINGS including:

- Exterior building elevations, color renderings, illustrations of all sides
- Axonometric and street-level views for structures greater than three stories in height
- Provide context drawings, if applicable (Design Manual, page 1)
- Floor plans

CONSTRUCTION MANAGEMENT PLAN including:

- Specifics on traffic control, sidewalk sheds, and pedestrian rerouting
- Include a drawing and written narrative

OTHER

- Details and cross-sections, as necessary

Att. C

QUITCLAIM DEED WITH COVENANT
(Maine Statutory Short Form)

FORE INDIA MIDDLE, LLC, a Maine limited liability company, whose mailing address is 11 Corporate Drive, Belmont, New Hampshire 03220, for consideration paid, grants to CHATHAM PORTLAND DT LLC, a Delaware limited liability company, whose mailing address is c/o Chatham Lodging Trust, 50 Cocoanut Row, Suite 211, Palm Beach, Florida 33480, with Quitclaim Covenant, a certain lot or parcel of land, with any buildings and improvements thereon, located on Fore Street, India Street and Middle Street in the City of Portland, County of Cumberland, and State of Maine, being more particularly bounded and described as follows:

MAINE REAL ESTATE TAX PAID

Lot 2 as shown on a subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194 (the "Subdivision Plan").

Lot 2 is hereby conveyed together with and subject to the rights and easements granted by Old Port Hospitality, LLC to Fore India Middle, LLC and by Fore India Middle, LLC to Old Port Hospitality, LLC as set forth in an Amendment of Deed, Termination of Rights and Easements and Grant of Rights and Easements by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 181, subject to the terms and conditions with respect to said rights and easements as set forth therein.

Old Port Hospitality, LLC created a condominium on Lot 1 shown on the Subdivision Plan known as the Hotel, Restaurant and Portside Residences Condominium (the "Condominium") pursuant to a Declaration of Condominium dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 188, as amended by Amendment Number One thereto dated June 3, 2011, and recorded in the Cumberland County Registry of Deeds in Book 28833, Page 126 (the "Declaration") that includes a unit in which is operated as a restaurant facility, which unit is referred to in the Declaration as the "Restaurant Unit". Lot 2 is hereby further conveyed subject to the restriction that for so long as a full-service restaurant is being operated in the Restaurant Unit, no full-service restaurant containing three thousand five hundred (3,500) square feet or more of public space may be operated on Lot 2, provided, however, that this restriction shall, in any event, expire and be of no further force and effect on the fifteenth (15^{th}) anniversary of the date of Old Port Hospitality, LLC's initial conveyance of the Restaurant Unit to a third party. This restriction shall be enforceable by Old Port Hospitality, LLC, its successors and assigns, and the owner of the Restaurant Unit, and not by the owner of any other units in the Condominium. The Restaurant Unit was conveyed by Old Port Hospitality, LLC to Bass Ackwards Realty, LLC by Deed dated January 25, 2011, and recorded in the Cumberland County Registry of Deeds in Book 28563, Page 264, together with the benefit of said restriction.

Lot 2 is further conveyed together with and subject to all rights, easements, terms, covenants, conditions, obligations and agreements set forth in a certain Revised and Restated Parking Agreement by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 242 (the "Parking Agreement"), relating to the access and use of a Parking Lot comprised of ninety (90) parking spaces

located on Lot 2, including, without limitation, the perpetual, exclusive and appurtenant right and easement to access and use all of the parking spaces covered by such Parking Agreement with the exception of the twelve (12) parking spaces granted as appurtenant to the Residences Unit of the Condominium, as set forth in a Deed of the Residence Unit from Old Port Hospitality, LLC to Portside Residences, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 251.

Chatham Portland DT LLC, by its acceptance of this Deed, hereby assumes all obligations of Fore India Middle, LLC under the Parking Agreement.

The premises conveyed herein are further subject to the following matters of record:

1. Rights and easements for sewer purposes granted by the Slum Clearance and Redevelopment Authority to the City of Portland in an instrument dated October 8, 1958 and recorded in the Cumberland County Registry of Deeds in Book 2438, Page 258, as relocated pursuant to an Easement Relocation Agreement by and between Old Port Hospitality, LLC and the City of Portland dated April 28, 2010 and recorded in the Cumberland County Registry of Deeds in Book 27742, Page 26, further reference being made to a Letter from David Margolis-Pineo, Deputy City Engineer of the Public Services Department, dated August 25, 2010 and recorded in the Cumberland County Registry of Deeds in Book 28028, Page 257;

2. Terms and conditions of a No Further Action Assurance Letter from the Maine Department of Environmental Protection to Jordan's Meats dated April 17, 2003 and recorded in the Cumberland County Registry of Deeds in Book 19244, Page 271;

3. Restrictions, covenants and conditions set forth in a Deed from Zemco Industries, Inc. to PME I, Limited Partnership dated September 23, 2005 and recorded in the Cumberland County Registry of Deeds in Book 23199, Page 107, and repeated in a Deed from said PME I, Limited Partnership to Old Port Hospitality, LLC dated January 29, 2010 and recorded in the Cumberland County Registry of Deeds in Book 27567, Page 40;

4. Matters and General Notes set forth on subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194;

5. Underground Line Easement granted by Old Port Hospitality, LLC to Central Maine Power Company dated July 21, 2010 and recorded in the Cumberland County Registry of Deeds in Book 28094, Page 298;

6. Maine Department of Environmental Protection Commissioner's Certification dated June 27, 2011 and recorded in the Cumberland County Registry of Deeds in Book 28791, Page 132, as affected by a Commissioner's Certification Amended to Reflect Re-Development Plans Dated August 20, 2012, dated October 26, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30111, Page 193;

7. Declaration of Environmental Covenant by and between Fore India Middle, LLC and the Maine Department of Environmental Protection dated May 24, 2011 and recorded in the Cumberland County Registry of Deeds in Book 28791, Page 136;

8. Agreement Regarding Wall and Window With Respect to Unit One in Portside Condominium, 207 Fore Street, Portland, Maine, by and between Fore India Middle, LLC and Paula Foley-Stelmack and Mark Stelmack dated September 29, 2011 and recorded in the Cumberland County Registry of Deeds in Book 29001, Page 234; and

9. Certificate of Subdivision Waiver Approval by the City of Portland in favor of Fore India Middle, LLC dated October 18, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30102, Page 285.

Reference is made to a Quitclaim Deed With Covenant from Old Port Hospitality, LLC to Fore India Middle, LLC dated June 11, 2010, and recorded in the Cumberland County Registry of Deeds in Book 27850, Page 63, as amended by said Amendment of Deed, Termination of Rights and Easements and Grant of Rights and Easements by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 181, for Fore India Middle, LLC's source of title to the premises conveyed herein.

IN WITNESS WHEREOF, FORE INDIA MIDDLE, LLC has caused this instrument to be executed by Gregory R. Kirsch, its Manager, hereunto duly authorized, this 21ST day of December, 2012.

WITNESS:

FORE INDIA MIDDLE, LLC

By: _____
Gregory R. Kirsch
Its Manager

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

December 21, 2012

Personally appeared the above named Gregory R. Kirsch, Manager of FORE INDIA MIDDLE, LLC, and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said FORE INDIA MIDDLE, LLC.

Before me,

_____
~~Notary Public~~
Attorney At Law
Richard A. Shinay
Print name

~~My commission expires~~_____

Received
Recorded Register of Deeds
Dec 28,2012 09:30:33A
Cumberland County
Pamela E. Lovley

Att. D

For Immediate Release

Contact: Chris Daly
Daly Gray Public Relations
(Media)
chris@dalygray.com
(703) 435-6293

Dennis Craven
Chatham Lodging Trust
(Company)
dcraven@cl-trust.com
(561) 227-1386

Chatham Lodging Trust Increases Credit Facility with RBC Commitment

WEST PALM BEACH, Fla., December 20, 2022 —Chatham Lodging Trust (NYSE: CLDT), a hotel real estate investment trust (REIT) focused on investing in upscale extended-stay hotels and premium branded, select-service hotels, today announced that it has increased commitments under its senior unsecured revolving credit facility by $45 million with the addition of Royal Bank of Canada as a top tier lender.

With this incremental commitment, Chatham's unsecured revolving credit facility increases to $260 million. Combined with its new $90 million term loan, Chatham received commitments of $350 million that replace Chatham's previous $250 million senior unsecured credit facility that was scheduled to mature in 2023. Inclusive of extension options, the revolving credit facility and term loan mature in October 2027. Chatham has up to six months to borrow funds under the unsecured term loan and intends to fully draw the $90 million within that time frame to repay maturing secured debt. There are currently no borrowings outstanding on either facility.

"We are excited to add another great financial institution to our outstanding group of participating lenders, further solidifying our financial position for the next five years and

providing even more flexibility to manage our maturing debt over the next couple of years and capacity to acquire hotels," highlighted Jeremy Wegner, Chatham's chief financial officer.

About Chatham Lodging Trust

Chatham Lodging Trust is a self-advised, publicly traded real estate investment trust focused primarily on investing in upscale extended-stay hotels and premium-branded, select-service hotels. The company owns 39 hotels totaling 5,914 rooms/suites in 16 states and the District of Columbia. Additional information about Chatham may be found at chathamlodgingtrust.com.

This press release may contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 about Chatham Lodging Trust, including those statements regarding acquisitions, capital expenditures, future operating results and the timing and composition of revenues, among others, and statements containing words such as "expects," "believes" or "will," which indicate that those statements are forward-looking. Except for historical information, the matters discussed in this press release are forward-looking statements that are subject to certain risks and uncertainties that could cause the actual results or performance to differ materially from those discussed in such statements. Additional risks are discussed in the company's filings with the Securities and Exchange Commission.

TECHNICAL ABILITY

The project team assembled for this development combines the expertise of civil and geotechnical engineering, design-build architecture and construction, and hotel management firms. The assembled project team is highly qualified with extensive experience in developing, permitting, managing, and operating large scale developments projects, including hotel construction.

Applicant's Experience

Chatham Lodging Trust (Chatham) is a publicly traded hotel real estate investment trust (REIT) with hotel investments of approximately $1.7 billion as of December 31, 2023. Chatham currently own 38 hotels around the United States.

Within Portland, Chatham owns the Hampton Inn hotel that is adjacent to the proposed Home2 development and have owned that hotel since 2012. In the upper northeastern U.S., their properties also include the Hilton Garden Inn in Portsmouth, New Hampshire and the Hampton Inn and Suites in Exeter, New Hampshire; as well as two hotels in the greater Boston area.

This development will be Chatham's second developed Home2 Suites by Hilton hotel. The first was opened in Woodland Hills, California in January 2022 and won the Development of the Year Award from Hilton.

Project Team:

Chatham has retained the New Hampshire based ***Procon***, which is an architecture and construction firm and will utilize their integrated approach to design-build. Procon was founded in 1935 and has a very diverse portfolio which includes hospitality and mixed-use projects throughout New England. A listing of similar projects performed by Procon is attached and includes projects in the greater Portland area such as:

- Custom House Square
- Inn at Diamond Cove
- Portland Harbor Hotel

Chatham has also retained ***Ransom Consulting, LLC***, in Portland Maine to be the lead consultant in preparing permit applications and civil engineering plans, calculations, and reports for the project. Ransom's staff includes professionals in civil, transportation, utility, stormwater, environmental, geotechnical, and coastal engineering, and have been serving municipalities throughout New England for over 35 years. Specifically, Ransom will provide civil/site engineering, stormwater management analysis & design and permitting services for this project. Ransom has provided these same services on similar projects throughout Portland, including just down the hill at the AC Hotel, 20 Thames Street, and 5 India Street development – also a VRAP site.

Company resumes detailing the experience and qualifications of key personnel are available upon request, if necessary.

PROCON
CONNECT • CREATE • CONSTRUCT

Relevant Projects

Project Name	City	State/Prov
West Street Hotel	Bar Harbor	ME
Residence Inn by Marriott	Bangor	ME
Residence Inn by Marriott	Bath	ME
Residence Inn by Marriott	Auburn	ME
Homewood Suites by Hilton	Augusta	ME
Custom House Square	Portland	ME
Inn at Diamond Cove	Portland	ME
Portland Harbor Hotel	Portland	ME
AC Hotel by Marriott - Cleveland Circle	Boston	MA
AC Hotel by Marriott	Medford	MA
AC Hotel by Marriott - Ink Block	Boston	MA
Alloy Condominiums at Assembly Row	Somerville	MA
The Row Hotel - Assembly Row	Somerville	MA
Courtyard by Marriott - Boston Logan	East Boston	MA
Fairfield Inn & Suites	Cambridge	MA
Station Landing 2: Towneplace Suites/Fairfield by Marriott	Medford	MA
Renaissance Hotel at Patriot Place	Foxborough	MA
Hilton Garden Inn at Patriot Place	Foxborough	MA
AC Hotel by Marriott - Portsmouth	Portsmouth	NH
Aria Apartments at Portwalk	Portsmouth	NH
Hampton Inn & Suites - Portwalk	Portsmouth	NH
Harbor Hill Condominiums	Portsmouth	NH
Hilton Garden Inn	Portsmouth	NH
Homewood Suites by Hilton	Portsmouth	NH
Portsmouth Harbor Events & Conference Center	Portsmouth	NH
Residence Inn by Marriott - Pease International	Portsmouth	NH
Residence Inn by Marriott at Portwalk	Portsmouth	NH
145 Maplewood Avenue	Portsmouth	NH
Tuscan Village – Building 2000	Salem	NH

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) ISFBC

All Projects:

	Required	Proposed
Lot Size	N/A	1.1+/- Acres
Area Per Dwelling Unit	N/A	
Minimum Street Frontage	N/A	
Front Yard Minimum	N/A	
Front Yard Maximum	5'(UA); 10'(UT)	
Rear Yard	5'(UA);10' (UT)	>10'
Yard Right	5' (Fore St)	
Yard Left	10' (Middle St)	
Side Street Setback	35' parking	35'
Step Back	15' bonus fl	15'
Maximum Lot Coverage	90%	<90%
Minimum Lot Coverage	NA	
Maximum Height	50' (UA); 65' (UT	50'/58'
Open Space	N/A	
Maximum Impervious Area	N/A	
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	N/A	
Loading Bays	N/A	
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density			
Height			
Setback Reduction			
Recreation Space			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

Site Plan Review Standards (Section 14.6)

14.6.1 Transportation Standards

The project proposes to utilize 3 parking spaces along Fore Street frontage as transitory valet drop off for the proposed hotel. Valet will then park cars in the private lot within the site through the existing curb cut on Fore Street. Valet employees would be the only ones utilizing the lot for the proposed Home 2 Suites hotel. Condominium owners (top floor of Hampton Inn) would have dedicated spaces behind Hampton Inn.

Valet drop off is proposed to be adjacent to the hotel entrance and would allow hotel guests to access the lobby right from the existing 8' wide sidewalk. Access to retail spaces would also be along sidewalks. Sidewalks along Middle, India, and Fore Streets are currently brick with granite curbing and are in good condition. All sidewalks disturbed during construction will be repaired to City Standards.

Although the project is proposed along a minor arterial (India Street and Franklin Arterial), it is not anticipated that the hotel would generate public transit usage as the majority of guests would be from out of town. The retail spaces would be approximately 5,500 sf and therefore would not appear to require a public transit shelter.

The existing Hampton Inn hotel has 125 guest rooms and 12 residential units. The Home 2 Suites is proposing 132 guest rooms. One parking space per residential unit, 12 spaces, are required. With a total of 257 guest rooms at 1 space per 4 guest rooms, 65 spaces are required for a total of 77 spaces required. 108 spaces are being provided: 12 residential spaces at 9'x18'; 24 valet spaces at 8'x15'; and 72 valet spaces at 8'x18'. A bicycle rack with storage for 20 bicycles is currently available along Fore Street adjacent to the Hampton Inn. A rack with storage for an additional 20 bicycles is proposed for the landscaped area along Middle Street.

A snow management plan has not been developed at this time. It is anticipated that a snow removal contract will be utilized in lieu of on-site snow storage.

A Transportation Demand Management plan has not been developed at this time.

14.6.2 Environmental Quality Standards

The project site is a 1.1 acre parcel that is currently developed with a parking area. There are no natural features such as wetlands, waterfowl and wading bird habitat, threatened or endangered species to be preserved. There are currently trees just off of the sidewalk along India and Middle Streets being counted as street trees for the development. These trees will not be preserved but rather are anticipated to be replaced. Five street trees are proposed along India Street and seven street trees proposed along Middle Street. Existing street trees within the right-of -way along Fore Street are slated to be preserved. A landscaping area/pocket park is proposed along Middle Street as part of the structural parking canopy. A smaller landscaped area is also proposed along Fore Street between the two hotel buildings.

Stormwater structures are proposed to treat the 1-inch storm event for at least 90% of impervious surfaces as well as at least 80% of all developed area within the project/parcel boundary. It is currently anticipated that a combination of tree box filters (existing, bioretention filter systems, and modular wetland systems will be employed to provide that treatment. Conceptual stormwater

structure locations are provided on the Grading, Drainage, and Erosion Control Plan. The existing capacity of the separated stormwater system will be discussed with the Public Works Department to determine what, if any, the requirements will be for on-site detention. As this has been identified as a VRAP site, infiltration of stormwater is not proposed at this time. A stormwater management report has not yet been developed but will be provided as a stand alone document as the project progresses forward.

14.6.3 Public Infrastructure and Community Safety

As the project design moves forward, discussions will be had with planning staff to confirm that the development of the property complies with the City's master plans and provides connection to off-site infrastructure as necessary. Additionally, throughout the design process the development team will be discussing public safety and fire prevention with the appropriate departments.

Connections to public utilities will be discussed with the agencies responsible for those utilities including sanitary and storm sewers, water, electric, communications, and gas. Service letters and recommendations will be provided as a separate document as the project moves forward. The following utilities are being contacted:

Storm drains:	Department of Public Works Water Resources Division
Sanitary sewer:	Department of Public Works Water Resources Division Bradley Roland, P.E.
Water:	Portland Water District Contact MEANS dept.
Electric:	Central Maine Power
Communications:	Spectrum
Natural Gas:	Until

14.6.4 Site Design Standards

Refer to the Architectural Drawings. Massing, ventilation, and wind is not anticipated to impact adjacent properties. It is anticipated that mechanical units are proposed to be roof top units and will not have an impact on adjacent properties. The flat roof design will minimize snow and ice from falling on to adjacent properties. The proposed development is not within a designated historic district.

Exterior lighting on the building façade has not yet been incorporated. Full cut off fixtures are expected. As the design progresses, a photometrics plan can be provided.

Building signage is shown on the architectural perspective drawings for conceptual purposes. Signage for individual spaces is expected to be mixed mediums including illuminated hotel signage consistent with hotel chains design standards, awning signs, window signage, etc. As the design progresses, a signage plan will be provided.

Att. H

DECLARATION OF ENVIRONMENTAL COVENANT

This ENVIRONMENTAL COVENANT is hereby declared and granted as of this 24th day of May, 2011, by Fore India Middle, LLC, a Maine limited liability company ("Declarant"), whose mailing address is c/o Richard A. Shinay, Esq., 84 Marginal Way, Suite 600, Portland, Maine 04101-2480, to the Maine Department of Environmental Protection ("DEP") on property located in Portland, Maine, which is more fully described below.

WHEREAS, Declarant is the owner of that certain parcel of land located in the City of Portland, Cumberland County, Maine, shown as Lot 2 on a plan entitled Subdivision Plan of Hotel, Restaurant and Portside Residences prepared by Sebago Technics dated February 8, 2010 and recorded in the Cumberland County Registry of Deeds in Plan Book 210 Page 194 (the "Subdivision Plan"), said parcel of land being approximately 1.09 acres in size and more particularly described in Exhibit A attached hereto (said property to be referred to as "Protected Parcel");

WHEREAS, Declarant acquired title to the Protected Parcel by deed of Old Port Hospitality, LLC ("Old Port") executed on June 11, 2010, and recorded in the Cumberland County Registry of Deeds at Book 27850, Page 63;

WHEREAS, the DEP's Bureau of Remediation and Waste Management issued to Old Port and Declarant a Voluntary Response Action Program ("VRAP") No Action Assurance Letter dated July 22, 2010, with respect to the Protected Parcel (the "July 22, 2010 VRAP NAA"), attached hereto as Exhibit B, which was revised and clarified in a second No Action Assurance Letter dated November 19, 2010 (the "November 19, 2010 VRAP NAA"), attached hereto as Exhibit C, (collectively the "VRAP NAA Letters"), both of which require the preparation and recordation of a Declaration of Environmental Covenant consistent with the VRAP NAA and the Maine Uniform Environmental Covenants Act ("UECA"), 38 M.R.S.A. § 3001 et seq.;

WHEREAS, the Declarant has completed the development of the Protected Parcel as a surface parking lot, but may in the future engage in the further development of the Protected Parcel with a parking structure, as set forth in the November 19, 2010 VRAP NAA;

WHEREAS, the DEP has determined in accordance with 38 M.R.S.A. § 1301 et seq. and the UECA that the environmental covenants in this Declaration are necessary (i) to prevent the installation of groundwater extraction wells on the Protected Parcel, (ii) to ensure that the contaminated soils on the Protected Parcel remain covered with impervious surfaces or twelve inches of vegetative cover; (iii) to ensure that future development or excavation on areas of the Protected Parcel where residual petroleum may exist conforms

to the Plans approved by the DEP as referenced in the VRAP NAA Letters or otherwise receives prior DEP approval, and (iv) to protect the public health, safety, and the environment, which covenants shall run with the land; and

WHEREAS, Declarant intends to create and grant an Environmental Covenant pursuant to the UECA;

NOW, THEREFORE, the Declarant for and in consideration of the facts above recited and the covenants herein contained, and intending to create and be legally bound by a perpetual covenant running with the land, subject to the terms hereof, hereby declares, covenants and agrees as follows:

1. Declaration of Covenant. This instrument is an Environmental Covenant executed pursuant to the UECA.

2. Groundwater Extraction Prohibited. The installation of groundwater extraction wells on the Protected Parcel is prohibited without the written approval of the Department.

3. Contaminated Soils to be Covered. The petroleum contaminated soils on the Protected Parcel as identified in the Soil Management Plan referenced in the July 22, 2010 VRAP NAA are to remain covered with either impervious surfaces or twelve (12) inches of vegetative cover, except during future construction activities for development of the parking structure as contemplated in the November 19, 2010 VRAP NAA.

4. Parking Structure to Provide Enhanced Ventilation. Design, construction, and ongoing operation of the proposed parking structure shall provide enhanced ventilation of potential vapors as set forth in the November 19, 2010 VRAP NAA and the Plan referenced therein.

5. Changes to Site Use or Certain Improvements Require DEP Approval. If use of the Protected Parcel is proposed to change significantly from that which is described in the VRAP NAA Letters, the DEP must be notified at least thirty (30) days in advance. Additional investigation and/or remedial activities may be required by the DEP depending on the nature and extent of the proposed changes to the Protected Parcel.

6. Development or Excavation in Petroleum Contaminated Areas Prohibited. Any future development and/or excavation plans on the Protected Parcel on or in the areas of petroleum contaminated soil removal areas (below the clean backfill layer) where residual petroleum may exist, as identified in the Soil

Management Plan referenced in the July 22, 2010 VRAP NAA, must either conform to the Plan referenced in the November 19, 2010 VRAP NAA or otherwise receive prior written approval from the DEP. Such plans must consider provisions for worker health and safety, and for identifying, managing and remediating any petroleum contaminated soils that are encountered, and such work must be overseen by an environmental professional knowledgeable and trained in compliance with OSHA 29 CFR 1910.120.

7. Agency and Holder. DEP is the environmental agency with enforcement authority pursuant to the UECA, and is also the only Holder of the Environmental Covenant granted by Declarant in this Declaration.

8. Notice to Tenants and Others. The Declarant (or future owners of any portion of the Protected Parcel not controlled by the Declarant) shall provide notice of this Environmental Covenant to any tenants or lessees, or to any person conducting any activities on the Protected Parcel that could result in disturbance of soil or groundwater, or any activity that would be otherwise prohibited by this Environmental Covenant.

9. Perpetuity of Covenant. This Environmental Covenant and each and every covenant herein shall be a covenant running with the land in perpetuity, and shall bind the Protected Parcel, all persons or entities having any right, title, or interest in and to the Protected Parcel or any portion thereof, and their respective heirs, personal representatives, successors, and assigns, and all those acting by, through or under any of them forever. Any present or future owner of the Protected Parcel or any interest therein, by the acceptance of a deed of conveyance of all or any part of the Protected Parcel or any interest therein, whether or not the deed shall so express, shall be deemed to have accepted the Protected Parcel subject to the restrictions contained herein and shall be deemed bound by, obligated to comply with, and otherwise subject to the restrictions herein and this Covenant.

10. Representation of Authority, Ownership and Encumbrances. By its execution hereof, Declarant warrants that it is the sole owner of the Protected Parcel and that there are no mortgages, easements, or other encumbrances on the Protected Parcel that would materially adversely affect the effectiveness or enforceability of this Environmental Covenant (other than mortgages that have been subordinated of record with respect to this Environmental Covenant).

11. Access. The Declarant, its successors and assigns, and all future owners and land users shall provide, without cost, access to the Protected Parcel to the DEP, including its authorized employees, agents, representatives, and independent contractors, upon presentation of credentials, for purposes of monitoring and enforcing this Environmental Covenant.

12. Notice of Noncompliance. The Declarant and all future owners shall provide written notice to the DEP within ten (10) working days of discovery of any noncompliance with the terms of this Environmental Covenant.

13. Enforcement. This Environmental Covenant shall be enforceable as authorized by the UECA. Any forbearance as to the enforcement of any of the terms hereof shall not be deemed a waiver of the right to seek and obtain enforcement at any time thereafter as to the same violation or as to any other violations.

14. Amendment or Termination by Consent. The terms and conditions herein may not be amended or terminated except by a written instrument duly executed by the Declarant and/or any successor owner's association that controls commonly owned property on the Protected Property, any owner of any portion of the Protected Property that is not commonly owned and controlled by such an owners' association, at the time of the amendment or termination, and DEP, or its successor in legal function, which instrument is duly recorded in the Cumberland County Registry of Deeds, pursuant to the UECA.

15. Notice Pursuant to Covenant. Any notice or other communication required pursuant to this Environmental Covenant shall be in writing and shall be sent by certified mail, return receipt requested and shall be sent to the following addresses, or such other addresses as the Declarant and the DEP may designate from time to time in a written notice to other entities: (a) if to the Declarant, to the attention of Richard A. Shinay, Esq., 84 Marginal Way, Suite 600, Portland, Maine 04101-2480; if to DEP, 17 State House Station, Augusta, Maine 04333-0017, to the attention of Director, Bureau of Remediation & Waste Management (or successor in position).

16. Recording. Declarant shall cause this Declaration to be duly recorded in the Cumberland County Registry of Deeds within twenty (20) days of the execution of this Declaration by the last signatory, and shall, within thirty (30) days of the recording of the Declaration, notify the DEP of the book and page at which it is recorded, and submit to DEP a copy of the signed Declaration date-stamped by the Register of Deeds.

17. Administrative Record. The administrative record relating to the Protected Parcel is located at the main office of DEP, whose mailing address is 17 State House Station, Augusta, ME 04333-0017, with a street address of Ray Building, 28 Tyson Drive, Augusta, Maine.

18. Governing Law. This Environmental Covenant shall be governed and interpreted in accordance with the laws of the State of Maine.

19. Liberal Construction. It is intended that this Environmental Covenant be construed liberally to protect the health and welfare of the public and the quality of the environment from the risk of adverse effects of exposure to hazardous substances.

20. Invalidity. If any part of this Environmental Covenant shall be decreed to be invalid by any court of competent jurisdiction, all of the other provisions hereof shall not be affected thereby and shall remain in full force and effect.

IN WITNESS WHEREOF, Fore India Middle, LLC, has caused this Declaration of Environmental Covenant to be executed by its duly authorized representative as of the date first set forth above.

[End of page. Execution pages follow.]

IN WITNESS WHEREOF, Fore India Middle, LLC, has caused this Declaration of Environmental Covenant to be executed by its duly authorized representative as of the date first set forth above.

WITNESS:

FORE INDIA MIDDLE, LLC

By: _____
Mark G. V. Woglom
Its Manager

STATE OF NEW HAMPSHIRE
COUNTY OF BELKNAP, ss.

May 24, 2011

Personally appeared the above named Mark G. V. Woglom, Manager of Fore India Middle, LLC, and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said Fore India Middle, LLC.

Before me,

_____
~~Notary Public~~ Justice of the Peace

GREGORY R. KIRSCH
Print name

My commission expires: 10/22/2013

GREGORY R. KIRSCH JUSTICE OF THE PEACE NEW HAMPSHIRE MY COMMISSION EXPIRES OCT. 22, 2013

ACKNOWLEDGED AND AGREED TO BY:

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____

Ronald E. Dyer
Name

Director, Bureau
Title

STATE OF MAINE
COUNTY OF Kennebec, ss. 6/20, 2011

Personally appeared the above named Ronald E Dyer, Bureau Director of the Maine Department of Environmental Protection, and acknowledged the foregoing instrument to be his/her free act deed in his/her said capacity and the free act and deed of said Maine Department of Environmental Protection.

Before me,

Laura L Gay
Notary Public

Laura L. Gay
Print name

My commission expires: 9/24/2015

SEAL

MORTGAGEES' JOINDER
TO
DECLARATION OF ENVIRONMENTAL COVENANT

The undersigned, BANK OF NEW ENGLAND, holder of, among other recorded security documents, (a) an Open End Mortgage, Security Agreement Financing Statement and Assignment of Rents and Leases from Fore India Middle, LLC, dated August 27, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28031, Page 252, and (b) a Second Open End Mortgage, Security Agreement Financing Statement and Assignment of Rents and Leases from Fore India Middle, LLC, dated August 27, 2010, and recorded in said Registry of Deeds in Book 28031, Page 286, and GRANITE STATE ECONOMIC DEVELOPMENT CORPORATION, d/b/a NEW ENGLAND BUSINESS FINANCE, holder of, among other recorded security documents, (a) a Mortgage from Fore India Middle, LLC, dated August 27, 2010, and recorded in said Registry of Deeds in Book 28031, Page 319, for themselves and their successors and assigns, hereby join in this Declaration of Environmental Covenant for the purpose of acknowledging and agreeing that in the exercise of their rights under said Mortgages and other security documents, they will recognize and agree to be bounds by the terms and conditions of said Declaration.

IN WITNESS WHEREOF, BANK OF NEW ENGLAND and GRANITE STATE ECONOMIC DEVELOPMENT CORPORATION, d/b/a NEW ENGLAND BUSINESS FINANCE, have caused this instrument to be executed by their representatives, thereunto duly authorized, as of the date of said Declaration of Environmental Covenant first set forth above.

[End of page. Execution pages follow.]

WITNESS:

BANK OF NEW ENGLAND

By: _____

Its Senior Vice President

Keith P. Landry
Print name

STATE OF NEW HAMPSHIRE
COUNTY OF Rockingham ss. June 9, 2011

Personally appeared the above named Keith P. Landry, SVP of _____ Bank of New England, and acknowledged the foregoing instrument to be his/her free act deed in his/her said capacity and the free act and deed of said Bank of New England.

Before me,

_____
Notary Public

CARRIE S. LEMIEUX
MY COMMISSION EXPIRES MAY 2, 2012
NOTARY PUBLIC NEW HAMPSHIRE

_____
Print name

My commission expires: _____

WITNESS:

GRANITE STATE ECONOMIC DEVELOPMENT CORPORATION, d/b/a NEW ENGLAND BUSINESS FINANCE

Robin J LaPointe

By: _____

Its V.P.

Scott Gardiner

Print name

STATE OF NEW HAMPSHIRE
COUNTY OF Rockingham, ss. 5/27, 2011

Personally appeared the above named Scott Gardiner, Vice President Granite State Economic Development Corporation, d/b/a New England Business Finance, and acknowledged the foregoing instrument to be his/her free act deed in his/her said capacity and the free act and deed of said Granite State Economic Development Corporation, d/b/a New England Business Finance.

Before me,

Robin J LaPointe

Notary Public

Robin J LaPointe

Print name

My commission expires: _____

ROBIN J. LAPOINTE
MY COMMISSION EXPIRES NOV. 19, 2013
NOTARY PUBLIC
NEW HAMPSHIRE

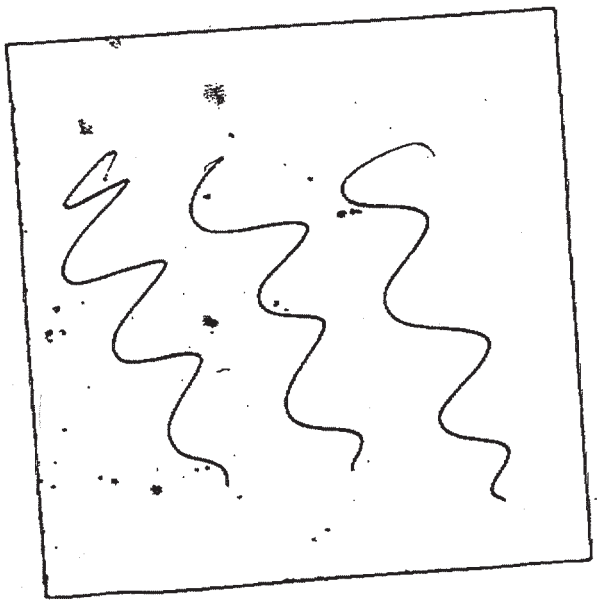
Exhibit A

A certain lot or parcel of land, with any buildings and improvements thereon, located on Fore Street, India Street and Middle Street in the City of Portland, County of Cumberland, and State of Maine, being more particularly bounded and described as follows:

Lot 2 as shown on a subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194 (the "Subdivision Plan").

Exhibit B
To
Declaration of Environmental Covenant

(following page)



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

July 22, 2010

Old Port Hospitality, LLC
Attn: Mark Woglom
11 Corporate Dr.
Belmont, NH 03220

Re: Lot 2, Former Jordan's Meats Property, 201 Fore Street, Portland, Maine
Voluntary Response Action Program No Action Assurance Letter

Dear Mr. Woglom:

The Maine Department of Environmental Protection ("Department") has received and reviewed your application dated June 17, 2010, along with an explanatory cover letter and a Soil Management Plan, both dated June 21, 2010, and prepared by Sebago Technics, Inc., all of which were submitted to the Department's Voluntary Response Action Program ("VRAP") for the above-referenced property on Fore Street in Portland, Maine (the "Property"). The application was submitted to the Department with the request that you, as an applicant to the VRAP, receive the liability protections provided by the VRAP Law, M.R.S.A. 38 §343-E.

Based on the information presented in the Soil Management Plan, and in the Summary Report, the Department agrees with the conclusions and recommendations for remedial actions at the Property set forth in those documents, specifically, the covering of contaminated soils with impervious surfaces or 12 inches of vegetative cover. The Department's concurrence with the proposed actions is conditioned on the prohibition of installation of groundwater extraction wells on the Property. This letter confirms the Department's approval of the Soil Management Plan and constitutes a written determination to take no action in accordance with M.R.S.A. 38 §343-E(9).

The Department has been advised that Old Port Hospitality, LLC transferred the Property to an affiliated entity, Fore India Middle, LLC, by deed recorded at Book 27850, Page 63 at the Cumberland County Registry of Deeds on June 17, 2010. The Department's determination to take no action as set forth in this letter shall extend to Fore India Middle, LLC as the successor in title to Old Port Hospitality, LLC, and shall also extend to the successors and assigns of Fore India Middle, LLC, all of whom shall be bound by the conditions set forth herein as provided in M.R.S.A. 38 §343-E(9)(B).

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

printed on recycled paper

Provided that the recommended remedial measures are completed in accordance with the Soil Management Plan, and to the satisfaction of the Department, Old Port Hospitality, LLC, Fore India Middle, LLC, their successors and/or assigns, and additional persons who qualify under 38 M.R.S.A. §343-E (6) will be granted the liability protection provided by 38 M.R.S.A. §343-E (1) for the Property located on Fore Street that is shown as Lot 2 (1.09 acres) on the Subdivision Plan of the Hotel, Restaurant, and Portside Residences approved by the City of Portland Planning Board on April 13, 2010, and recorded at Plan Book 210, Page 194 in the Cumberland County Registry of Deeds.

Once the recommended remedial measures to be implemented at the Property are completed in accordance with the Soil Management Plan, a report documenting such completion should be forwarded to the VRAP. Upon determining that the remedial measures have been properly completed, the Department will issue a Commissioner's Certificate of Completion to Fore India Middle, LLC, in accordance with M.R.S.A. 38 §343-E(5).

If you have any questions regarding this letter, please feel free to call me at 207-287-7746.

Sincerely,

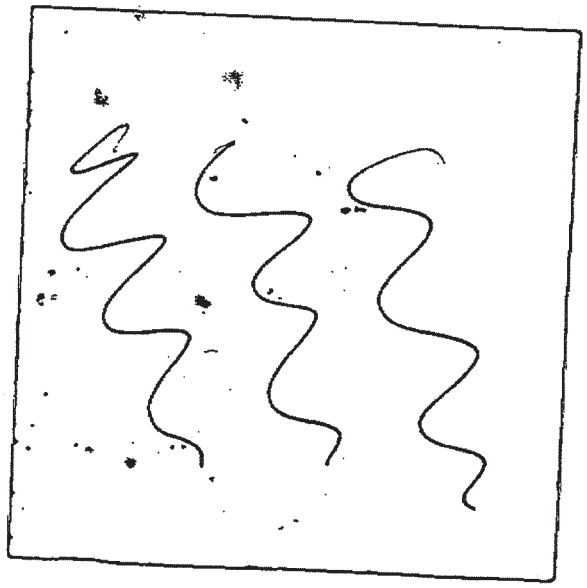
Laura L. Gay

Laura L. Gay, Project Manager
Division of Remediation
Bureau of Remediation & Waste Management

Pc: Grant Austin, Sebago Technics, Inc.

Exhibit C
To
Declaration of Environmental Covenant

(following page)



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOV 2 3 2010
SEBAGO

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

November 19, 2010

Fore India Middle, LLC
Attn: Mark Woglom
11 Corporate Drive
Belmont, New Hampshire 03220

Re: Lot 2, Former Jordan's Meats Property, 201 Fore Street, Portland, Maine
Voluntary Response Action Program No Action Assurance Letter

Dear Mr. Woglom:

The Maine Department of Environmental Protection ("Department") has received and reviewed the letter dated October 25, 2010, and entitled Lot 2 of the Former Jordan's Meats Property, 203 Fore Street and 66 Middle Street, Portland, Maine, Phase II Redevelopment Plans-Structured Parking, submitted by your consultant for the project, Sebago Technics, Inc. ("STI"). The revised redevelopment plans (the "Plan") were submitted to the Department pursuant to the project's continuing participation in the Voluntary Response Action Program ("VRAP"). Fore India Middle, LLC (the "Applicant"), as an affiliate of and successor in title to Old Port Hopitality, LLC (the original applicant to VRAP), is the current owner of the property and is seeking the liability protections provided by the VRAP law, 38 M.R.S.A. §343-E.

Based on the information presented in the Plan, the Department agrees with the conclusions and recommendations for remedial actions on Lot 2 of the Former Jordan's Meats Property, which includes the covering of soils with impervious surfaces and enhanced ventilation of any potential vapors within the proposed parking garage. The Department's concurrence with the proposed actions is consistent with our previous "No Action Assurance Letter" for the property dated July 22, 2010, which is conditioned on the prohibition of installation of groundwater extraction wells on the property. This letter confirms the Department's approval of the revised Plan and constitutes a written determination to take no action in accordance with 38 M.R.S.A. §343-E(9).

The Department recognizes that the Plan for a structured parking lot is an alternative to the previously submitted plan to develop a surface (i.e., non-structured) parking lot on

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
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BANGOR
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312 CANCO ROAD
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(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

printed on recycled paper

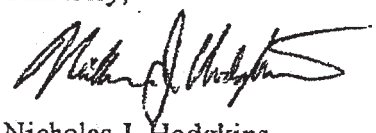
Lot 2, which was the subject of the No Action Assurance Letter dated July 22, 2010 (the "Existing NAA Letter"). The Department has been advised that the Applicant may opt to develop Lot 2 in accordance with the Existing NAA Letter, which the Department hereby confirms is still valid and in force and not negated by the issuance of this letter. Furthermore, the Applicant may proceed to first develop the surface parking lot on Lot 2 in accordance with the Existing NAA Letter, and then proceed to construct the structured parking lot in accordance with this letter.

Provided that the recommended remedial measures are completed in accordance with the Plan, and to the satisfaction of the Department, Fore India Middle, LLC, and their successors and/or assigns, and additional persons who qualify under 38 M.R.S.A. §343-E(6) will be granted the liability protection provided by 38 M.R. S.A. §343-E(1) for the property located on 203 Fore Street and 66 Middle Street that is shown as Lot 2 (1.09 acres) on the Subdivision Plan of the Hotel, Restaurant, and Portside Residences approved by the City of Portland Planning Board on April 13, 2010, and recorded in Plan Book 201, Page 194 in the Cumberland County Registry of Deeds.

Once the recommended remedial measures to be implemented at the property are completed in accordance with the Plan, a report documenting such completion should be forwarded to the VRAP. Upon determining that the remedial measures have been properly completed, the Department will issue a Commissioner's Certificate of Completion to Fore India Middle, LLC, in accordance with 38 M.R.S.A. §343-E(5).

If you have any questions regarding this letter, please feel free to contact me at 207-287-4854.

Sincerely,



Nicholas J. Hodgkins
Division of Remediation
Bureau of Remediation & Waste Management

Pc: Grant Austin, STI
Laura Gay, Maine DEP

Received
Recorded Register of Deeds
Jun 29,2011 03:49:38P
Cumberland County
Pamela E. Lovley

Att. I

203 Fore Street – Home 2 Suites
Transportation Demand Management Plan

In accordance with Section 17.3 of the Technical Manual the following information is provided,

Project Description: Chatham Lodging Trust (dba Chatham Portland DT LLC) proposes a 132 room Home 2 Suites (Home2 Suites by Hilton - Extended Stay Hotel Suites) extended stay hotel and associated ground level commercial space that is expected to be an assortment of retail and restaurant tenants. The project is located at 203 Fore Street and is identified as Chart and Block 029 L003. The property is located in the India Street Form Based Code District and the building area is currently being used for parking for the Hampton Inn hotel and associated condo units which are under common ownership of the applicant, on the adjacent parcel. The parcel is identified as Lot 2 (47,473 SF) of the Subdivision plan recorded in CCRD Plan book 210, page 144.

The project proposal includes a mixed-use building with 5,519 square feet (sf) of commercial retail/restaurant space on the ground floor and 79,946 sf of hotel space throughout 5 floors – with a building footprint of approximately 16,612 sf. Upon completion of the Home 2 Suites, there will be 105 valet-controlled parking spaces provided on the site and 3 short term valet spaces on Fore Street, if approved. The parcel is bounded on the north by India Street, on the west by Middle Street, on the east by Fore Street, and on the south by the existing Hampton Inn.

The proposed 5 story structure will have multiple entrance points for different uses. The hotel entrance is proposed at the intersection of Fore Street and India Street with entrances for the 3 proposed retail units along Middle Street and India Street. Onsite valet parking is expected to continue to be accessed through the existing curb cut for the Hampton Inn valet driveway along Fore Street and the parking is incorporated into the design to include a structural canopy with upper hotel floors above. A retaining wall is proposed adjacent to Middle Street to facilitate the change in grade, but will also include a structural landscaped deck above at-grade valet parking below.

Part 17.3.1 Transportation Narrative

In May 20204, the applicant contracted with Unified Parking Partners (UPP) UPP Global as their parking valet operator. Until construction commences, the applicant does not expect to require any off-site parking for the operations of the existing Hampton Inn hotel. The existing parking lot accommodates the Hampton Inn's parking needs.

During construction, the applicant estimates that off-site parking needs for the existing Hampton hotel will max out at approximately 85 cars per day during the peak summer months. This parking will be offered through various nearby parking garages.

After the Home 2 Suites opens, the applicant currently estimates that the off-site parking needs will max out at approximately 35-40 cars per day during the peak summer months. The applicant does not expect to need any off-site parking for five of the 12 months of the year (November to March).

UPP intends to primarily use four available lots within one block of the Hampton/Home2 site for off-site parking as laid out on the images below:

- 280 Fore Street – 20 available spaces
- 194 Fore Street – 20 available spaces
- 1 India Street – 44 available spaces
- 100 Middle Street – 245 available spaces, will only be used for heavy weekend and overnight stays.
- UPP also has parking available at 175 Fore Street and the Ocean Gateway Garage







The proposed development benefits from proximity to nearby transit services including the Portland METRO Route 1 Congress Street and Route 8 Peninsula Loop that traverses along India Street and is adjacent the site. The site is also within ½-mile walking distance of Monument Square and the METRO transfer center hub at that location. On-street parking is commonly available along Middle, India and Fore Street for the commercial guests and nearby parking garages include the nearby Gateway Garage and Shipyard Garage. Surface parking is also available in the neighborhood.

As is customary for Hotel use, arrivals and departure times at the hotels are staggered, reducing the amount of people coming at one time. The Hampton Inn Valet service allows guests to enter off Fore Street into a short queuing zone. The proposed Home 2 Suites valet zone is off Fore Street adjacent the ground level hotel entry.

Hotel guests will have access to shuttle service not only to nearby transportation centers including the Jetport, and Portland Transportation Center (bus and Train) but also to shuttle service to destinations on and off peninsula. Concierge service is available to arrange for taxi and Uber transportation for hotel guests.

Hotel Staff and guests will also have access to various pedestrian and bicycle routes in the project vicinity including the Bayside trail that extends to the Portland Transportation Center as well as the East End Trail that connects to Back Cove and points beyond. METRO Transit service also links to the METRO Breez service at Congress Street and that offers service to Yarmouth, Freeport, and Brunswick. The hotel is reviewing opportunities for staff incentive programs for rideshare and other multi-modal transportation and financial assistance.



METRO Route 8



METRO Route 1

The development will include signage in the common ground level hotel corridor identifying nearby public transit locations as well as mapping for pedestrian/bicycle routes on the peninsula. The mapping will also identify nearby parking structures within ½ mile of the development site. It is assumed that guests will quickly familiarize themselves with nearby parking and access routes for their use and enjoyment. There will be a bike room in the building and additional bike hitches outside.

17.3.2 Identify a TDM Coordinator

Given the small size of the development a designated TDM coordinator is not proposed although the hotel concierge and hotel management will oversee guest accommodations, transportation issues and questions and overall arrival/departure management to assure smooth operations and minimal impact to the surrounding street system. The applicant and their management team will be responsible for building maintenance as well as to assure that site features including the valet parking and bike racks are maintained and available. The applicant has managed numerous similar properties for many years, and is therefore very familiar with the requirements for maintenance, working with City officials, and related hotel operations.

Parts 17.3.3 thru 17.3.6

The project's future trip generation is expected to be less than 100 vehicles per peak hour for the Home 2 Suites project based on 132 rooms. Due to the small impact of traffic associated with the development, targets for TDM traffic reductions and related TDM objectives are quite minor. It's simply expected that this infill development will blend harmoniously within the surrounding Peninsula/downtown activities and land use and will benefit from the general proximity of transit, parking, and multi-modal transportation options available on the Portland Peninsula.

Att. J

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

STORMWATER MANAGEMENT REPORT

HOME 2 SUITES

203 FORE STREET, PORTLAND, MAINE

Prepared for

Chatham Portland DT, LLC c/o Chatham Lodging Trust

_____

West Palm Beach, FL 33401

Prepared by

Gorrill Palmer
300 Southborough Drive – Suite 200
South Portland, Maine 04106
207.772.2515

~~JULY 2024~~
~~OCTOBER 2024~~
REVISED FEBRUARY 2025

Stormwater Management Report

1.1 Overview

The project is located at 203 Fore Street and is approximately 1.1 acres. The existing site is located to the east of the existing Hampton Inn Hotel, bordered by Fore Street to the south, India Street to the east, and Middle Street to the north. The existing area is used as a parking area for the existing hotel, and is envisioned to be a developed to hold a new, five story hotel containing 128 rooms and associated retail/commercial space. This new development will include parking, streetscape and sidewalk improvements, pedestrian plazas, a pocket park, and general landscaping improvements and site furnishings.

Under the City of Portland's Technical Manual, a new development project that warrants major site plan shall submit a stormwater management plan pursuant to the regulations of Maine Department of Environmental Protection (Maine DEP) Chapter 500 Stormwater Management Rules, including General and Flooding Standards. As the proposed development will warrant major site plan, it is required to meet these Basic, General, and Flooding standards, along with water quality standards set forth in Section 4.C.2(a) of Chapter 500. The site's existing impervious area is approximately 21,457 square feet and the proposed impervious area will be 43,873 square feet, for an increase of 22,416 square feet.

1.2 Stormwater Management Control

Based on the Stormwater Management Rules, Chapter 500, the proposed development is required to meet the Basic Standard, General Standard, and Flooding Standard. The Basic Standard is presented in the Erosion Control Report, while the General Standard and Flooding Standard are presented as follows.

The development will also be required to meet the MDEP's water quality and quantity standards. To meet the water quality standard, the project will utilize a subsurface storage system. The facilities will be utilized to control the post development runoff for the larger 2, 10, 25-year storm events where applicable.

The Maine Department of Environmental Protection rules and regulations regarding stormwater concentrate on four stormwater management objectives:

- Effective Pollutant Removal
- Cooling
- Channel Protection
- Flood Control

These objectives may be met either directly by providing BMP's that manage and treat the runoff after it has been created, or indirectly by incorporating low impact development site planning concepts to minimize production and contamination of runoff by maximizing infiltration and evapotranspiration.

1.3 Approach and Analysis for Water Quality

The following narrative discusses the Basic Standard and General Standard of the MaineDEP Stormwater Law. The proposed development will be required to meet the Basic Standard, BMP Standard under the General Standard, and Flooding Standard for a MaineDEP Chapter 500 Stormwater Management Rules. Based upon review of the five recommended and approved methods for mitigating the increased frequency and duration of channel erosive flows, as required by the BMP Standards, the applicant is proposing to construct a subsurface storage system and proprietary treatment filter system.

Water quality calculations for this portion of the site are presented in Section 1.3.2 below.

1.3.1 Redevelopment Treatment Calculations

Under the Treatment Requirements for the MaineDEP General Standards, the proposed development may qualify for a lower treatment percentage based on the redevelopment Pollutant Impact Rankings [MaineDEP Chapter 500 Section 4.C.2(d)]. The following table summarizes the pollutant rankings for the existing and redevelopment.

TABLE 1 – REDEVELOPMENT TREATMENT SUMMARY			
Type	Pollutant Ranking 3 (Ac)	Pollutant Ranking 2 (Ac)	Impact Rating
Existing Development	0.494	0.598	2.452
Redevelopment	0.297	0.794	2.272

Based on Table 1 above, the impact ranking from the existing development to the proposed development will decrease. For this reason, the proposed development treatment percentages are 0% for stormwater projects and 50% for site projects per MaineDEP Chapter 500 Section 4.C.2(d.i) Table 3. However, the City of Portland Technical Manual requires the minimal redevelopment treatment levels to be at least 50%, so this level of treatment is required for the proposed development.

1.3.2 Stormwater Quality Treatment

Attachment A contains the Water Quality maps for this project. The proposed development will be treated by a focal point with subsurface detention for stormwater quality treatment.

FocalPoint™ and Subsurface Storage System

FocalPoint's are defined in Volume III Appendix B (Proprietary Systems). Proprietary systems are defined as a system or practice designed for stormwater runoff treatment from a development that has to meet all the stormwater requirements of Maine's Stormwater Law, and the Chapter 500 Stormwater Management Rule to be

considered equivalent to any of the suggested structures found in the BMP Manual. A proprietary system must be live-tested for a variety of storm lengths and intensities. The system must remove at least 60% total phosphorus, with at least similar removals metals (zinc and copper), and hydrocarbons; it must provide temperature reduction and channel protection storage detention either independently or in combination with another measure; and it must also be maintainable.

Filtration systems that store and treat a volume of water must be sized to store and treat 1.0 inch of runoff from the contributing impervious area and 0.4 inches of runoff from contributing landscaped areas. If channel protection storage and cooling are required, they must be provided independently, and the stored volume must be released slowly over a 24 to 48-hour period and cooled. Flow-through or hybrid systems that do not store the water quality volume prior to treatment must be sized so that they treat the entire volume of the 0.95-inch Type III 24-hour storm without bypass.

The FocalPoint™ system received approval by the MDEP in February 2017. The proposed system was designed in accordance with the MDEP approval letter dated February 2, 2017. The FocalPoint's are designed to treat 1 inch times the subcatchments impervious area plus 0.4 inch times the subcatchments landscaped area. The elevation of the bypass overflow such that the water quality volume of a 0.95 inch type III 24 hour storm is treated prior to activation was determined using a HydroCAD model. The filter media has an exfiltration rate of 100 inches/hour. The surface media must be 174 sq. ft./acre of impervious plus 174 sq. ft./acre of vegetated area multiplied by 0.4. The filter media depth shall be 1.5 feet and the ratio of the media to the runoff volume stored above it is no less than 1 to 5. The runoff from the FocalPoint will enter a subsurface chamber storage system. Runoff will enter the subsurface chamber storage system through an Isolator Row. The Isolator Row is required to convey the peak runoff from the 1-year Type III 24-hour storm, without overflowing, while the entire chamber system will provide storage for the water quality volume and release the flow over a 24-48-hour period. The subsurface chambers will be installed within a stone bed assumed to have 40% porosity.

The proposed subsurface system on site was designed in accordance with Maine DEP's Chapter 500 Stormwater Management Rules and the Maine Stormwater Best Management Practices Manual, Volume III. BMP Technical Design Manual, Chapter 6 Infiltration BMPs. Some measures to be highlighted for the system include sizing, site suitability, siting, setbacks, pretreatment, design and construction, erosion control, groundwater monitoring, and maintenance. The Water Quality Maps are included in Attachment A. The stage/storage tables for the subsurface infiltration system are included in Attachment B.

The following table presents information for the FocalPoint™ System in the proposed development.

TABLE 2		
FocalPoint™		
	REQUIRED	PROVIDED
Impervious Area (SF)	-	8,318
Vegetated Developed Area (SF)	-	375
Water Quality Treatment Volume (CF)	706	711
FocalPoint™ Mulch Bed Elevation (FT)	-	15.74
Rim to Overflow Structure (FT)	-	16.24
Filter Surface Area (SF)	33.8	55.4

In addition to the area being treated by the FocalPoint™, the subsurface system will store runoff from the proposed flat-roof building. This additional area will be stored via a Ferguson R-Tank™ HD chamber, that has storage capacity of 8.3 CF per design unit. Runoff from storms producing the water quality volume will be conveyed from the subsurface chambers through the underdrain system. A valve will be placed on the underdrain to regulate the outflow through the underdrain. The valve will be field adjusted to maintain the outflow time between 24 and 48 hours. Yearly maintenance of the FocalPoint™ system will include monitoring the outflow after a rainfall event to ensure the outflow time is within the required parameters and inspecting the system for accumulation of sediment within the Isolator Row. Larger storms will be conveyed from the subsurface system though an Outlet Control Structure with a weir set at the water quality elevation. The following table presents information for the Chamber System in the proposed development.

TABLE 3		
Chamber System		
	REQUIRED	PROVIDED
Ferguson R-Tank™ HD Chambers for Water Quality Volumes Single + Mini	228	228
Ferguson R-Tank™ HD Chambers for Water Quality Volumes Mini	18	18
Total Ferguson R-Tank™ HD Chambers	-	238
Storage Base Elevation (FT)	-	12.70
Water Quality Elevation (FT)	-	13.30
Top of Ferguson R-Tank™ HD Chambers (FT)	-	14.87
Weir Elevation in Outlet Control Structure (FT)	-	15.50

1.3.3 Conclusion – Water Quality

Table 4 below summarizes the proposed total treatment for the proposed development.

TABLE 4 – OVERALL TREATMENT FOR DEVELOPMENT		
	IMPERVIOUS	DEVELOPED
Subsurface Infiltration System (SF)	28,505	28,880
Total Area Treated (sf)	28,505	28,880
Area Untreated (SF)	15,383	14,985
Total Area of Project (sf)	43,873	47,524
Percent Treated	--	60.8%
Percent Required	--	50%

1.4 Stormwater Quantity

The stormwater management study provides an analysis of predevelopment and post development stormwater runoff rates.

The SCS TR-20 methodology, using the HydroCAD program, was employed by Gorrill Palmer to analyze pre-development and post-development conditions. A 24-hour, SCS Type III storm distribution for the two-, ten-, and twenty-five-year storm frequencies was used. The corresponding rainfall amounts for these storms are 3.1", 4.6", and 5.8" respectively.

Land use cover, delineations of watershed hydraulic flow paths, and hydrologic soils data were obtained using the following data:

- ALTA/NSPS Land Title Survey from Owen Haskell, Inc.
- Medium Intensity Soil Survey from the USGS Web Soil Survey.
- Aerial photography of the project site, obtained from the Maine Office of GIS.

1.4.1 Pre Development Conditions

The drainage study analyzes the watersheds in the predevelopment condition as depicted on the Predevelopment Watershed Map W1.

Sub Catchment 1S is made up of the entire parcel, which is approximately 1.1 acres and consists of soil type C. There is runoff from approximately just under half an acre of existing impervious area onsite, while the remainder of the site consists of grass/landscape cover. This runoff is conveyed to POI 1, which is an existing storm drain basin located just southwest of the site.

A watershed map for the predevelopment conditions is attached to this section as drawing number *PRE* in Attachment A.

Table 5 presents the peak flow rates at the point of interest in the predevelopment condition.

TABLE 6 – PREDEVELOPMENT PEAK FLOW RATES (TYPE III 24-HR)

Point of Interest	Peak Flow (CFS)		
	2 Year	10 Year	25 Year
POI 1	2.22	3.97	5.36

Copies of the calculations for the predevelopment conditions are included in Attachment B.

1.4.2 Post Development Conditions

Analysis for the post development condition consists of determining post development peak flows and limiting the post development flows to predevelopment levels. The post development condition has been modeled as two sub catchments tributary to POI 1.

Sub catchment 1S consists of approximately 0.35 acres of impervious and approximately 3,300 square feet of pervious area.

Sub catchment 2S consists of approximately 0.46 acres of building rooftop. Runoff from this area is tributary to the subsurface chamber system and tributary to POI 1.

Sub catchment 3S consists of approximately 8,300 square feet of impervious surfaces and approximately 375 square feet of vegetated area. Runoff from this area is treated by the focal point system prior to the subsurface chamber system and tributary to POI 1.

Given that the subsurface chamber system will be used for thermal treatment and downstream treatment from the focal point, detention of the stormwater runoff will be necessary to meet the requirements for this development.

Pond RT – Ferguson R-Tank™ HD Chambers

Pond RT is a subsurface storage basin that utilizes Ferguson R-Tank™ HD Chambers located beneath the proposed parking area to detain the runoff. The stormwater runoff from sub catchment 2S will enter the isolator rows through the storm drain system. The outflow has been modeled with a constant velocity of 0.01 cfs for absorption exfiltration. The subsurface basin has been analyzed to determine its performance for the 2-, 10-, and 25-year storms. Storms smaller than a two-year event will generate a runoff volume equal to or less than the channel protection volume provided at 706 cf. Larger storms will be conveyed through an overflow pipe into a drainage manhole with 6" and 8" orifices through a weir. The drainage manhole outlets to an existing pipe stub that will release flow to the downstream POI. Table 7 below presents the subsurface basin's performance.

TABLE 7 – SUBSURFACE BASIN

	Storm Event		
	2-Year	10-Year	25-Year
Peak Inflow (CFS)	1.96	3.06	3.88
Peak Outflow (CFS)	1.12	2.19	2.96
Stage (Max. Elevation)	14.57	15.05	15.53
Detention Storage (CF)	1,845	2,201	2468
Depth above base (FT)	1.87	2.35	2.83

A watershed map for the post development conditions is attached to this section as drawing number *POST* in Attachment A. Attachment B includes the TR-20 pond calculations. The

following table presents a comparison of peak flow with detention.

TABLE 8 – PEAK FLOW COMPARISON WITH DETENTION			
Point of Interest	Peak Flow (CFS)		
	2 Year	10 Year	25 Year
POI 1			
Pre	2.22	3.97	5.36
Post	2.04	3.79	4.96

As can be seen from Table 8 above, the peak post development flow for POI 1 is at or below predevelopment levels.

1.4.3 Conclusion – Water Quantity

The peak flow at the Point of Interest has been reduced to be at or below predevelopment peak levels. As such, the project is not likely to have an adverse impact on abutting or downstream properties due to stormwater runoff. Approximately 1,756 square feet of the parcel is expected to drain to the adjacent storm drain system without any treatment. Due to the location of the existing sidewalk along the eastern portion of the site, along with the existing grades, the ability to treat this portion of the site is not feasible. The limited expected runoff from this small portion of untreated impervious area is not expected to have adverse impact on the pipe capacity of the adjacent storm drain system, which has been show in the attached Pipe Capacity Calculations.

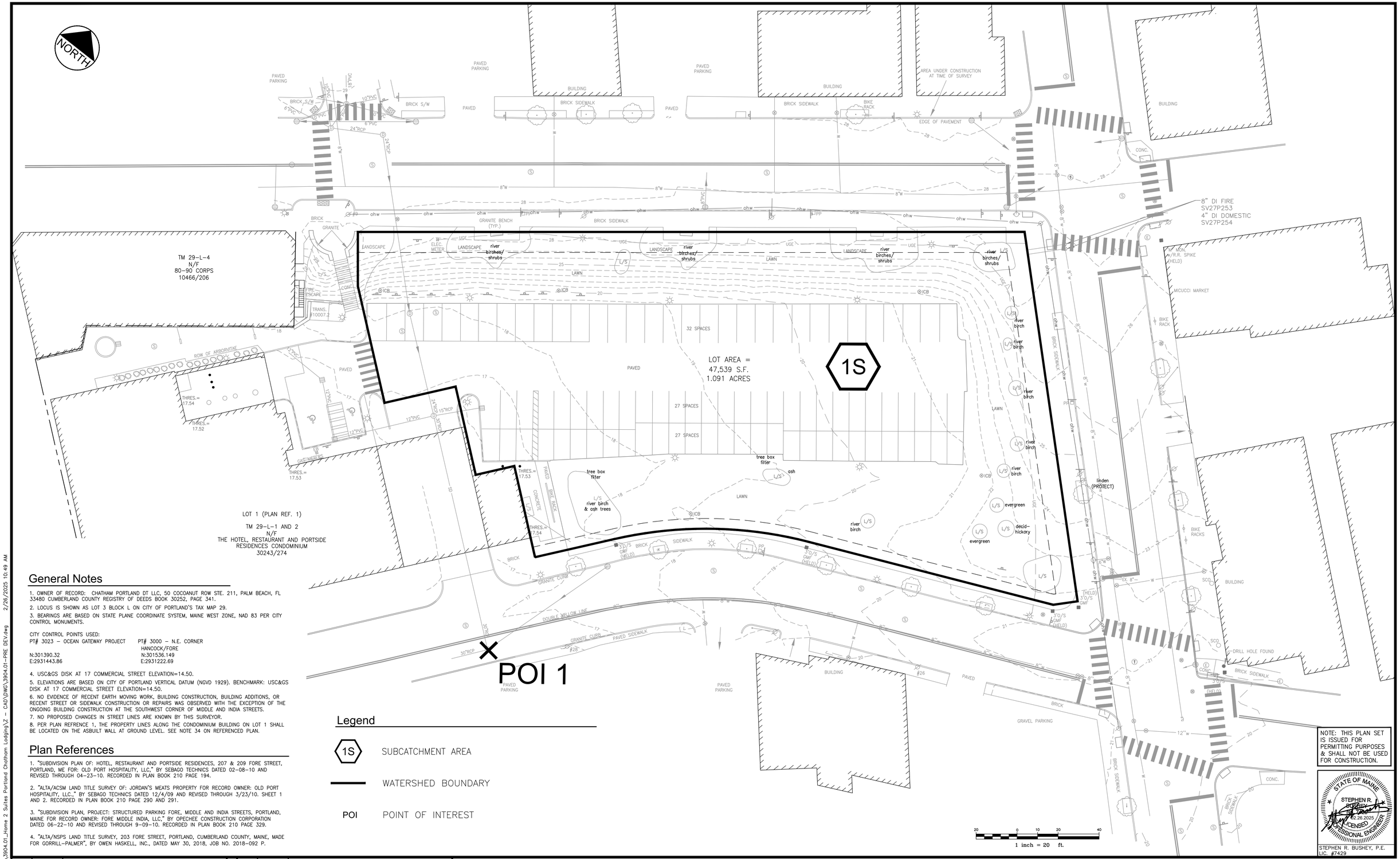
1.5 Conclusion

Gorrill Palmer has been retained by Chatham Portland DT, LLC to prepare plans and permit applications for the development of Home 2 Suites on the proposed parcel in Portland, Maine. Based upon the attached calculations, the proposed project meets or exceeds the water quality and water quantity regulations of the City of Portland and Chapter 500 of the MDEP and will not cause degradation of the receiving waters from the site or likely have an adverse impact on abutting or downstream properties due to the stormwater runoff.

1.6 Attachments

Attached to this section are the following items
Attachment A – Watershed Maps (Pre, Post)
Attachment B – TR-20 Calculations

ATTACHMENT A
WATERSHED MAPS



General Notes

1. OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.
2. LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.
3. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
N:301390.32	N:301536.149
E:2931443.86	E:2931222.69

4. USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
6. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED WITH THE EXCEPTION OF THE ONGOING BUILDING CONSTRUCTION AT THE SOUTHWEST CORNER OF MIDDLE AND INDIA STREETS.
7. NO PROPOSED CHANGES IN STREET LINES ARE KNOWN BY THIS SURVEYOR.
8. PER PLAN REFRENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

Plan References

1. "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.
2. "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC.," BY SEBAGO TECHNICS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.
3. "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06-22-10 AND REVISED THROUGH 9-09-10. RECORDED IN PLAN BOOK 210 PAGE 329.
4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR GORRILL-PALMER", BY OWEN HASKELL, INC., DATED MAY 30, 2018, JOB NO. 2018-092 P.

Legend

1S	SUBCATCHMENT AREA
———	WATERSHED BOUNDARY
POI	POINT OF INTEREST

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
12.26.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-PRE DEV.dwg		

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GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

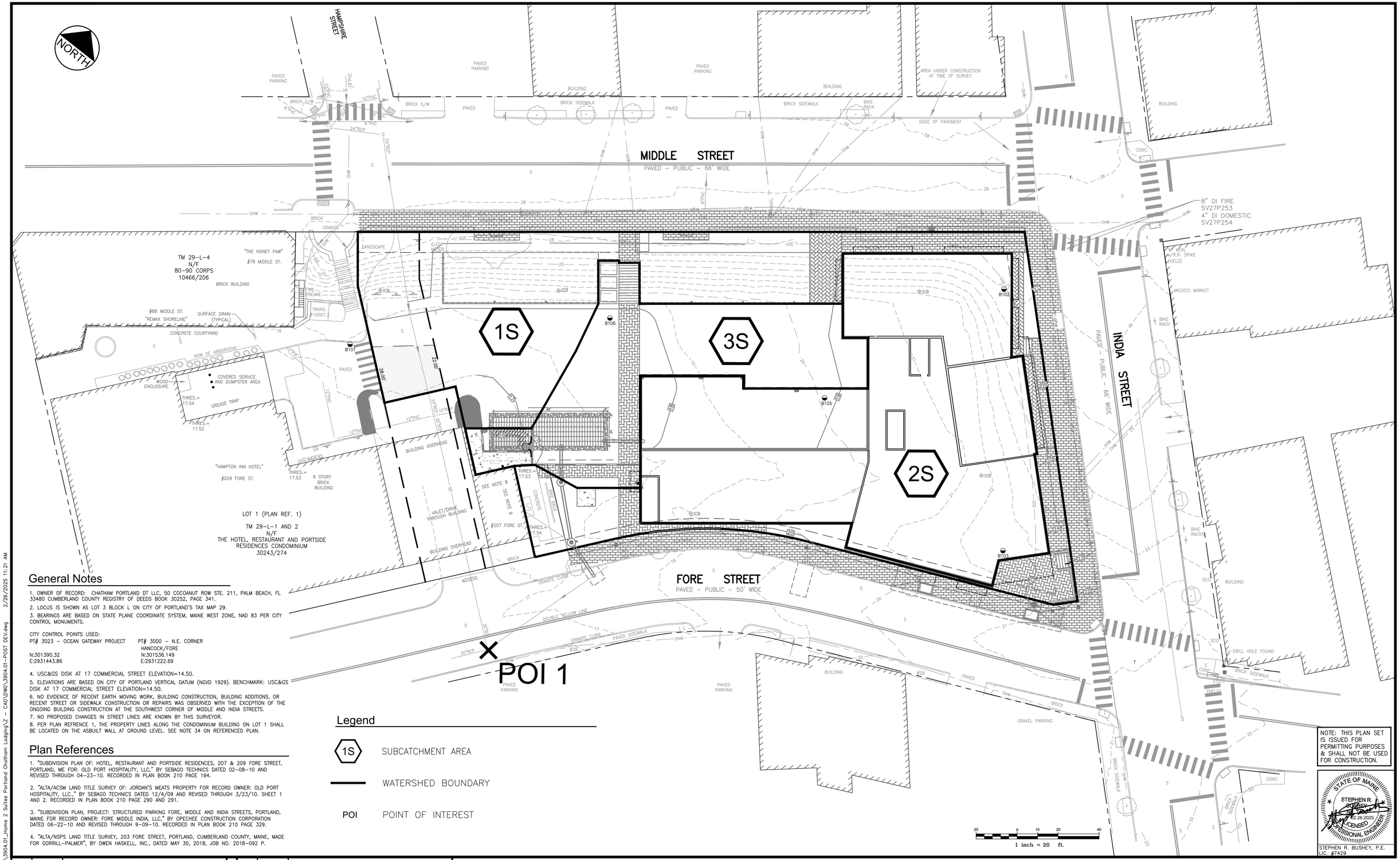
Drawing Name: PRE-DEVELOPMENT WATERSHED MAP

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. PRE

U:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-PRE DEV.dwg 2/26/2025 10:49 AM



General Notes

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CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
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3. "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06–22–10 AND REVISED THROUGH 9–09–10. RECORDED IN PLAN BOOK 210 PAGE 329.
4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR GORRILL–PALMER", BY OWEN HASKELL, INC., DATED MAY 30, 2018, JOB NO. 2018–092 P.

Legend

1S	SUBCATCHMENT AREA
———	WATERSHED BOUNDARY
POI	POINT OF INTEREST

1 inch = 20 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
02.26.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01–POST DEV.dwg		

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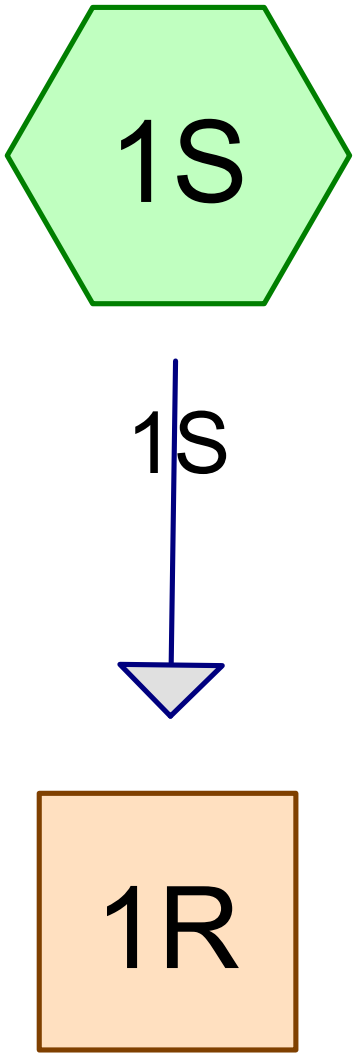
GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772–2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	POST DEVELOPMENT WATERSHED MAP
Project:	**Home 2 Suites – 203 Fore Street** Portland, Maine
Client:	**Chatham Portland DT, LLC c/o Chatham Lodging Trust** 222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No.
POST

U:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\Z – CAD\DWG\3904.01–POST DEV.dwg 2/26/2025 11:21 AM

ATTACHMENT B
TR-20 CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for Pre Development
Prepared by LJB, Inc, Printed 2/25/2025
HydroCAD® 10.20-5c s/n 12753 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	3.10	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.60	2
3	25-YR	Type III 24-hr		Default	24.00	1	5.80	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.599	74	>75% Grass cover, Good, HSG C (1S)
0.493	98	Impervious (1S)
1.091	**85**	**TOTAL AREA**

Summary for Subcatchment 1S: 1S

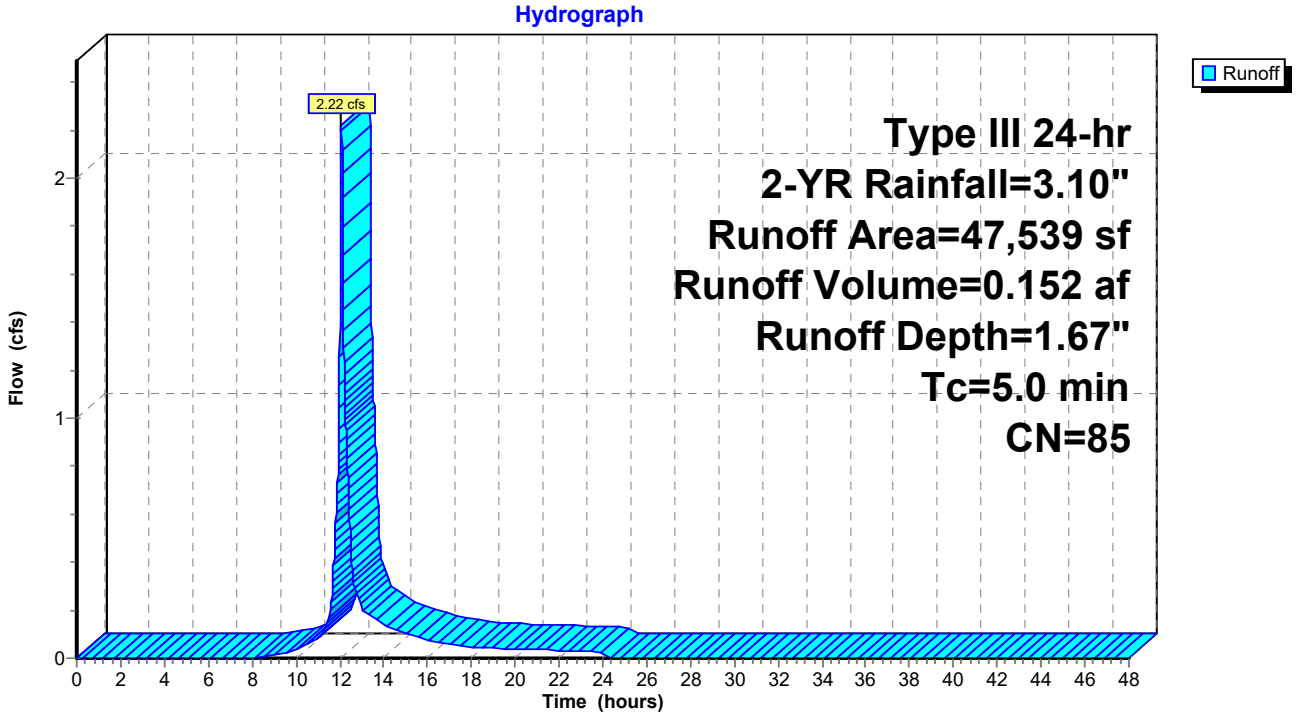
Runoff = 2.22 cfs @ 12.08 hrs, Volume= 0.152 af, Depth= 1.67"
Routed to Reach 1R : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (sf)	CN	Description
*	21,457	98	Impervious
	26,082	74	>75% Grass cover, Good, HSG C
	47,539	85	Weighted Average
	26,082		54.86% Pervious Area
	21,457		45.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 1S: 1S

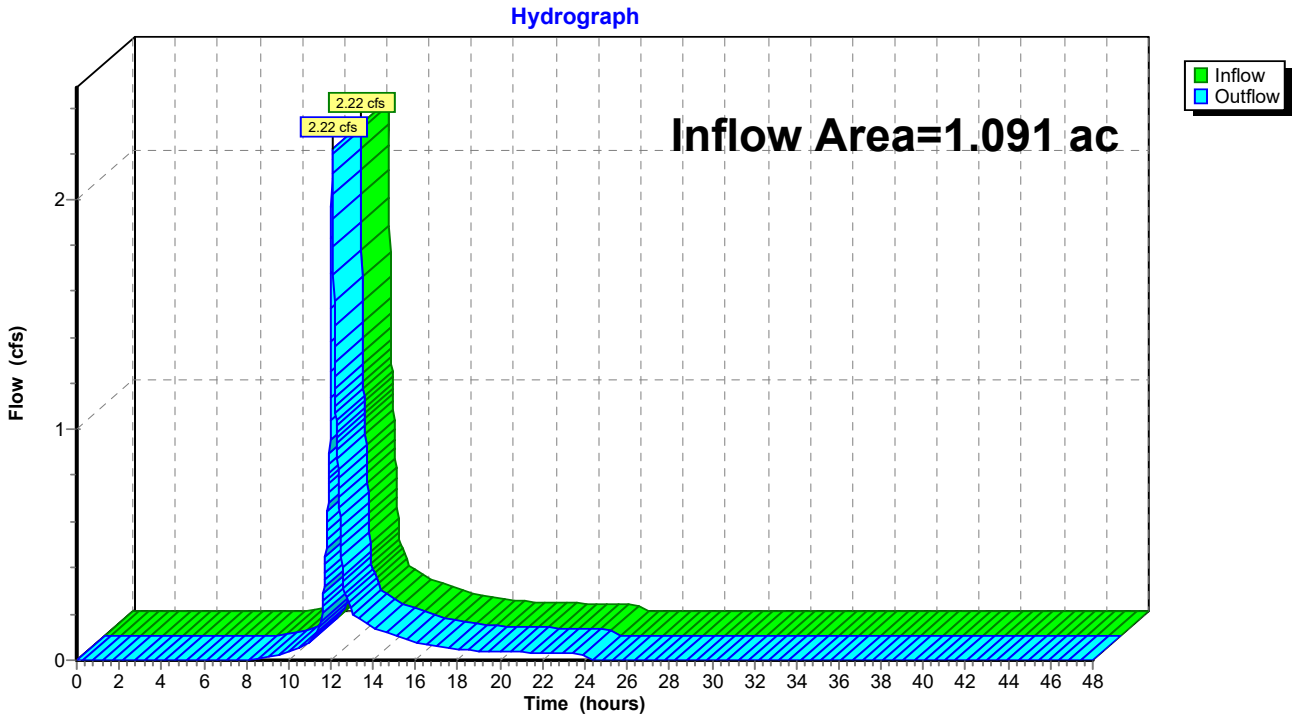


Summary for Reach 1R: POI 1

Inflow Area = 1.091 ac, 45.14% Impervious, Inflow Depth = 1.67" for 2-YR event
Inflow = 2.22 cfs @ 12.08 hrs, Volume= 0.152 af
Outflow = 2.22 cfs @ 12.08 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: POI 1



Summary for Subcatchment 1S: 1S

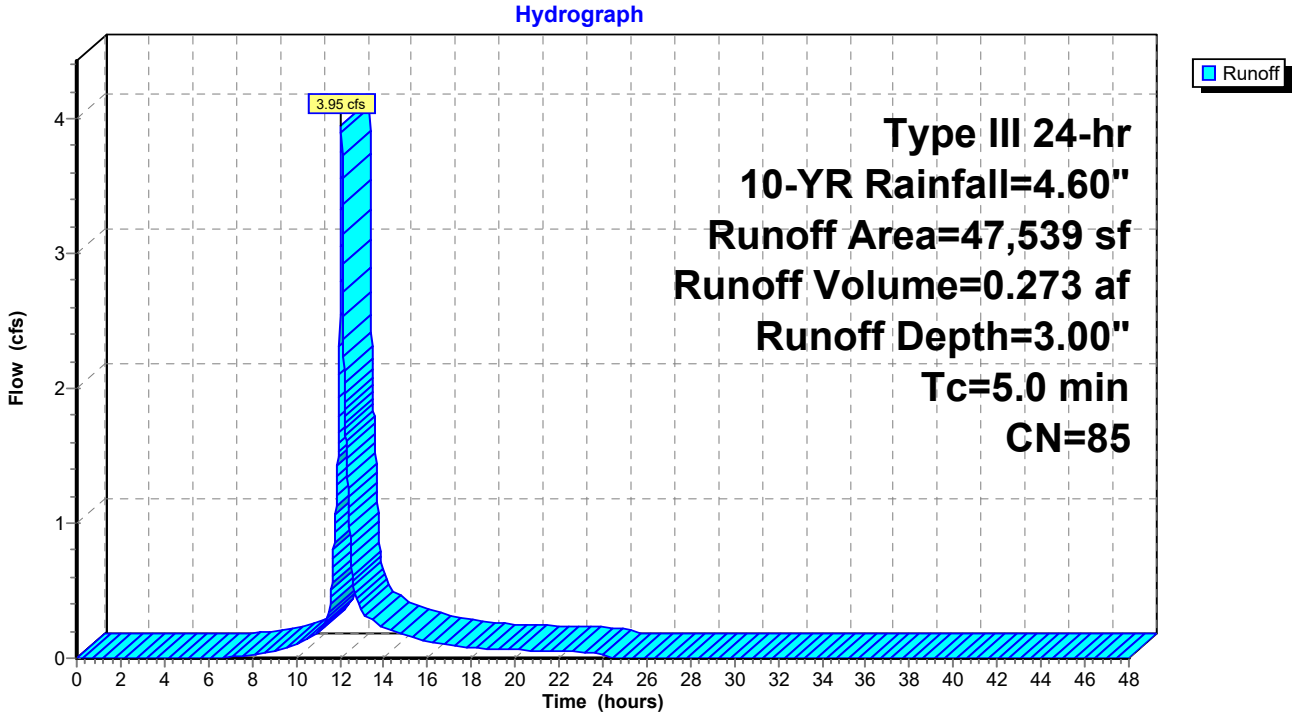
Runoff = 3.95 cfs @ 12.07 hrs, Volume= 0.273 af, Depth= 3.00"
Routed to Reach 1R : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (sf)	CN	Description
*	21,457	98	Impervious
	26,082	74	>75% Grass cover, Good, HSG C
	47,539	85	Weighted Average
	26,082		54.86% Pervious Area
	21,457		45.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 1S: 1S

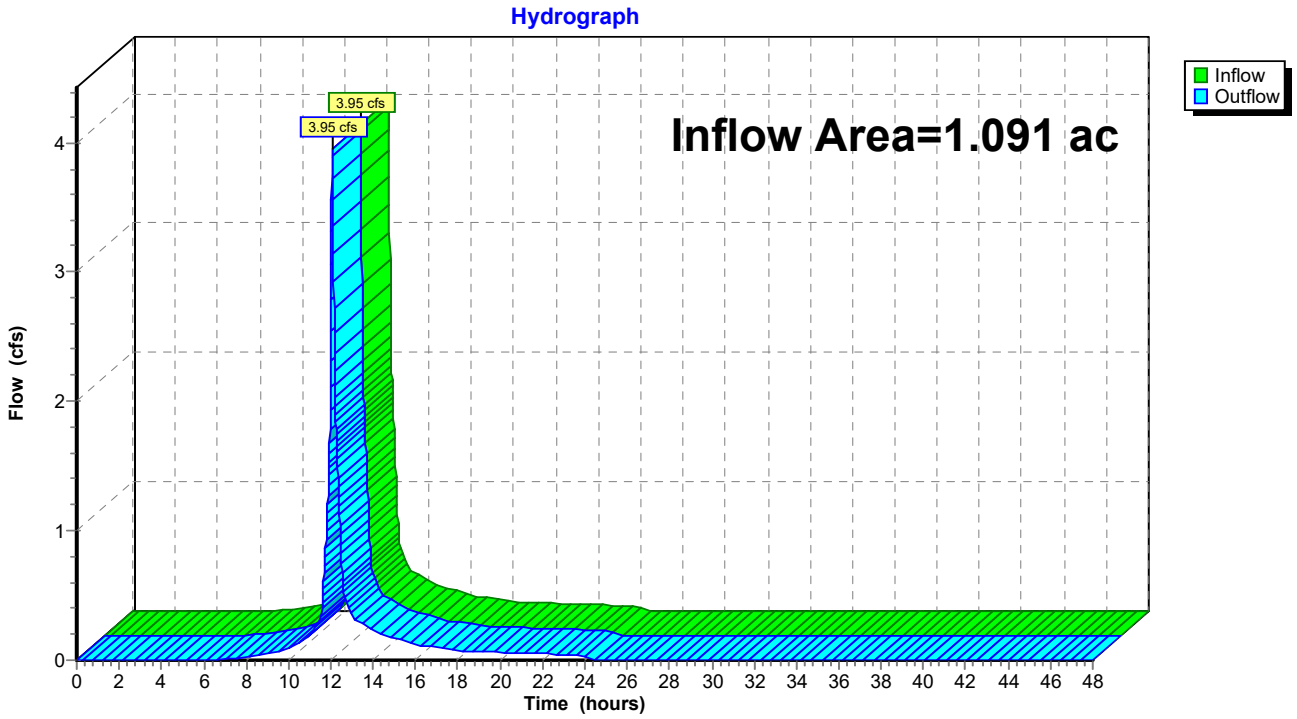


Summary for Reach 1R: POI 1

Inflow Area = 1.091 ac, 45.14% Impervious, Inflow Depth = 3.00" for 10-YR event
Inflow = 3.95 cfs @ 12.07 hrs, Volume= 0.273 af
Outflow = 3.95 cfs @ 12.07 hrs, Volume= 0.273 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: POI 1



Summary for Subcatchment 1S: 1S

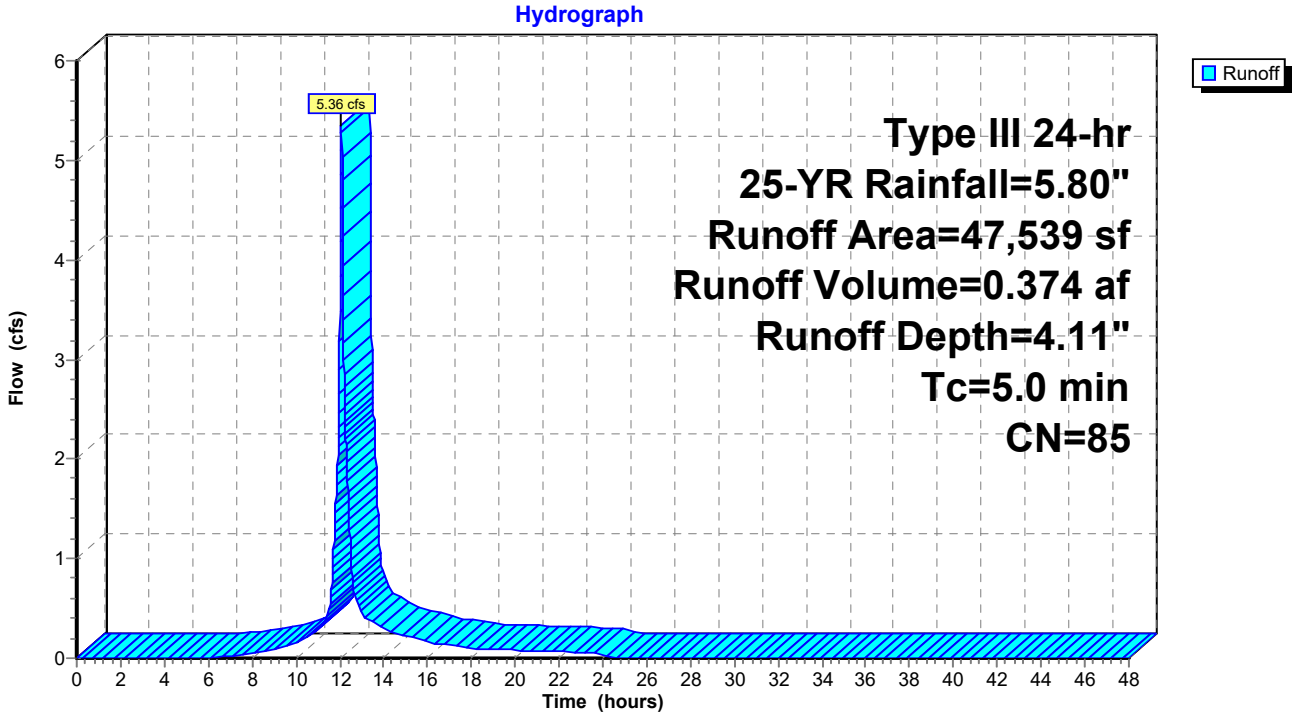
Runoff = 5.36 cfs @ 12.07 hrs, Volume= 0.374 af, Depth= 4.11"
Routed to Reach 1R : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (sf)	CN	Description
*	21,457	98	Impervious
	26,082	74	>75% Grass cover, Good, HSG C
	47,539	85	Weighted Average
	26,082		54.86% Pervious Area
	21,457		45.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 1S: 1S

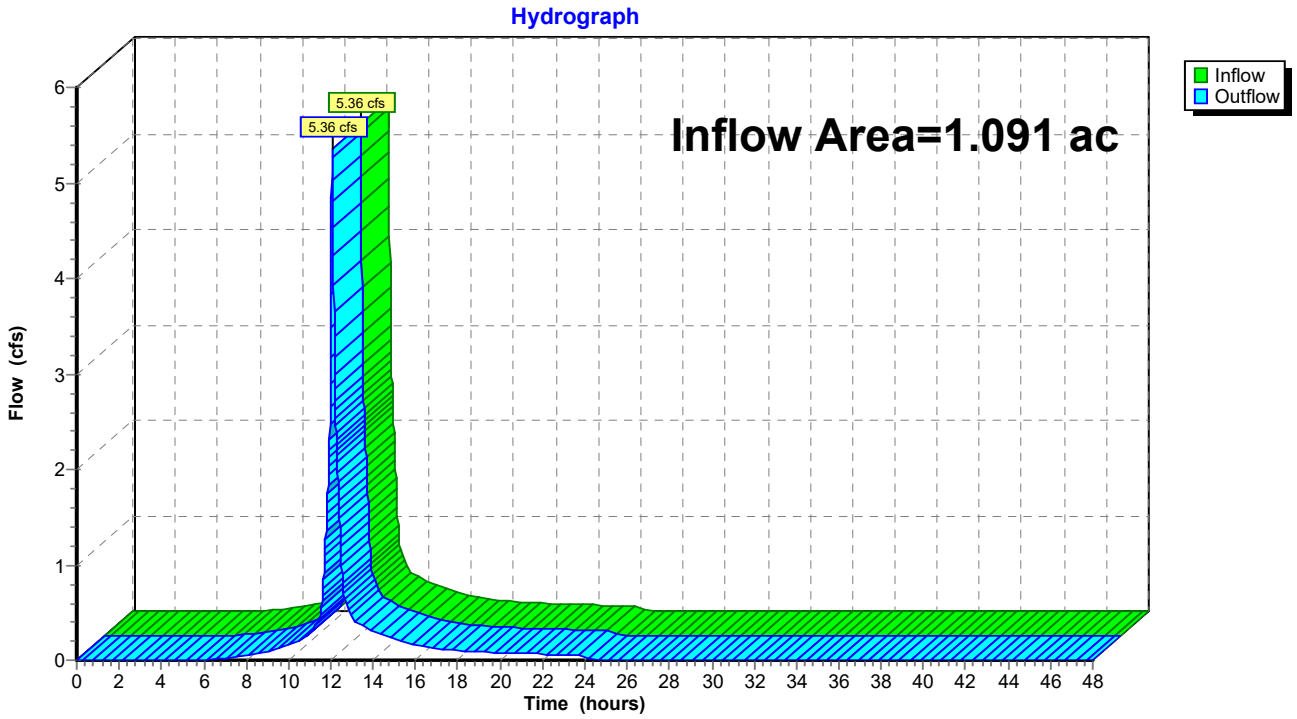


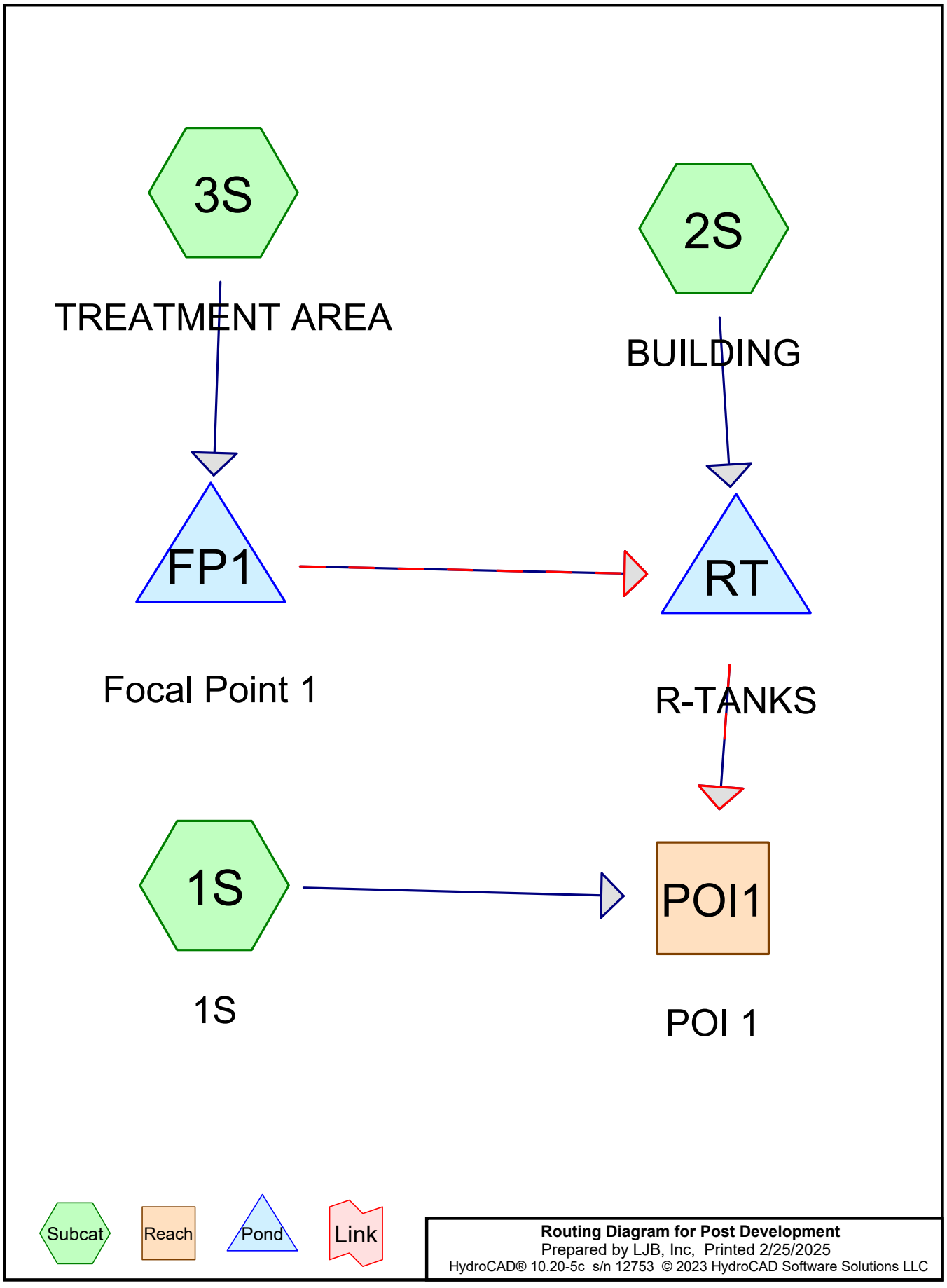
Summary for Reach 1R: POI 1

Inflow Area = 1.091 ac, 45.14% Impervious, Inflow Depth = 4.11" for 25-YR event
Inflow = 5.36 cfs @ 12.07 hrs, Volume= 0.374 af
Outflow = 5.36 cfs @ 12.07 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: POI 1





Routing Diagram for Post Development
Prepared by LJB, Inc, Printed 2/25/2025
HydroCAD® 10.20-5c s/n 12753 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	3.10	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.60	2
3	25-YR	Type III 24-hr		Default	24.00	1	5.80	2
4	WQ	Type III 24-hr		Default	24.00	1	0.95	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.084	74	>75% Grass cover, Good, HSG C (1S, 3S)
0.429	98	Paved parking, HSG C (1S, 3S)
0.578	98	Roofs, HSG C (1S, 2S)
1.091	**96**	**TOTAL AREA**

Summary for Subcatchment 1S: 1S

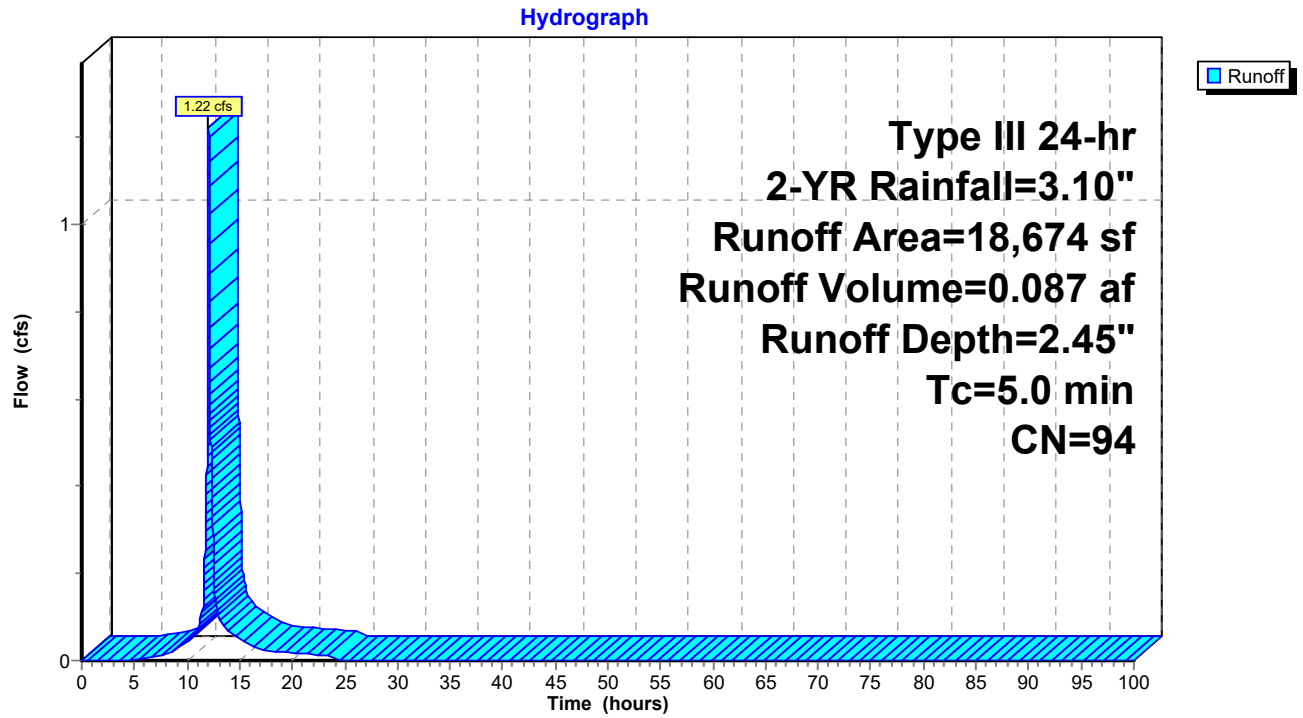
Runoff = 1.22 cfs @ 12.07 hrs, Volume= 0.087 af, Depth= 2.45"
Routed to Reach POI1 : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,379	98	Paved parking, HSG C
3,291	74	>75% Grass cover, Good, HSG C
5,004	98	Roofs, HSG C
18,674	94	Weighted Average
3,291		17.62% Pervious Area
15,383		82.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: BUILDING

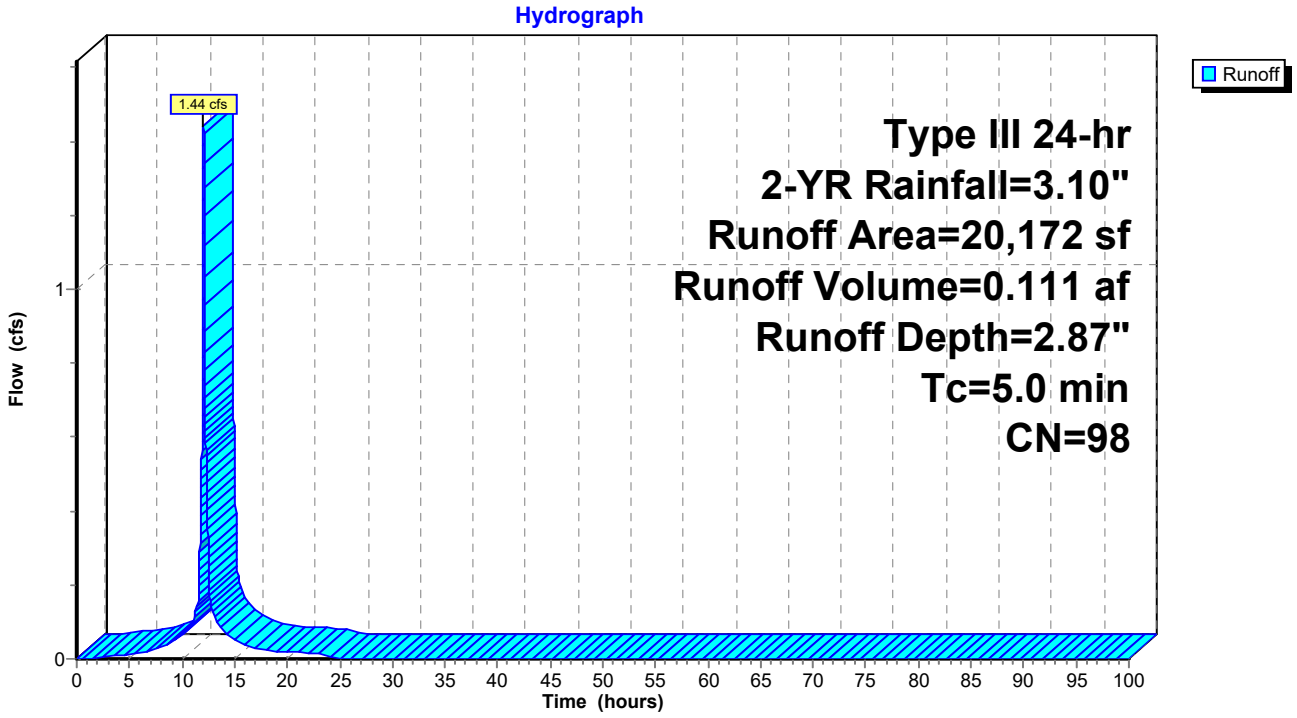
Runoff = 1.44 cfs @ 12.07 hrs, Volume= 0.111 af, Depth= 2.87"
Routed to Pond RT : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
20,172	98	Roofs, HSG C
20,172		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 2S: BUILDING



Summary for Subcatchment 3S: TREATMENT AREA

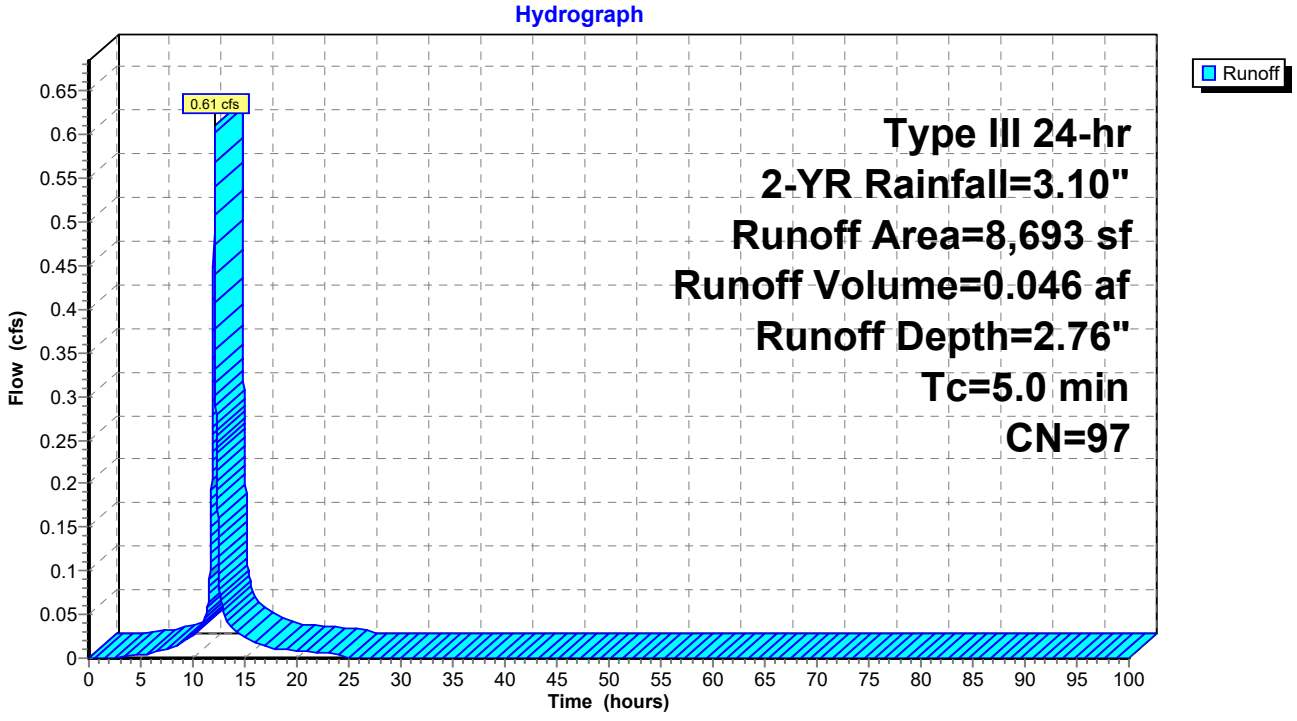
Runoff = 0.61 cfs @ 12.07 hrs, Volume= 0.046 af, Depth= 2.76"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
8,318	98	Paved parking, HSG C
375	74	>75% Grass cover, Good, HSG C
8,693	97	Weighted Average
375		4.31% Pervious Area
8,318		95.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 3S: TREATMENT AREA

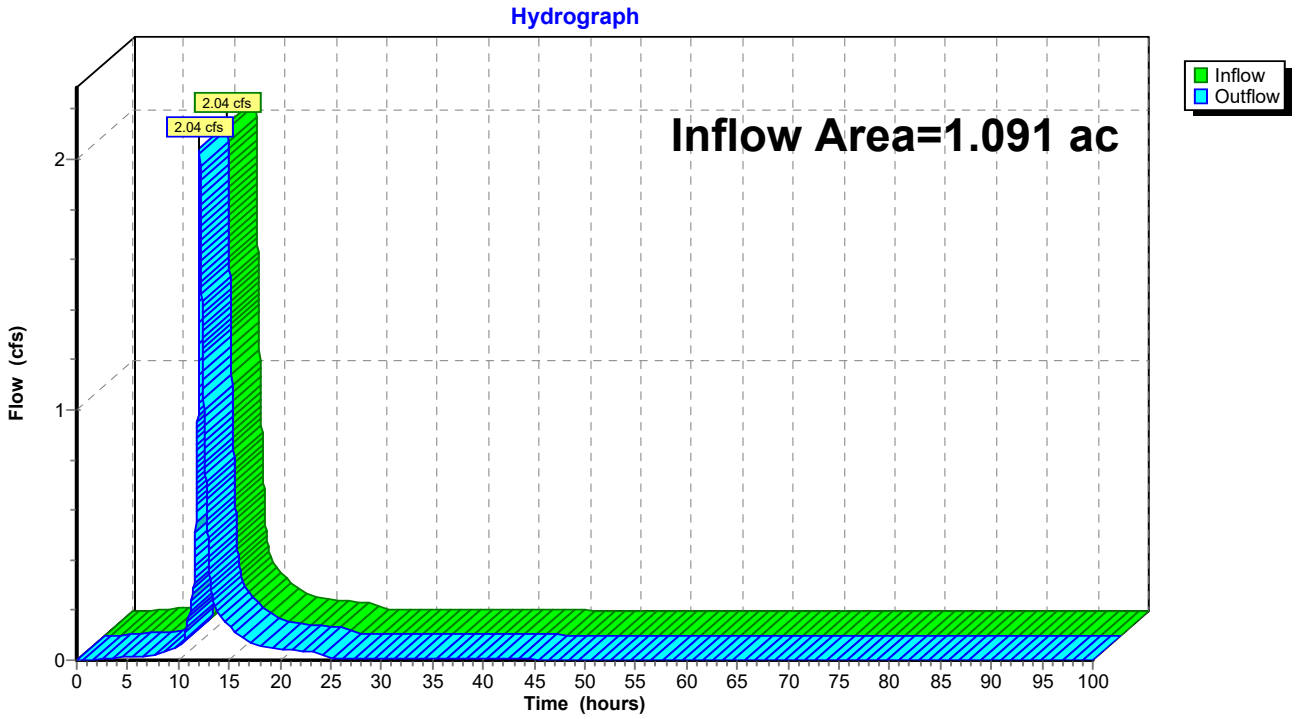


Summary for Reach POI1: POI 1

Inflow Area = 1.091 ac, 92.29% Impervious, Inflow Depth = 2.68" for 2-YR event
Inflow = 2.04 cfs @ 12.08 hrs, Volume= 0.244 af
Outflow = 2.04 cfs @ 12.08 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Reach POI1: POI 1



Summary for Pond FP1: Focal Point 1

Inflow Area = 0.200 ac, 95.69% Impervious, Inflow Depth = 2.76" for 2-YR event
Inflow = 0.61 cfs @ 12.07 hrs, Volume= 0.046 af
Outflow = 0.55 cfs @ 12.11 hrs, Volume= 0.046 af, Atten= 10%, Lag= 2.3 min
Primary = 0.55 cfs @ 12.11 hrs, Volume= 0.046 af
Routed to Pond RT : R-TANKS
Secondary = 0.00 cfs @ 12.11 hrs, Volume= 0.000 af
Routed to Pond RT : R-TANKS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 16.24' @ 12.11 hrs Surf.Area= 236 sf Storage= 73 cf

Plug-Flow detention time= 0.9 min calculated for 0.046 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (766.8 - 765.9)

Volume	Invert	Avail.Storage	Storage Description
#1	13.49'	22 cf	**4.70'W x 11.80'L x 2.00'H Focal Point** 111 cf Overall x 20.0% Voids
#2	15.74'	155 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		177 cf	Total Available Storage

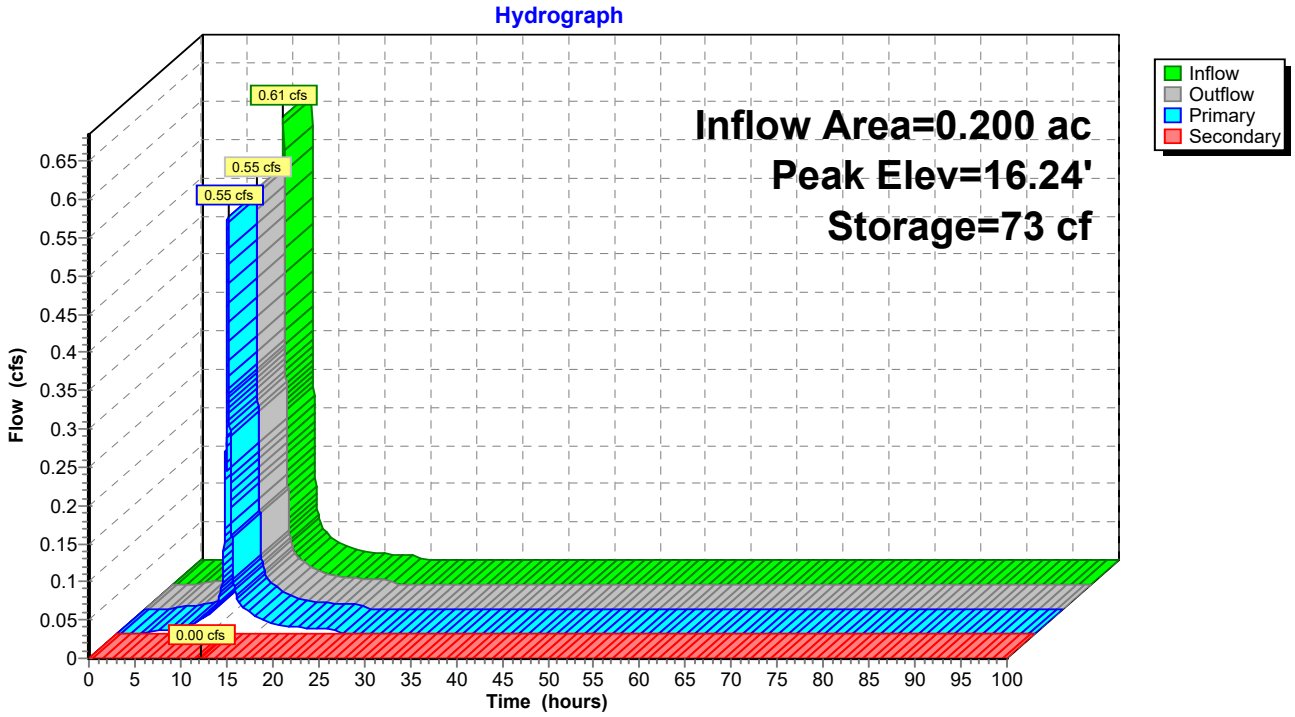
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.74	55	0	0
16.00	84	18	18
16.24	180	32	50
16.74	240	105	155

Device	Routing	Invert	Outlet Devices
#1	Primary	13.49'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	16.24'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.55 cfs @ 12.11 hrs HW=16.24' TW=14.41' (Dynamic Tailwater)
↑└**1=Exfiltration** (Exfiltration Controls 0.55 cfs)

Secondary OutFlow Max=0.00 cfs @ 12.11 hrs HW=16.24' TW=14.41' (Dynamic Tailwater)
↑└**2=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.20 fps)

Pond FP1: Focal Point 1



Summary for Pond RT: R-TANKS

Inflow Area = 0.663 ac, 98.70% Impervious, Inflow Depth = 2.83" for 2-YR event
Inflow = 1.96 cfs @ 12.08 hrs, Volume= 0.157 af
Outflow = 1.12 cfs @ 12.19 hrs, Volume= 0.157 af, Atten= 43%, Lag= 7.1 min
Primary = 0.01 cfs @ 4.93 hrs, Volume= 0.035 af
Routed to Reach POI1 : POI 1
Secondary = 1.11 cfs @ 12.19 hrs, Volume= 0.121 af
Routed to Reach POI1 : POI 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 14.57' @ 12.19 hrs Surf.Area= 1,256 sf Storage= 1,845 cf

Plug-Flow detention time= 186.9 min calculated for 0.157 af (100% of inflow)
Center-of-Mass det. time= 187.1 min (946.3 - 759.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	12.45'	722 cf	**53.87'W x 18.07'L x 3.42'H Field A** 3,325 cf Overall - 1,520 cf Embedded = 1,806 cf x 40.0% Voids
#2A	12.70'	1,444 cf	**Ferguson R-Tank HD 1.5** x 228 Inside #1 Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 228 Chambers in 38 Rows
#3B	12.45'	179 cf	**21.06'W x 13.38'L x 2.04'H Field B** 574 cf Overall - 126 cf Embedded = 448 cf x 40.0% Voids
#4B	12.70'	120 cf	**Ferguson R-Tank HD 0.5** x 52 Inside #3 Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 52 Chambers in 13 Rows
#5	14.87'	132 cf	**BACKFILL ABOVE R-TANKS (Prismatic)** Listed below (Recalc) 330 cf Overall x 40.0% Voids
		2,597 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.87	702	0	0
15.34	702	330	330

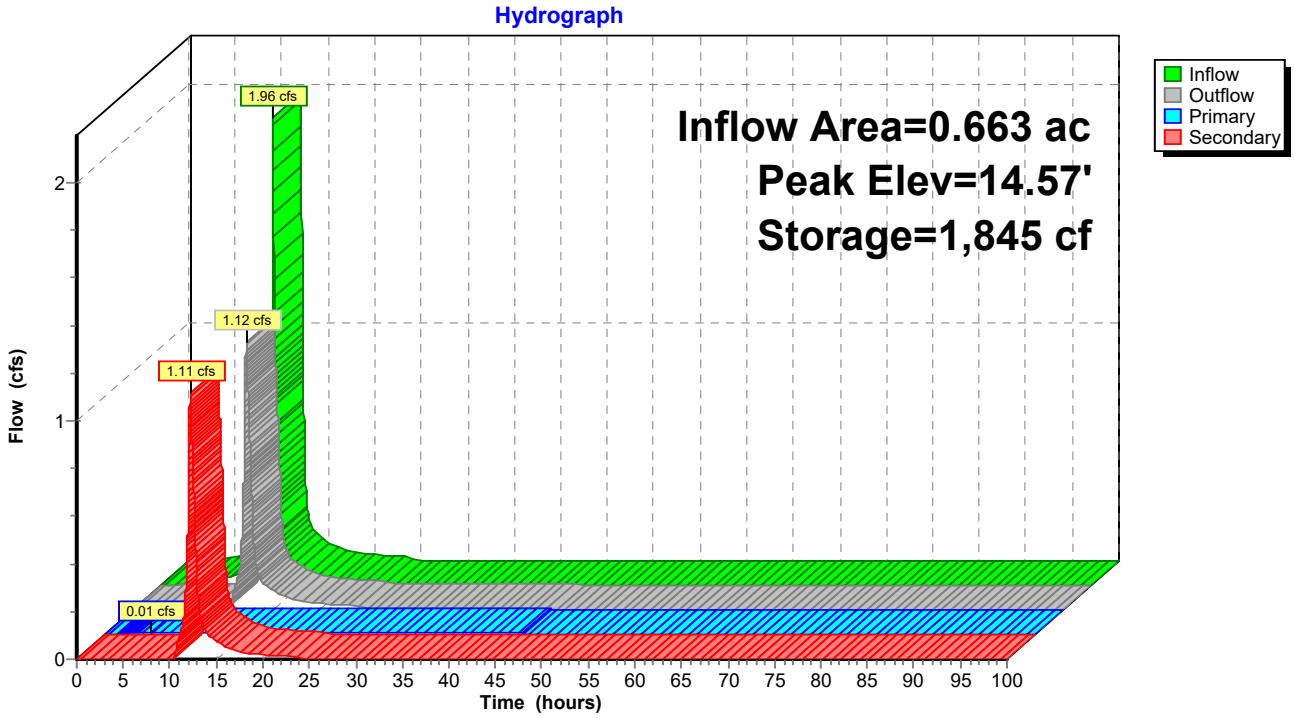
Device	Routing	Invert	Outlet Devices
#1	Device 2	15.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Secondary	12.52'	**12.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 12.52' / 12.37' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	12.45'	**0.01 cfs Exfiltration at all elevations**
#4	Device 2	13.30'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

#5 Device 2 14.35' **8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 4.93 hrs HW=12.48' TW=0.00' (Dynamic Tailwater)
└─**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Secondary OutFlow Max=1.11 cfs @ 12.19 hrs HW=14.57' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Passes 1.11 cfs of 3.71 cfs potential flow)
  ├─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 0.95 cfs @ 4.86 fps)
  └─**5=Orifice/Grate** (Orifice Controls 0.16 cfs @ 1.59 fps)

Pond RT: R-TANKS



Summary for Subcatchment 1S: 1S

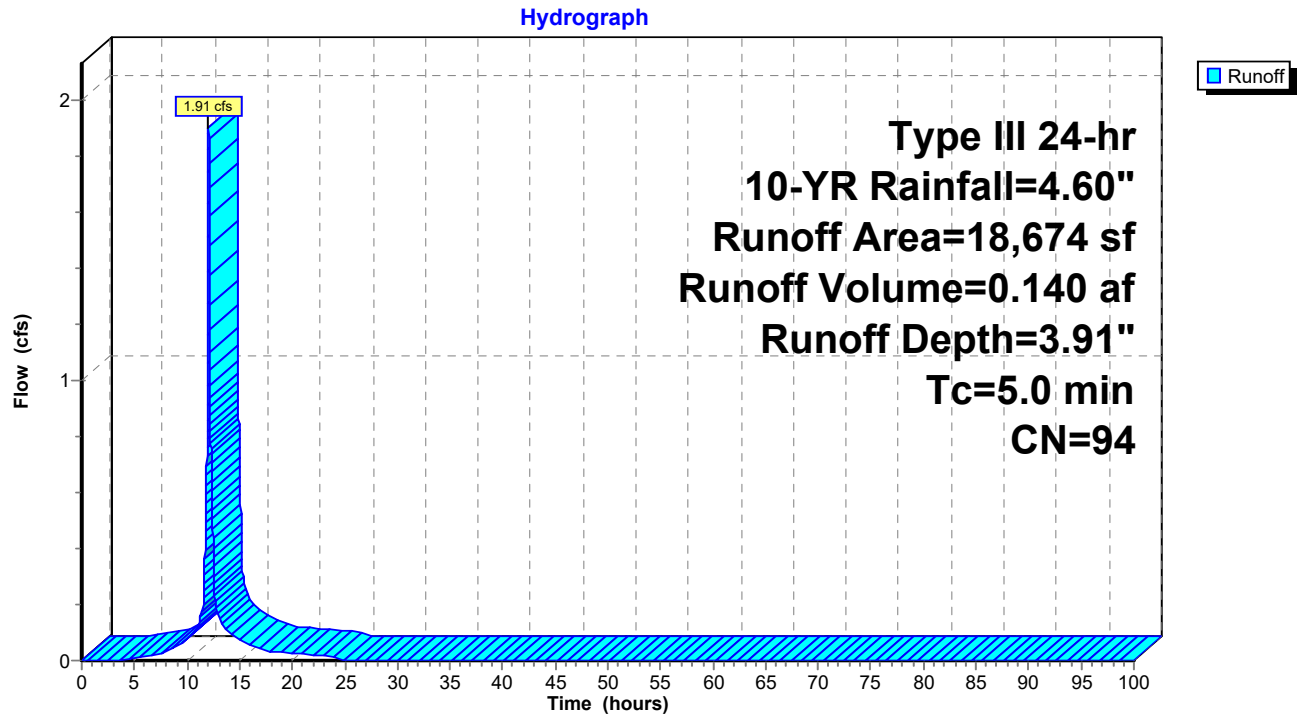
Runoff = 1.91 cfs @ 12.07 hrs, Volume= 0.140 af, Depth= 3.91"
Routed to Reach POI1 : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
10,379	98	Paved parking, HSG C
3,291	74	>75% Grass cover, Good, HSG C
5,004	98	Roofs, HSG C
18,674	94	Weighted Average
3,291		17.62% Pervious Area
15,383		82.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: BUILDING

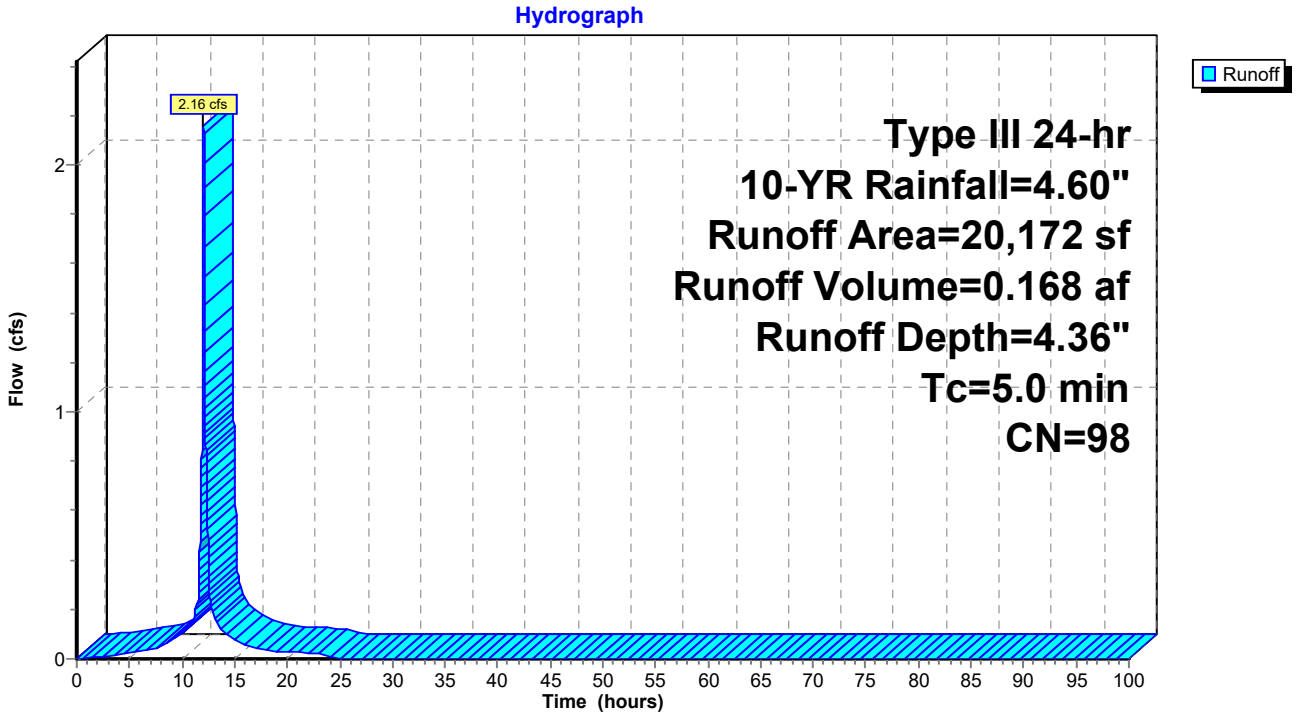
Runoff = 2.16 cfs @ 12.07 hrs, Volume= 0.168 af, Depth= 4.36"
Routed to Pond RT : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
20,172	98	Roofs, HSG C
20,172		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 2S: BUILDING



Summary for Subcatchment 3S: TREATMENT AREA

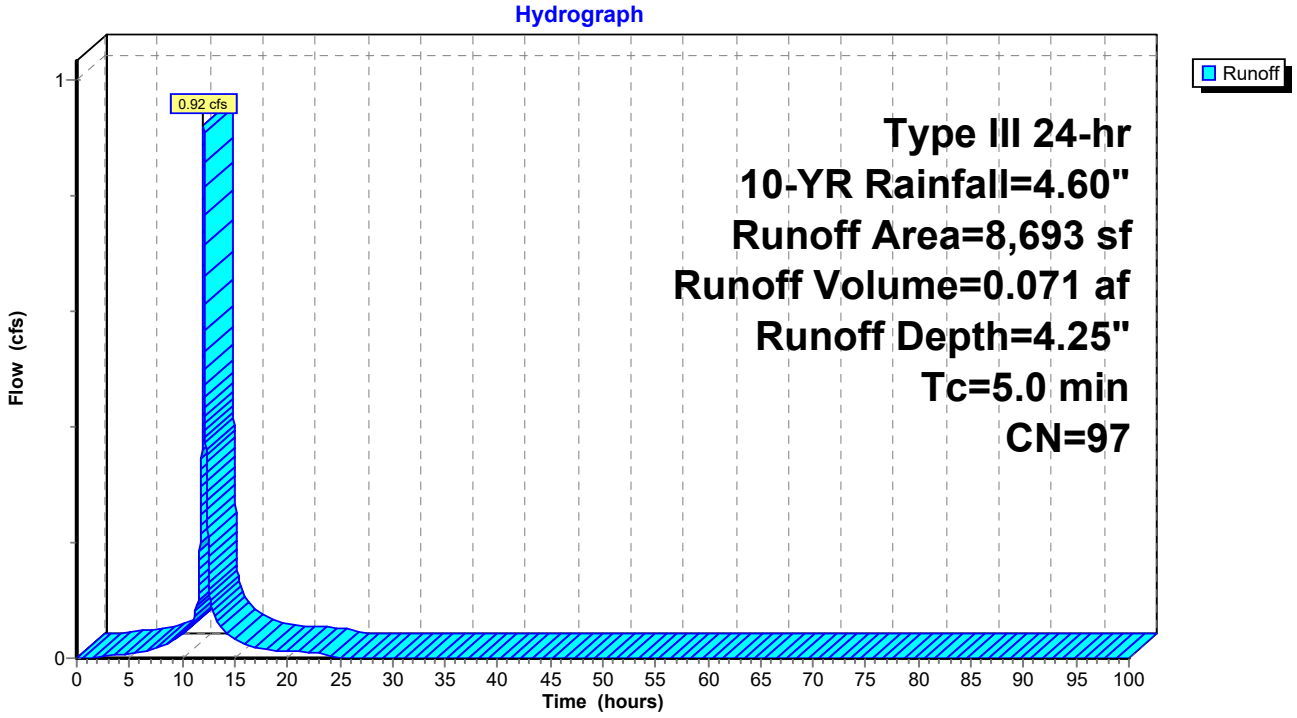
Runoff = 0.92 cfs @ 12.07 hrs, Volume= 0.071 af, Depth= 4.25"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (sf)	CN	Description
8,318	98	Paved parking, HSG C
375	74	>75% Grass cover, Good, HSG C
8,693	97	Weighted Average
375		4.31% Pervious Area
8,318		95.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 3S: TREATMENT AREA

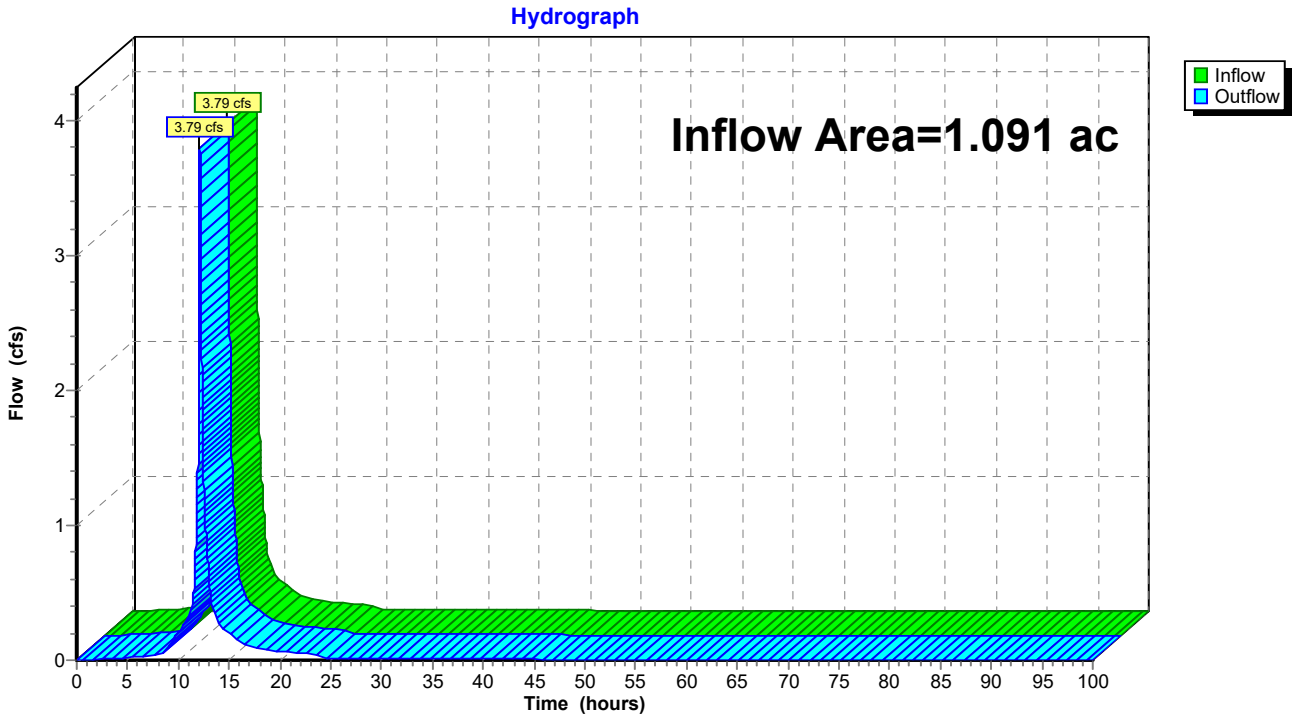


Summary for Reach POI1: POI 1

Inflow Area = 1.091 ac, 92.29% Impervious, Inflow Depth = 4.17" for 10-YR event
Inflow = 3.79 cfs @ 12.10 hrs, Volume= 0.379 af
Outflow = 3.79 cfs @ 12.10 hrs, Volume= 0.379 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Reach POI1: POI 1



Summary for Pond FP1: Focal Point 1

Inflow Area = 0.200 ac, 95.69% Impervious, Inflow Depth = 4.25" for 10-YR event
Inflow = 0.92 cfs @ 12.07 hrs, Volume= 0.071 af
Outflow = 0.91 cfs @ 12.08 hrs, Volume= 0.071 af, Atten= 1%, Lag= 0.7 min
Primary = 0.57 cfs @ 12.08 hrs, Volume= 0.068 af
Routed to Pond RT : R-TANKS
Secondary = 0.34 cfs @ 12.08 hrs, Volume= 0.003 af
Routed to Pond RT : R-TANKS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 16.34' @ 12.08 hrs Surf.Area= 248 sf Storage= 91 cf

Plug-Flow detention time= 0.9 min calculated for 0.071 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (757.5 - 756.6)

Volume	Invert	Avail.Storage	Storage Description
#1	13.49'	22 cf	**4.70'W x 11.80'L x 2.00'H Focal Point** 111 cf Overall x 20.0% Voids
#2	15.74'	155 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		177 cf	Total Available Storage

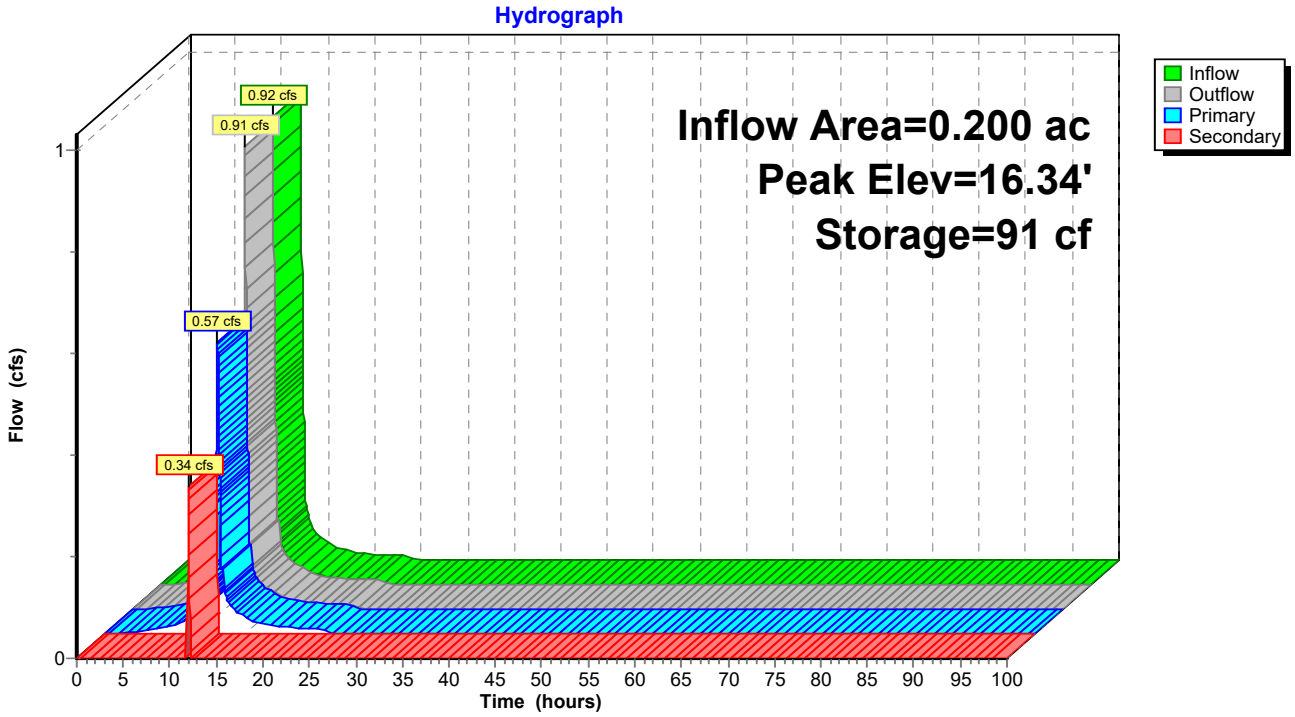
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.74	55	0	0
16.00	84	18	18
16.24	180	32	50
16.74	240	105	155

Device	Routing	Invert	Outlet Devices
#1	Primary	13.49'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	16.24'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.57 cfs @ 12.08 hrs HW=16.34' TW=14.85' (Dynamic Tailwater)
↑└**1=Exfiltration** (Exfiltration Controls 0.57 cfs)

Secondary OutFlow Max=0.34 cfs @ 12.08 hrs HW=16.34' TW=14.85' (Dynamic Tailwater)
↑└**2=Orifice/Grate** (Weir Controls 0.34 cfs @ 1.05 fps)

Pond FP1: Focal Point 1



Summary for Pond RT: R-TANKS

Inflow Area = 0.663 ac, 98.70% Impervious, Inflow Depth = 4.33" for 10-YR event
Inflow = 3.06 cfs @ 12.07 hrs, Volume= 0.239 af
Outflow = 2.19 cfs @ 12.14 hrs, Volume= 0.239 af, Atten= 28%, Lag= 4.3 min
Primary = 0.01 cfs @ 3.24 hrs, Volume= 0.036 af
Routed to Reach POI1 : POI 1
Secondary = 2.18 cfs @ 12.14 hrs, Volume= 0.203 af
Routed to Reach POI1 : POI 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 15.05' @ 12.14 hrs Surf.Area= 1,958 sf Storage= 2,201 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 136.7 min (887.9 - 751.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	12.45'	722 cf	**53.87'W x 18.07'L x 3.42'H Field A** 3,325 cf Overall - 1,520 cf Embedded = 1,806 cf x 40.0% Voids
#2A	12.70'	1,444 cf	**Ferguson R-Tank HD 1.5** x 228 Inside #1 Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 228 Chambers in 38 Rows
#3B	12.45'	179 cf	**21.06'W x 13.38'L x 2.04'H Field B** 574 cf Overall - 126 cf Embedded = 448 cf x 40.0% Voids
#4B	12.70'	120 cf	**Ferguson R-Tank HD 0.5** x 52 Inside #3 Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 52 Chambers in 13 Rows
#5	14.87'	132 cf	**BACKFILL ABOVE R-TANKS (Prismatic)** Listed below (Recalc) 330 cf Overall x 40.0% Voids
		2,597 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.87	702	0	0
15.34	702	330	330

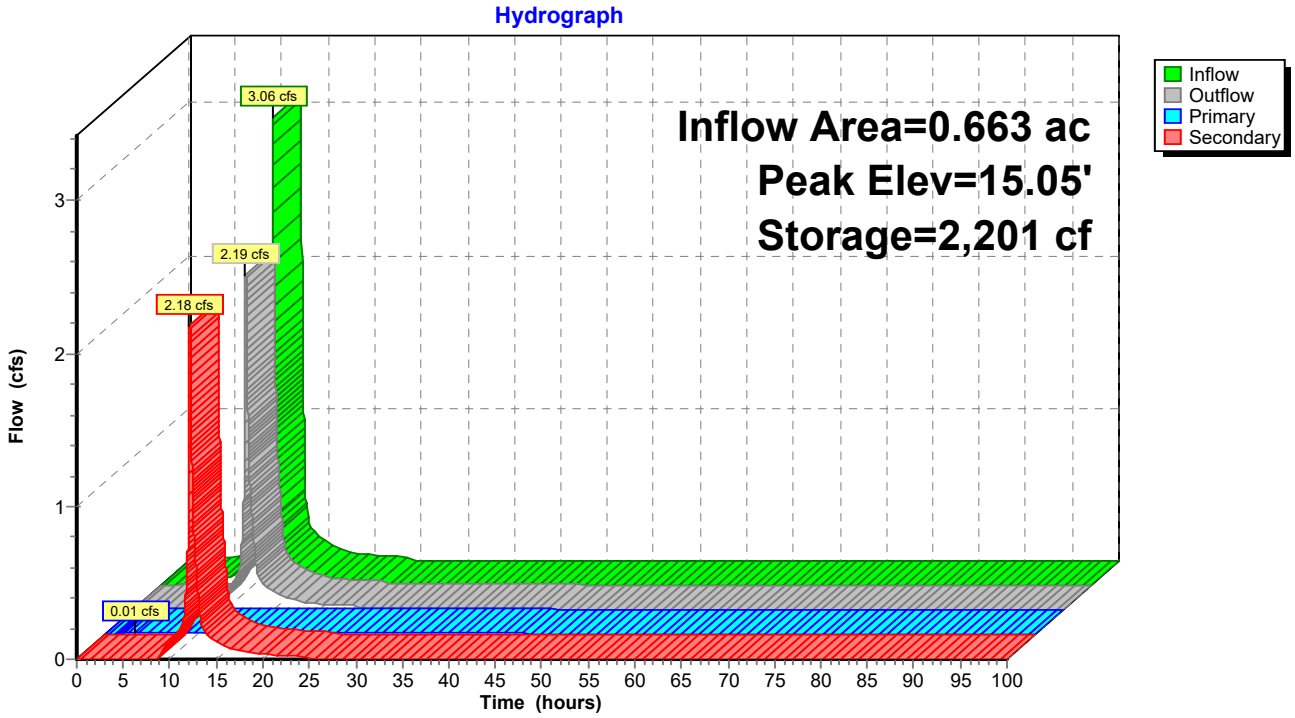
Device	Routing	Invert	Outlet Devices
#1	Device 2	15.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Secondary	12.52'	**12.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 12.52' / 12.37' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	12.45'	**0.01 cfs Exfiltration at all elevations**
#4	Device 2	13.30'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

#5 Device 2 14.35' **8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 3.24 hrs HW=12.48' TW=0.00' (Dynamic Tailwater)
└─**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Secondary OutFlow Max=2.18 cfs @ 12.14 hrs HW=15.05' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Passes 2.18 cfs of 4.26 cfs potential flow)
  ├─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 1.16 cfs @ 5.90 fps)
  └─**5=Orifice/Grate** (Orifice Controls 1.02 cfs @ 2.93 fps)

Pond RT: R-TANKS



Summary for Subcatchment 1S: 1S

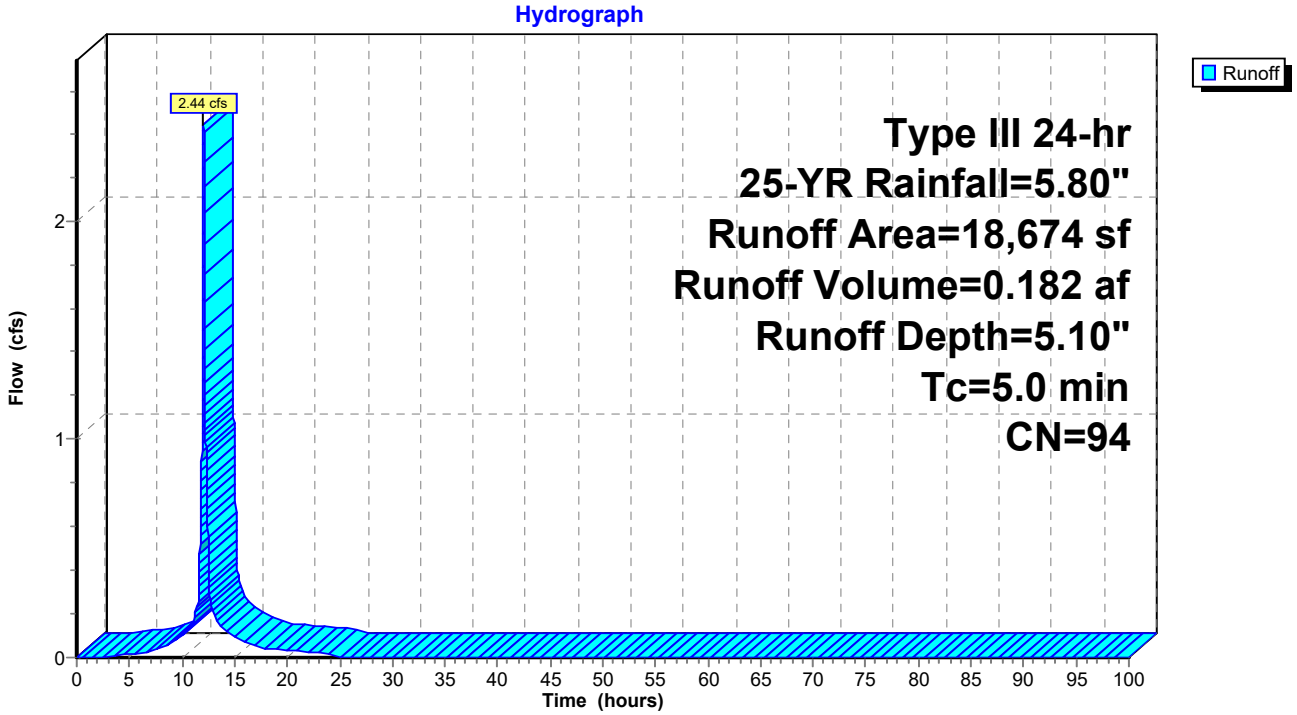
Runoff = 2.44 cfs @ 12.07 hrs, Volume= 0.182 af, Depth= 5.10"
Routed to Reach POI1 : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
10,379	98	Paved parking, HSG C
3,291	74	>75% Grass cover, Good, HSG C
5,004	98	Roofs, HSG C
18,674	94	Weighted Average
3,291		17.62% Pervious Area
15,383		82.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: BUILDING

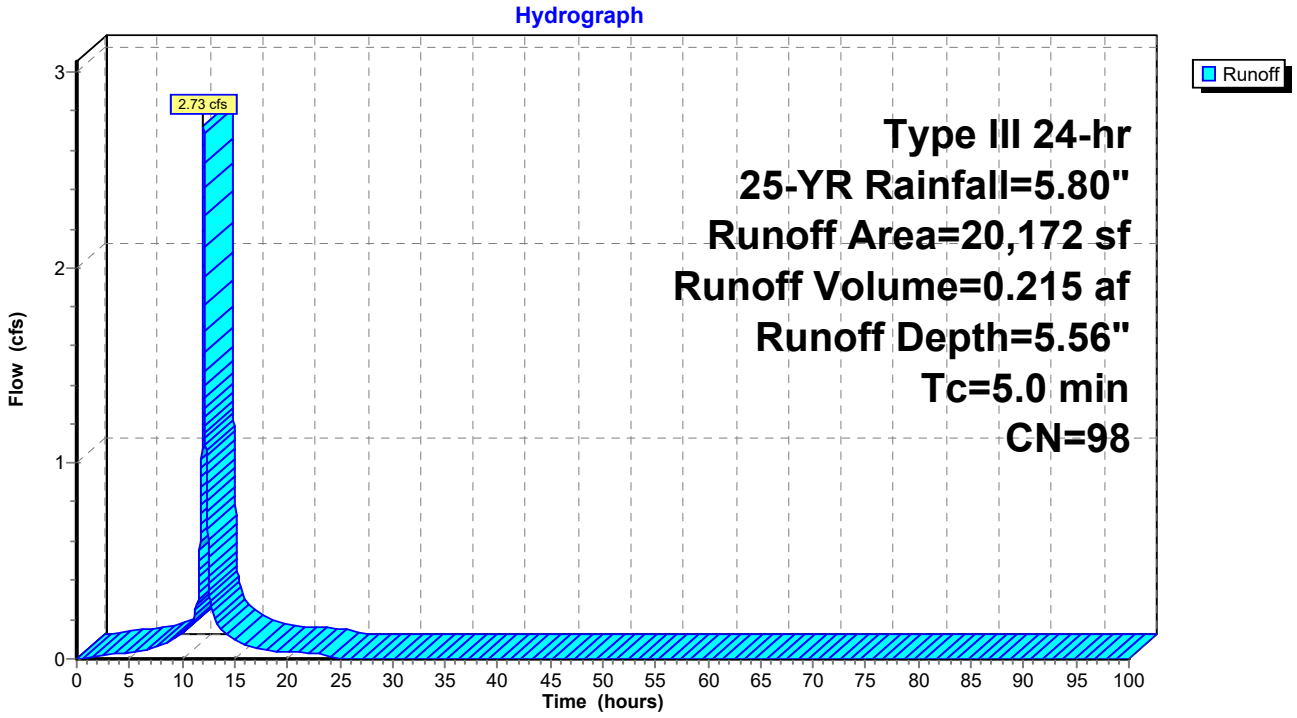
Runoff = 2.73 cfs @ 12.07 hrs, Volume= 0.215 af, Depth= 5.56"
Routed to Pond RT : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
20,172	98	Roofs, HSG C
20,172		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 2S: BUILDING



Summary for Subcatchment 3S: TREATMENT AREA

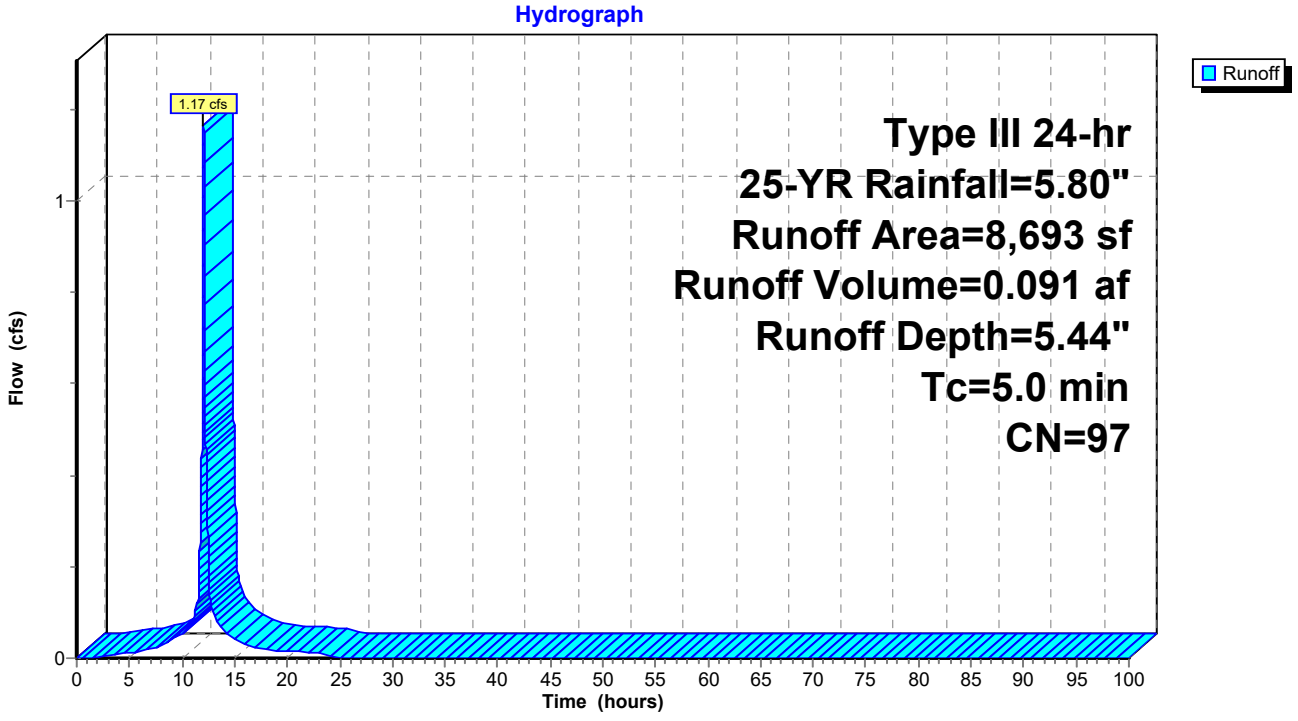
Runoff = 1.17 cfs @ 12.07 hrs, Volume= 0.091 af, Depth= 5.44"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
8,318	98	Paved parking, HSG C
375	74	>75% Grass cover, Good, HSG C
8,693	97	Weighted Average
375		4.31% Pervious Area
8,318		95.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 3S: TREATMENT AREA

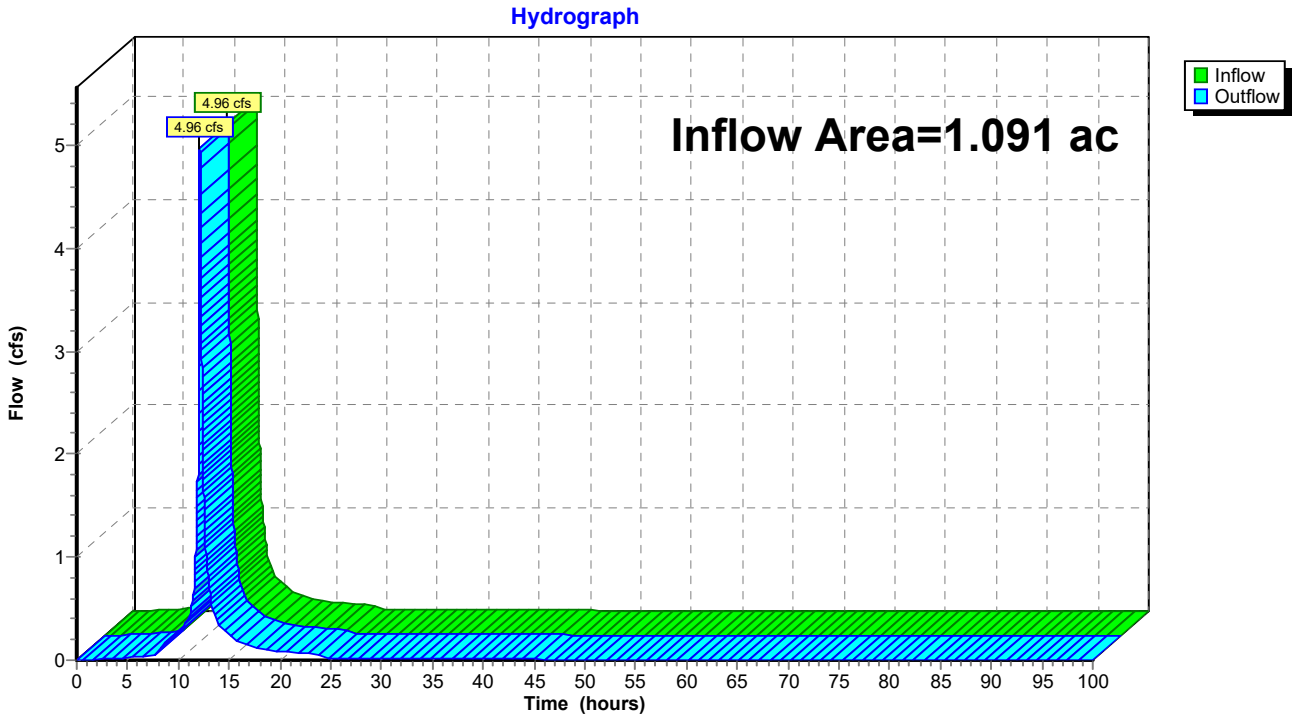


Summary for Reach POI1: POI 1

Inflow Area = 1.091 ac, 92.29% Impervious, Inflow Depth = 5.36" for 25-YR event
Inflow = 4.96 cfs @ 12.10 hrs, Volume= 0.487 af
Outflow = 4.96 cfs @ 12.10 hrs, Volume= 0.487 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Reach POI1: POI 1



Summary for Pond FP1: Focal Point 1

Inflow Area = 0.200 ac, 95.69% Impervious, Inflow Depth = 5.44" for 25-YR event
Inflow = 1.17 cfs @ 12.07 hrs, Volume= 0.091 af
Outflow = 1.16 cfs @ 12.08 hrs, Volume= 0.091 af, Atten= 1%, Lag= 0.6 min
Primary = 0.59 cfs @ 12.08 hrs, Volume= 0.085 af
Routed to Pond RT : R-TANKS
Secondary = 0.57 cfs @ 12.08 hrs, Volume= 0.006 af
Routed to Pond RT : R-TANKS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 16.39' @ 12.08 hrs Surf.Area= 253 sf Storage= 100 cf

Plug-Flow detention time= 1.0 min calculated for 0.091 af (100% of inflow)
Center-of-Mass det. time= 1.0 min (752.8 - 751.9)

Volume	Invert	Avail.Storage	Storage Description
#1	13.49'	22 cf	**4.70'W x 11.80'L x 2.00'H Focal Point** 111 cf Overall x 20.0% Voids
#2	15.74'	155 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		177 cf	Total Available Storage

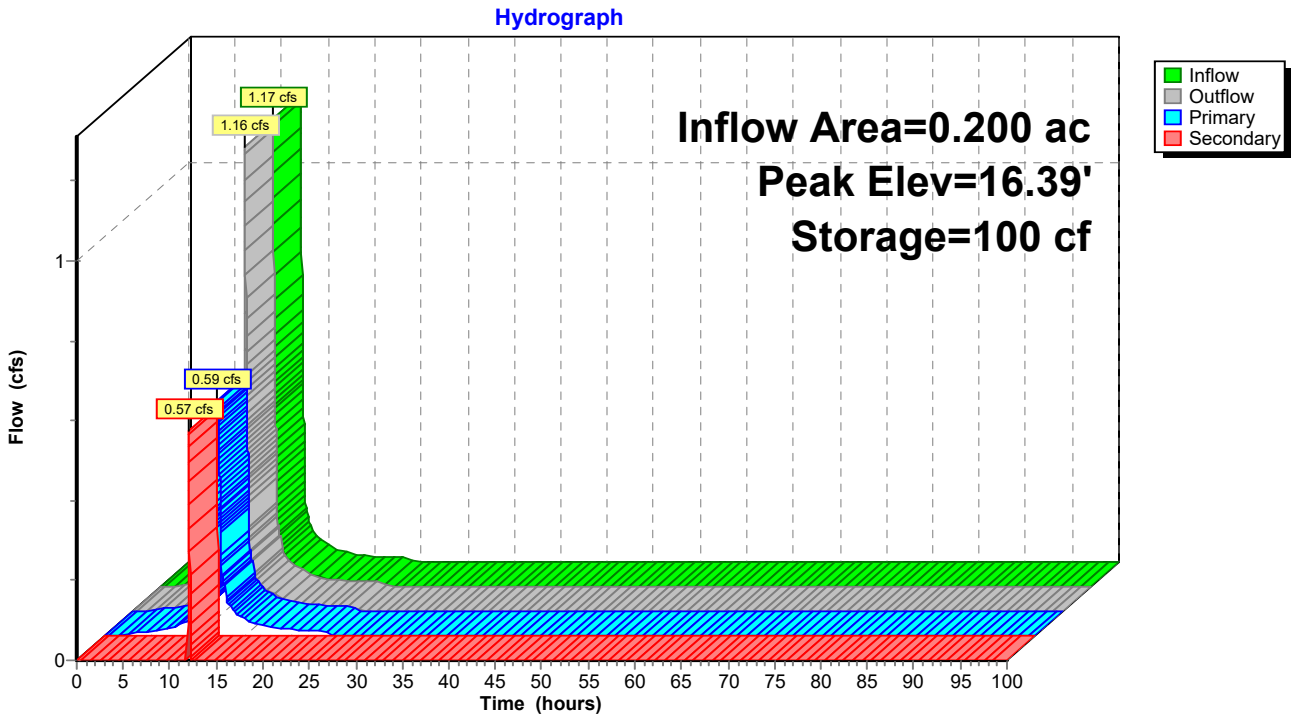
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.74	55	0	0
16.00	84	18	18
16.24	180	32	50
16.74	240	105	155

Device	Routing	Invert	Outlet Devices
#1	Primary	13.49'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	16.24'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.59 cfs @ 12.08 hrs HW=16.39' TW=15.23' (Dynamic Tailwater)
↑└**1=Exfiltration** (Exfiltration Controls 0.59 cfs)

Secondary OutFlow Max=0.57 cfs @ 12.08 hrs HW=16.39' TW=15.23' (Dynamic Tailwater)
↑└**2=Orifice/Grate** (Weir Controls 0.57 cfs @ 1.25 fps)

Pond FP1: Focal Point 1



Summary for Pond RT: R-TANKS

Inflow Area = 0.663 ac, 98.70% Impervious, Inflow Depth = 5.53" for 25-YR event
Inflow = 3.88 cfs @ 12.07 hrs, Volume= 0.305 af
Outflow = 2.96 cfs @ 12.14 hrs, Volume= 0.305 af, Atten= 24%, Lag= 3.8 min
Primary = 0.01 cfs @ 2.46 hrs, Volume= 0.037 af
Routed to Reach POI1 : POI 1
Secondary = 2.95 cfs @ 12.14 hrs, Volume= 0.269 af
Routed to Reach POI1 : POI 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 15.53' @ 12.14 hrs Surf.Area= 1,958 sf Storage= 2,468 cf

Plug-Flow detention time= 114.1 min calculated for 0.305 af (100% of inflow)
Center-of-Mass det. time= 114.2 min (861.3 - 747.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	12.45'	722 cf	**53.87'W x 18.07'L x 3.42'H Field A** 3,325 cf Overall - 1,520 cf Embedded = 1,806 cf x 40.0% Voids
#2A	12.70'	1,444 cf	**Ferguson R-Tank HD 1.5** x 228 Inside #1 Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 228 Chambers in 38 Rows
#3B	12.45'	179 cf	**21.06'W x 13.38'L x 2.04'H Field B** 574 cf Overall - 126 cf Embedded = 448 cf x 40.0% Voids
#4B	12.70'	120 cf	**Ferguson R-Tank HD 0.5** x 52 Inside #3 Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 52 Chambers in 13 Rows
#5	14.87'	132 cf	**BACKFILL ABOVE R-TANKS (Prismatic)** Listed below (Recalc) 330 cf Overall x 40.0% Voids
		2,597 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.87	702	0	0
15.34	702	330	330

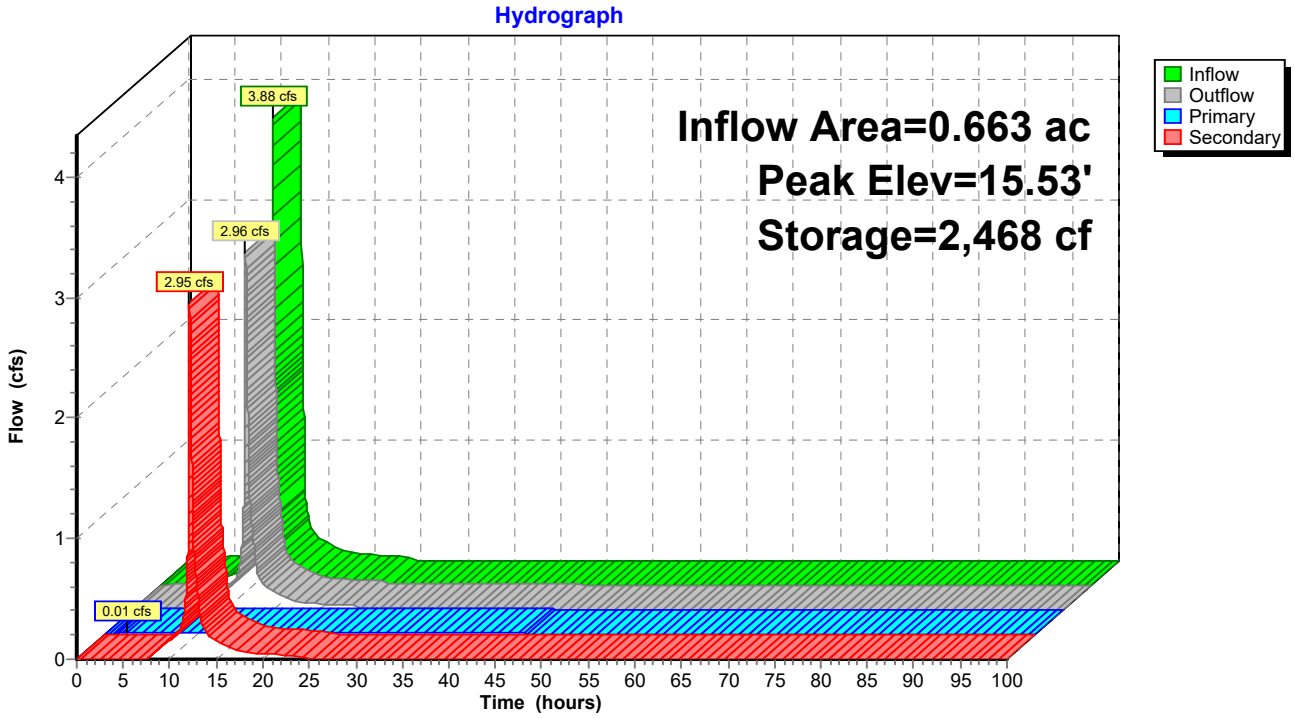
Device	Routing	Invert	Outlet Devices
#1	Device 2	15.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Secondary	12.52'	**12.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 12.52' / 12.37' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	12.45'	**0.01 cfs Exfiltration at all elevations**
#4	Device 2	13.30'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

#5 Device 2 14.35' **8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 2.46 hrs HW=12.48' TW=0.00' (Dynamic Tailwater)
└─**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Secondary OutFlow Max=2.94 cfs @ 12.14 hrs HW=15.53' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Passes 2.94 cfs of 4.73 cfs potential flow)
├─**1=Broad-Crested Rectangular Weir** (Weir Controls 0.06 cfs @ 0.50 fps)
├─**4=Orifice/Grate** (Orifice Controls 1.33 cfs @ 6.78 fps)
└─**5=Orifice/Grate** (Orifice Controls 1.55 cfs @ 4.43 fps)

Pond RT: R-TANKS



Summary for Subcatchment 1S: 1S

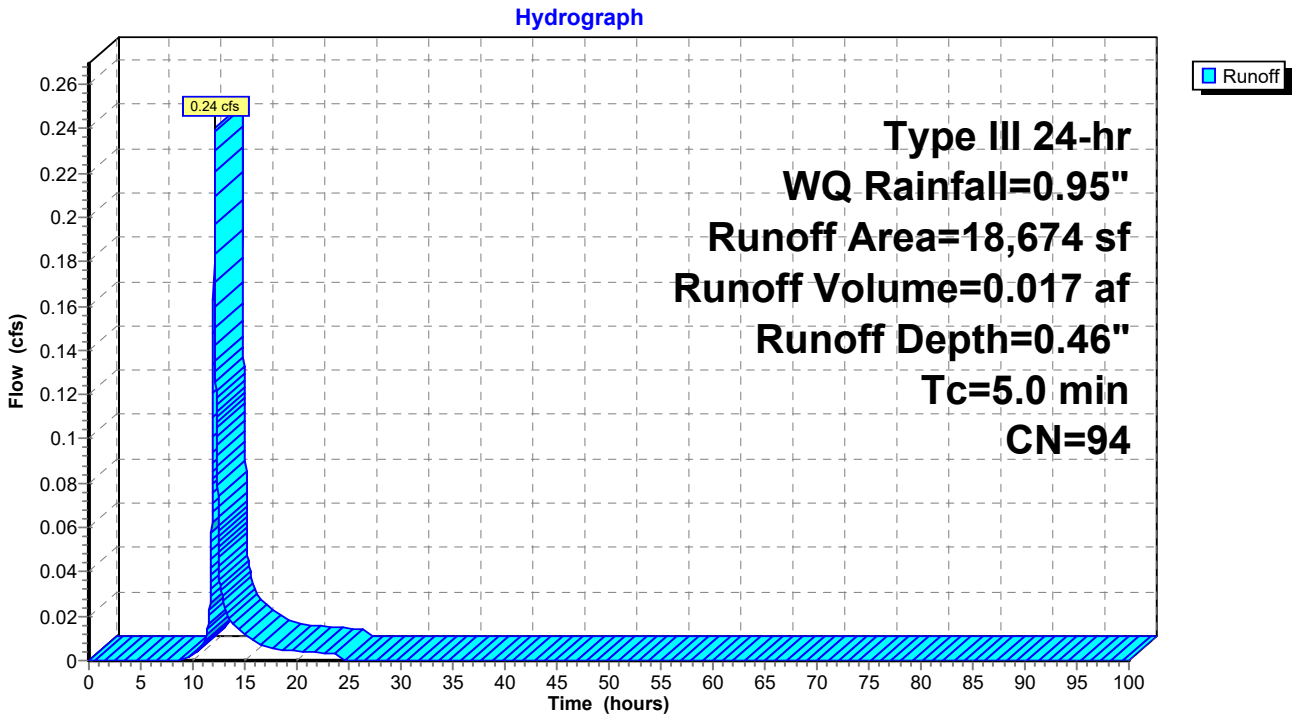
Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.017 af, Depth= 0.46"
Routed to Reach POI1 : POI 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=0.95"

Area (sf)	CN	Description
10,379	98	Paved parking, HSG C
3,291	74	>75% Grass cover, Good, HSG C
5,004	98	Roofs, HSG C
18,674	94	Weighted Average
3,291		17.62% Pervious Area
15,383		82.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 1S: 1S



Summary for Subcatchment 2S: BUILDING

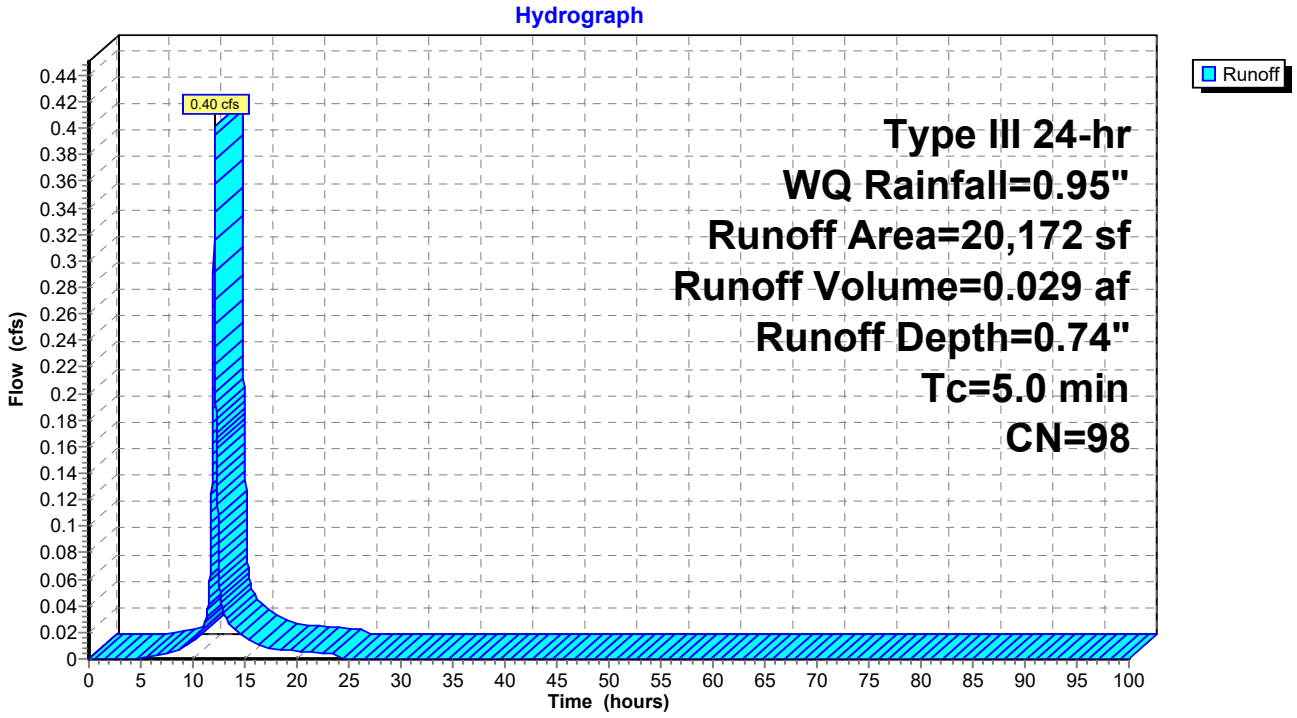
Runoff = 0.40 cfs @ 12.07 hrs, Volume= 0.029 af, Depth= 0.74"
Routed to Pond RT : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=0.95"

Area (sf)	CN	Description
20,172	98	Roofs, HSG C
20,172		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 2S: BUILDING



Summary for Subcatchment 3S: TREATMENT AREA

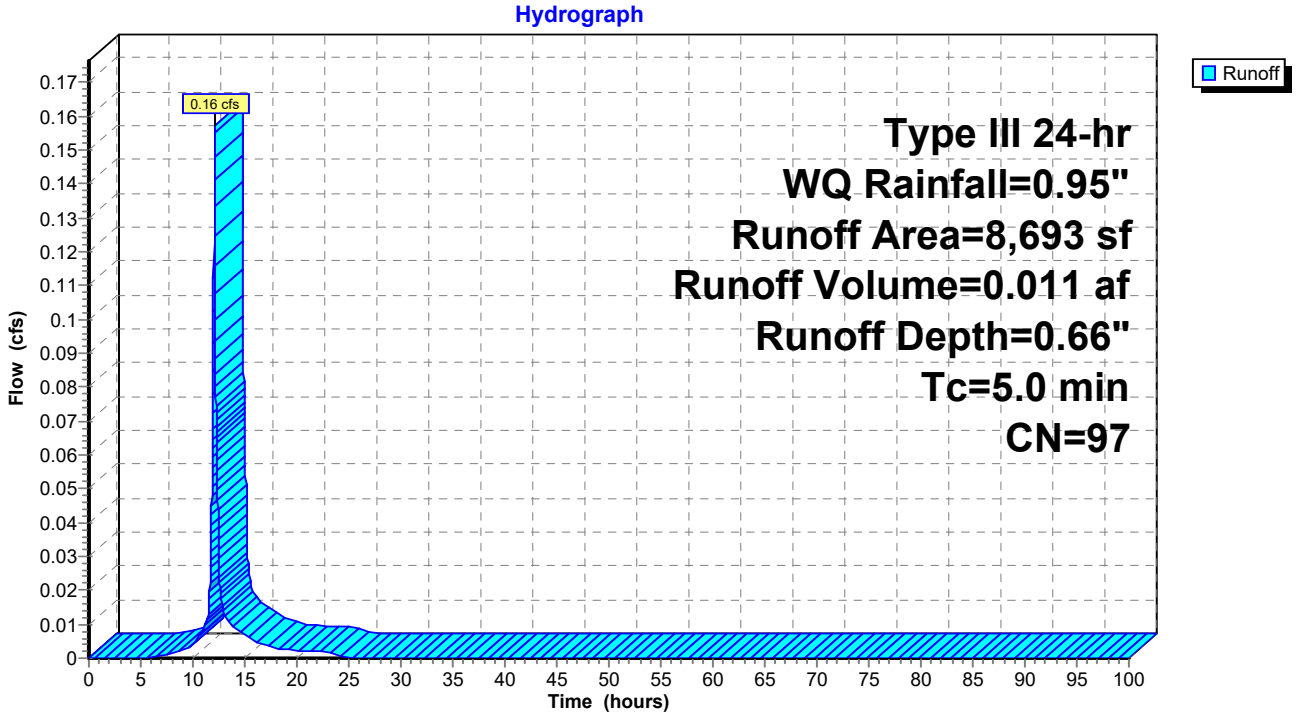
Runoff = 0.16 cfs @ 12.07 hrs, Volume= 0.011 af, Depth= 0.66"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=0.95"

Area (sf)	CN	Description
8,318	98	Paved parking, HSG C
375	74	>75% Grass cover, Good, HSG C
8,693	97	Weighted Average
375		4.31% Pervious Area
8,318		95.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, dIRECT eNTRY**

Subcatchment 3S: TREATMENT AREA

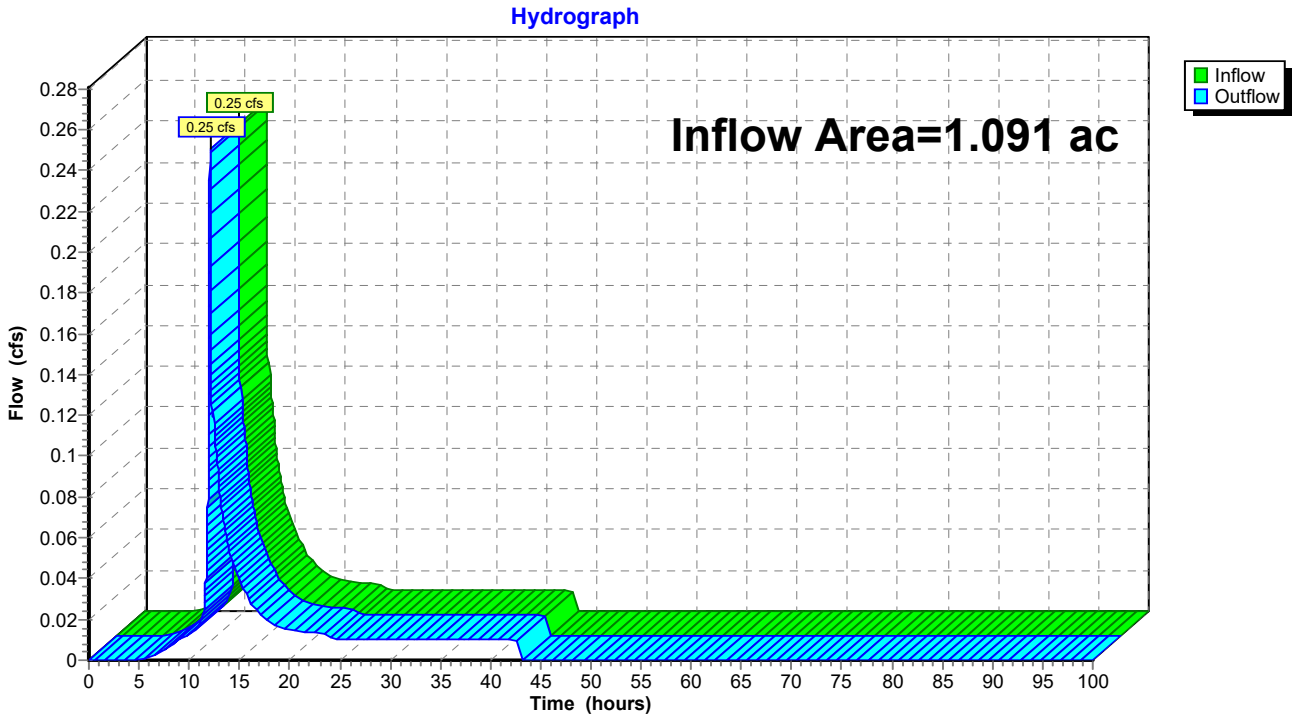


Summary for Reach POI1: POI 1

Inflow Area = 1.091 ac, 92.29% Impervious, Inflow Depth = 0.62" for WQ event
Inflow = 0.25 cfs @ 12.08 hrs, Volume= 0.056 af
Outflow = 0.25 cfs @ 12.08 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Reach POI1: POI 1



Summary for Pond FP1: Focal Point 1

Inflow Area = 0.200 ac, 95.69% Impervious, Inflow Depth = 0.66" for WQ event
Inflow = 0.16 cfs @ 12.07 hrs, Volume= 0.011 af
Outflow = 0.13 cfs @ 12.04 hrs, Volume= 0.011 af, Atten= 19%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.04 hrs, Volume= 0.011 af
Routed to Pond RT : R-TANKS
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond RT : R-TANKS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 14.19' @ 12.13 hrs Surf.Area= 55 sf Storage= 8 cf

Plug-Flow detention time= 0.2 min calculated for 0.011 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (803.7 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	13.49'	22 cf	**4.70'W x 11.80'L x 2.00'H Focal Point** 111 cf Overall x 20.0% Voids
#2	15.74'	155 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		177 cf	Total Available Storage

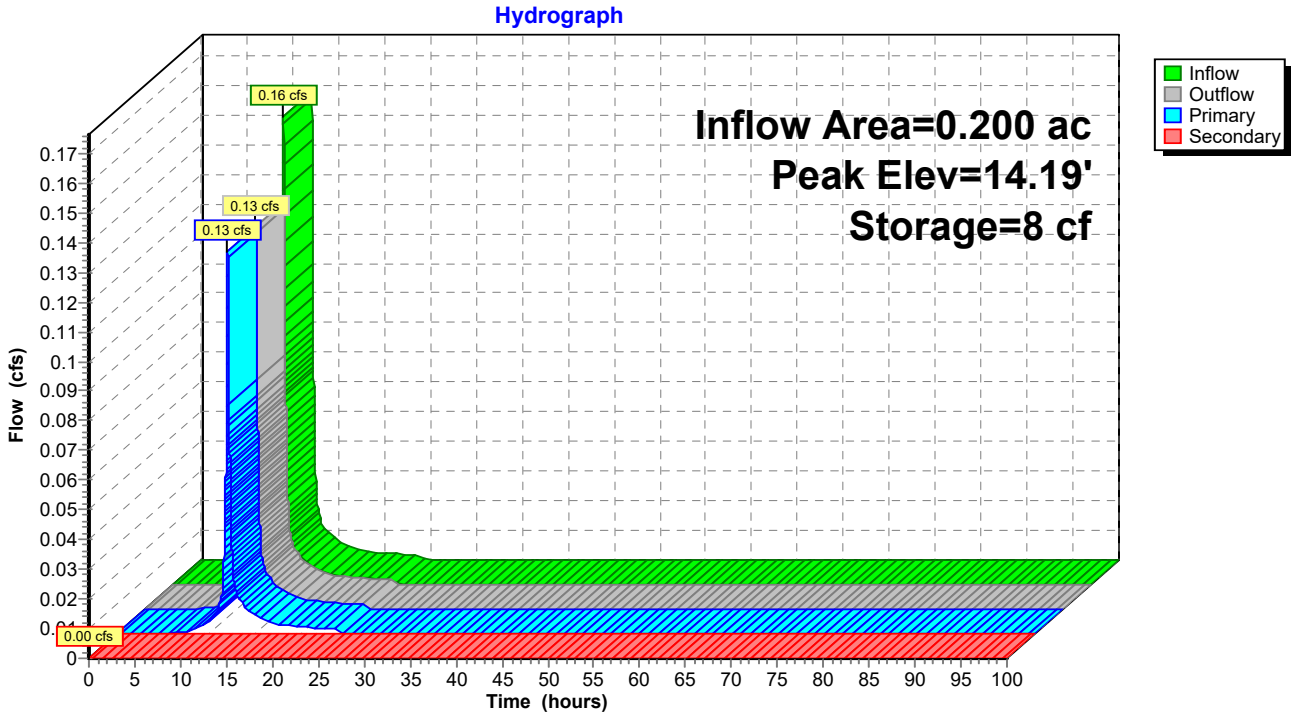
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
15.74	55	0	0
16.00	84	18	18
16.24	180	32	50
16.74	240	105	155

Device	Routing	Invert	Outlet Devices
#1	Primary	13.49'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	16.24'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 12.04 hrs HW=13.63' TW=13.01' (Dynamic Tailwater)
↑└**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=13.49' TW=12.45' (Dynamic Tailwater)
↑└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond FP1: Focal Point 1



Summary for Pond RT: R-TANKS

Inflow Area = 0.663 ac, 98.70% Impervious, Inflow Depth = 0.72" for WQ event
Inflow = 0.53 cfs @ 12.07 hrs, Volume= 0.040 af
Outflow = 0.07 cfs @ 12.61 hrs, Volume= 0.040 af, Atten= 87%, Lag= 32.3 min
Primary = 0.01 cfs @ 10.04 hrs, Volume= 0.029 af
Routed to Reach POI1 : POI 1
Secondary = 0.06 cfs @ 12.61 hrs, Volume= 0.010 af
Routed to Reach POI1 : POI 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Peak Elev= 13.44' @ 12.61 hrs Surf.Area= 1,256 sf Storage= 852 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 537.1 min (1,330.0 - 792.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	12.45'	722 cf	**53.87'W x 18.07'L x 3.42'H Field A** 3,325 cf Overall - 1,520 cf Embedded = 1,806 cf x 40.0% Voids
#2A	12.70'	1,444 cf	**Ferguson R-Tank HD 1.5** x 228 Inside #1 Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 228 Chambers in 38 Rows
#3B	12.45'	179 cf	**21.06'W x 13.38'L x 2.04'H Field B** 574 cf Overall - 126 cf Embedded = 448 cf x 40.0% Voids
#4B	12.70'	120 cf	**Ferguson R-Tank HD 0.5** x 52 Inside #3 Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 52 Chambers in 13 Rows
#5	14.87'	132 cf	**BACKFILL ABOVE R-TANKS (Prismatic)** Listed below (Recalc) 330 cf Overall x 40.0% Voids
		2,597 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.87	702	0	0
15.34	702	330	330

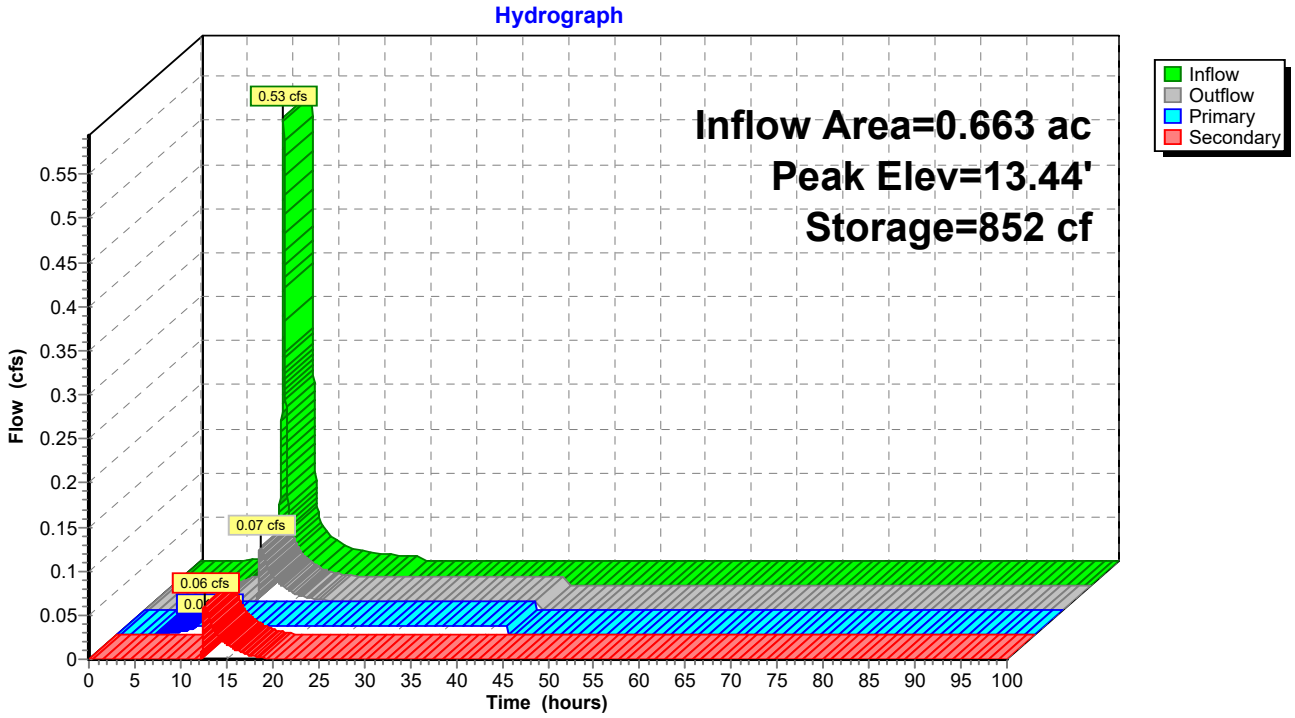
Device	Routing	Invert	Outlet Devices
#1	Device 2	15.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Secondary	12.52'	**12.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 12.52' / 12.37' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	12.45'	**0.01 cfs Exfiltration at all elevations**
#4	Device 2	13.30'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

#5 Device 2 14.35' **8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 10.04 hrs HW=12.48' TW=0.00' (Dynamic Tailwater)
└─**3=Exfiltration** (Exfiltration Controls 0.01 cfs)

Secondary OutFlow Max=0.06 cfs @ 12.61 hrs HW=13.44' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Passes 0.06 cfs of 1.77 cfs potential flow)
  ├─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**4=Orifice/Grate** (Orifice Controls 0.06 cfs @ 1.29 fps)
  └─**5=Orifice/Grate** (Controls 0.00 cfs)

Pond RT: R-TANKS

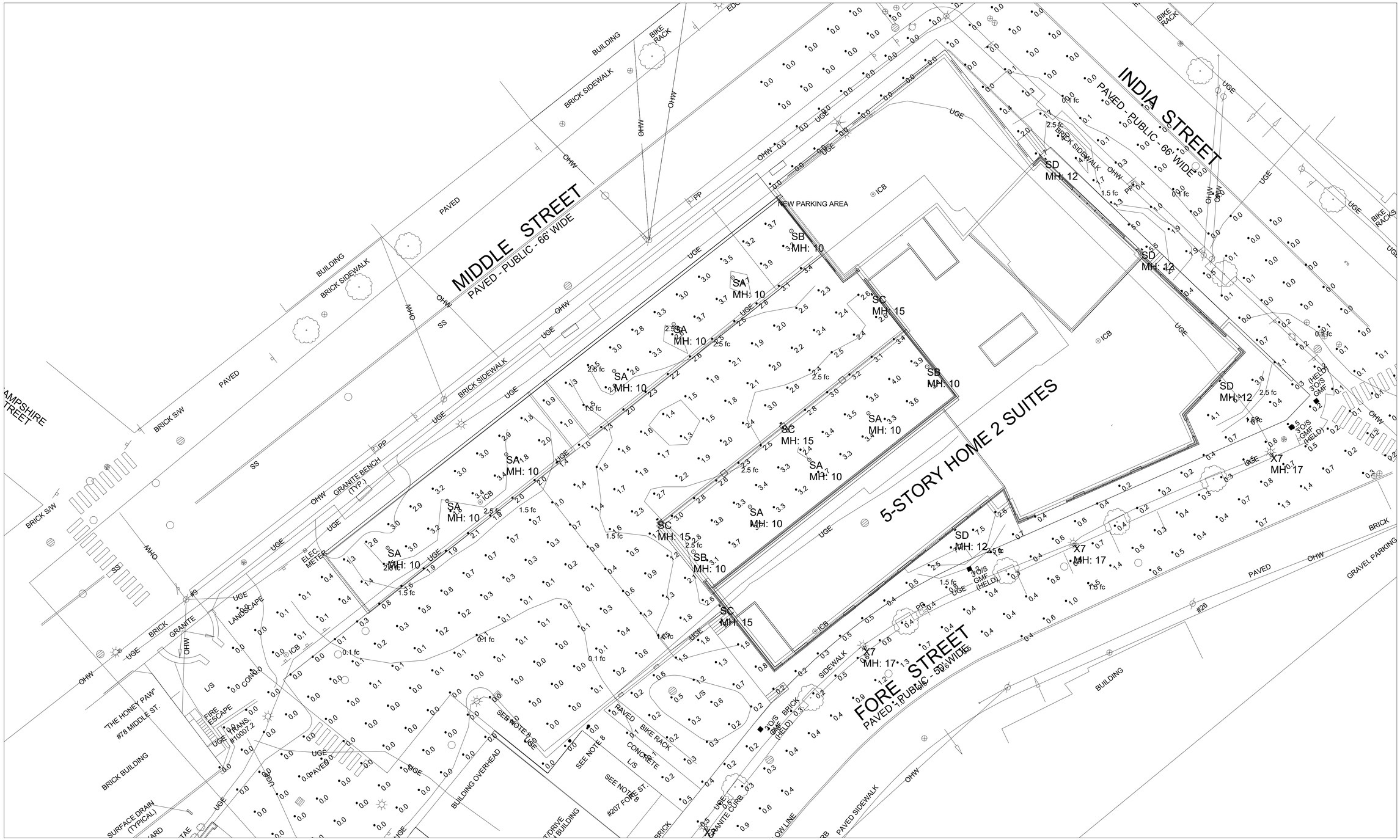


Att. K

Luminaire Schedule (note fixture cataloge numbers are not complete)						
Type	**Qty**	**Lum. Lumens**	**LLF**	**Lum. Watts**	**Description**	**Mounting Height**
SA	9	3527	0.900	31.2	SRT2-30-3K7-5QW	10
SB	3	2862	0.900	30.966	SRT2-30-3K7-ASY	10
SC	4	3131	0.900	39.93	CY2-35-3K7-1-4-R	15
SD	4	2390	0.900	26.35	CY1-25-3K7-1-1-R	12
X7	4	4074	0.780	52.6	EXISTING City pole - estimated distribution	17

Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
site	0.98	7.5	0.0	N.A.	N.A.
NEW PARKING AREA	2.46	4.0	0.5	4.92	8.00

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.



PLAN VIEW

TITLE	HOME 2 SUITES - 203 FORE ST PORTLAND, ME SITE LIGHTING LAYOUT
GENERATED FOR:	GORRILL PALMER
SCALE	SCALE NOT TO SCALE
	Page 1 of 1
	Date:7/25/2024

site ltg 7-25-24 AGI

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SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

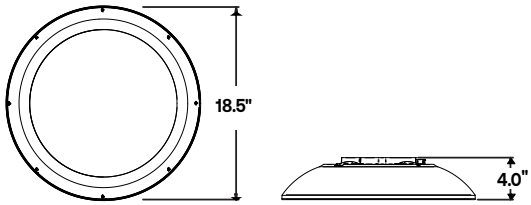
DRIVE EDGE-LIT



FEATURES

- Edge-lit optical assembly delivers exceptional uniformity over the entire lens with indirect illumination that reduces glare and improves visual comfort
- Low profile housing intended for 8' - 20' mounting heights for surface, trunnion/yoke or pendant mounting
- Applications include parking garage, walkway or building canopies, corridors, tunnels, large stairwells and other interior applications
- Multiple optical distributions are available making the Beacon Edge-Lit luminaire both versatile and functional
- UL/cUL listed for wet locations, IP65

C US DLC LISTED **IP65**



CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID+

SPECIFICATIONS

HOUSING

- Die-cast aluminum housing ensures long electrical component life and luminaire performance
- Corrosion resistant powder coat finish both protects and provides architectural appearance
- One piece molded silicone gasket ensures weather proof seal
- Thermally isolated driver mounted to dedicated bracket reduces operating temperatures and increases driver life and reliability
- Torx head screws standard for tamper resistant housing

OPTICS

- Edge-lit acrylic light guide provides blended non-pixelated light for unprecedented visual comfort
- Choice of multiple light outputs with lumen range of 4,000–16,000
- Five distribution types: Type V Square, Type V Rectangular, Type V Concentrated, Type V Wide or Asymmetric (Type 3/4)
- Wide variety of CCT's and CRI's offered: 3000K (70CRI), 3000K (80CRI), 3500K (80CRI), 4000K (70CRI), 4000K (80CRI) or 5000K (70 CRI) CCT

ELECTRICAL

- 120V–277V 50/60Hz with 347V and 480V available
- 0-10V dimming drivers are RoHS compliant and IP66
- Surge protection – Standard 6kA with optional 20kA end of life LED indicator

ELECTRICAL (CONTINUED)

- Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 24" standard

INSTALLATION

- Standard quick mount plate over standard 4" square junction box or octagonal box and allows for simplified fixture installation.
- Standard luminaire accepts a rigid or free-swinging 3/4" NPT stem for pendant mount via wet location j-box (by others)
- Optional bird deterrent shroud available for field installation
- Optional trunnion/yoke mount available for field installation

OPTIONS/CONTROLS

- Standalone occupancy sensor available for on/off or dimming operation
- NX Lighting Controls available with in fixture Zigbee wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor
- UL924 device available for standalone and wireless control override during power interruptions
- Uplight option provides approximately 800 lumens and consumes only 8 additional watts

	Weight
SRT2	15 lbs / 6.8 kg

OPTIONS/CONTROLS (CONTINUED)

- Integral battery backup option available with and without heater. Rated for 0°C (without heater) and -30°C (with heater) and uses 13 Watts of power
- Emergency lighting relay available for generator or central inverter supplied lighting
- Vandal resistant wire guard available as an option for factory installation or as an accessory for field installation

OPTIONS/CONTROLS (CONTINUED)

Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application

CERTIFICATIONS

- Listed to UL1598 for use in wet location, listed for -40°C to 40°C applications
- Meets IDA recommendations using 3000K and warmer configurations at 0 degrees tilt
- IP65
- DLC® (DesignLights Consortium Qualified). Not all product variations on this page are DLC Qualified. Refer to www.designlights.org for the most up-to-date list.
- Emergency battery backup options are California Energy Commission (CEC) Title 20 Compliant

WARRANTY

- 5 year warranty

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design . performance . technology

SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

ORDERING GUIDE

Example: SRT2-30-3K7-5QW-UNV-BLT-WG

CATALOG # _____

Series		Engine		CCT		Distribution		Voltage		Color/Finish		Options	
SRT2	Edge-Lit Parking Garage Size 2	30	30W Nominal 3800 lm	3K7	3000K, 70 CRI	5QW	Type Square Wide [10]	UNV	120V-277V	BLT	Black Matte Textured	WG	Wire Guard
		50	50W Nominal 5700 lm	3K8	3000K, 80 CRI	5RW	Type 5 Rect. Wide [10]	120	120V	BLS	Black Gloss Smooth	UD	Uplight Module [7]
		65	65W Nominal 7000 lm	35K8	3500K, 80 CRI	5C	Type 5 Concentrated	208	208V	DBT	Dark Bronze Matte Textured	F	Single Fuse (120, 277, 347V)
		85	85W Nominal 9500 lm	4K7	4000K, 70 CRI	5W	Type 5 Wide [4]	240	240V	DBS	Dark Bronze Gloss Smooth	F	Double Fuse (208, 240, 480V)
		100	100W Nominal 11000 lm	4K8	4000K, 80 CRI	ASY	Asymmetric (Type 4) [10]	277	277V	GTT	Graphite Matte Textured	E	EM Battery Pack (0°C) [2]
		120	120W Nominal 13000 lm	5K7	5000K, 70 CRI			347	347V	LGS	Light Grey Gloss Smooth	EH	EM Battery w/Heater (-30°C) [2]
		140	140W Nominal 14700 lm					480	480V	PSS	Platinum Silver Smooth	DTS	Dimming Transfer Switch [1]
										WHT	White Matte Textured	LD3	36" Lead Length [5]
										WHS	White Gloss Smooth	LD6	72" Lead Length [5]
										VGT	Verde Green Textured	LD9	108" Lead Length [5]
										Color Option		SP20K	20kA Surge Protection with End of Life Indicator [3]
										CC	Custom Color	LMB	Less Mounting Bracket

Control Options

NX Networked – Wireless	
NXW [3,10]	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor
NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [3]
LightGRID+ – Wireless	
WIR	Wireless Controls, LightGRID+
WIRSC	LightGRID+ and occupancy sensor
Sensor Controls	
SCP-8F	Remote control programmable line voltage sensor (8-12' recommended MH) [2,3]
SCP-20F	Remote control programmable line voltage sensor (12-20' recommended MH) [2]
BTSO12F	Bluetooth Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [11]

Accessories (Order Separately)

☐	SRT2-WG	Wire Guard for SRT2 version
☐	SRT-MB	Mounting bracket for pre-installation
☐	SRT2-BS-XXX	Bird deterrent shroud for SRT2 version, not available with uplight or trunnion mount
☐	SRT2-TM	Trunnion/Yoke accessory for SRT2 version
☐	CLEDSJK	Whiteway stem and junction box

Notes:

1 For applications that must comply with UL924. Can not be combined with E or EH options
2 Available for 120 to 277 volts only, not 347 or 480
3 Not available with uplight (UD)
4 100, 120 and 140W light engines only
5 Not available with E, EH or DTS options, standard wire length 24"
6 65W and 85W only
7 Uplight Module (UD)will not be controlled by sensors
8 Consult Brand for 480 Volt
9 Not available in 30W and 50W
10 Up to 85W configurations only.
11 Available for 65W and higher

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TYPE: PROJECT:

CATALOG #:

SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

CONTROLS FUNCTIONALITY

OUTDOOR LIGHTING CONTROLS OPTIONS

LIGHTGRID+

NX LIGHTING CONTROLS MOBILE APP

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
	NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXSMP2-OMNI-O
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
	WIRSC	LightGRID+ Module and Occupancy Sensor	✓	✓	✓	✓	✓	✓	✓	Gateway	12ft		BTMSP
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O

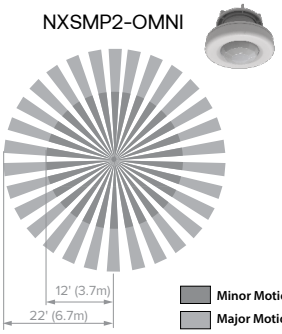
DEFAULT SETTINGS

Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI



NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

Google Play

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SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE: LOCATION:

TYPE: PROJECT:

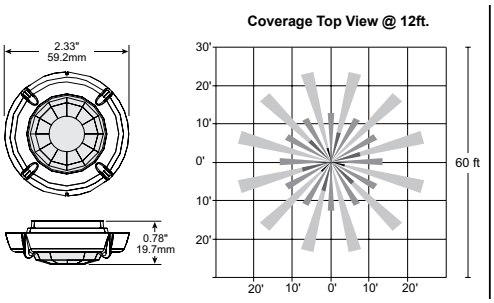
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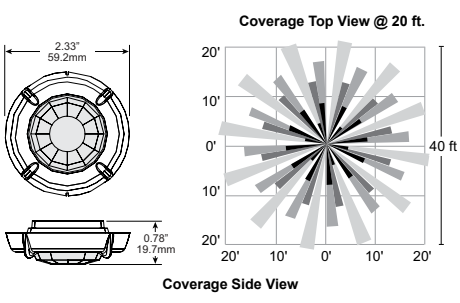
CONTROLS FUNCTIONALITY (CONT'D)

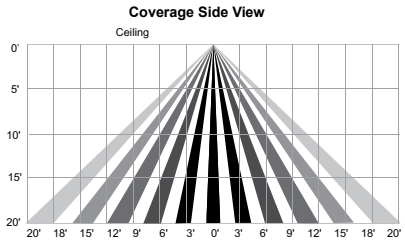
OUTDOOR LIGHTING CONTROLS OPTIONS

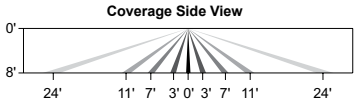
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
Independent	SCP_F	Sensor Control Programmable, sensor range, reference product specification for height selections	–	–	–	✓	✓	✓	✓	–	8ft or 20ft	SCP_F

COVERAGE PATTERNS FOR SCP_F









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SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

PERFORMANCE DATA

# of LEDs	Engine	DRIVE CURRENT (mA)	SYSTEM WATTS	DISTRIBUTION TYPE	5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
					LUMENS	LPW*	B	U	G	LUMENS	LPW*	B	U	G	LUMENS	LPW*	B	U	G
280	30	35mA	31.0	5C	3789	122.23	2	0	2	3771	121.65	2	0	2	3626	116.97	2	0	2
				5QW	3686	118.89	2	0	1	3668	118.33	2	0	1	3527	113.77	2	0	1
				ASY	2991	96.48	1	0	2	2976	96.02	1	0	2	2862	92.32	1	0	2
				5RW	3604	116.26	2	0	2	3587	115.71	2	0	2	3449	111.26	2	0	2
	50	55mA	48.1	5C	5684	118.17	2	0	2	5657	117.60	2	0	2	5439	113.08	2	0	2
				5QW	5529	114.94	2	0	1	5502	114.39	2	0	1	5291	109.99	2	0	1
				ASY	4486	93.27	1	0	2	4465	92.82	1	0	2	4293	89.25	1	0	2
				5RW	5406	112.40	2	0	2	5380	111.86	2	0	2	5174	107.56	2	0	2
	65	75mA	65.1	5C	7105	109.14	2	0	2	7071	108.61	2	0	2	6799	104.44	2	0	2
				5QW	6911	106.16	2	0	1	6878	105.65	2	0	1	6613	101.58	2	0	1
				ASY	5608	86.14	1	0	2	5581	85.73	1	0	2	5366	82.43	1	0	2
				5RW	6758	103.81	2	0	2	6726	103.31	2	0	2	6467	99.34	2	0	2
	85	100mA	87.2	5C	9473	108.63	2	0	2	9428	108.11	2	0	2	9065	103.96	2	0	2
				5QW	9214	105.67	2	0	1	9170	105.16	2	0	1	8818	101.12	2	0	1
				ASY	7477	85.75	1	0	2	7441	85.33	1	0	2	7155	82.05	1	0	2
				5RW	9011	103.33	2	0	2	8967	102.84	2	0	2	8623	98.88	2	0	2
560	100	55mA	93.2	5C	11090	118.99	4	0	3	11037	118.42	4	0	3	10612	113.86	4	0	3
				5W	10788	115.75	4	0	3	10736	115.19	4	0	3	10323	110.76	4	0	3
	120	65mA	110.9	5C	13012	117.33	4	0	3	12950	116.77	4	0	3	12451	112.28	4	0	3
				5W	12657	114.13	4	0	3	12597	113.59	4	0	3	12112	109.22	4	0	3
	140	75mA	128.5	5C	14786	115.07	4	0	3	14715	114.52	4	0	3	14149	110.11	4	0	3
				5W	14383	111.93	4	0	3	14315	111.40	4	0	3	13764	107.11	4	0	3

Notes:

* Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment, application and inherent performance tolerances of the electrical components.

ELECTRICAL DATA

# OF LEDS	INPUT VOLTAGE (V)	CURRENT (Amps)	SYSTEM POWER (w)
30	120	0.26	31
	208	0.15	
	240	0.13	
	277	0.11	
	347	0.09	
	480	0.06	
50	120	0.40	48.1
	208	0.23	
	240	0.20	
	277	0.17	
	347	0.14	
	480	0.10	
65	120	0.40	65.1
	208	0.23	
	240	0.20	
	277	0.17	
	347	0.14	
	480	0.10	
85	120	0.73	87.2
	208	0.42	
	240	0.36	
	277	0.31	
	347	0.25	
	480	0.18	
100	120	0.78	93.2
	208	0.45	
	240	0.39	
	277	0.34	
	347	0.27	
	480	0.19	
120	120	0.92	110.9
	208	0.53	
	240	0.46	
	277	0.40	
	347	0.32	
	480	0.23	
140	120	1.07	128.5
	208	0.62	
	240	0.54	
	277	0.46	
	347	0.37	
	480	0.27	

PROJECTED LUMEN MAINTENANCE

AMBIENT TEMP.	0	25,000	TM-21-11 36,000	50,000	100,000	Reported L70 (HOURS)	Calculated L70 (HOURS)
25°C / 77°C	1.00	0.97	0.95	0.94	0.89	>60,000	>266,000
40°C / 104°C	0.99	0.96	0.94	0.93	0.85	>60,000	>211,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

AMBIENT TEMPERATURE		LUMEN MULTIPLIER
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Use these factors to determine relative lumen output for average ambient temperatures from 0–25°C (32-122°F)

SRT LUMEN MULTIPLIER CHART

SRT Lumen Multiplier		
CCT	70 CRI	80 CRI
3000K	0.957	0.85
3500K	X	0.91
4000K	0.995	0.95
5000K	1	0.95

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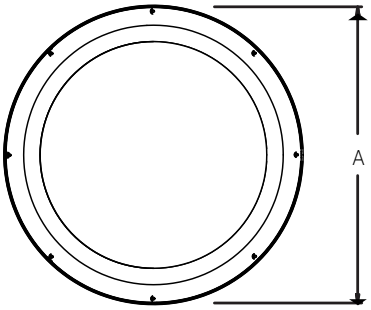
SRT2 EDGE-LIT

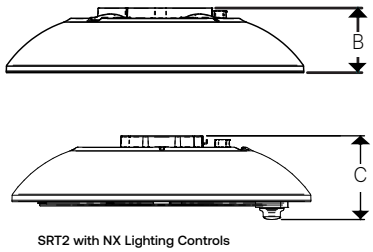
CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

DIMENSIONS

SRT2



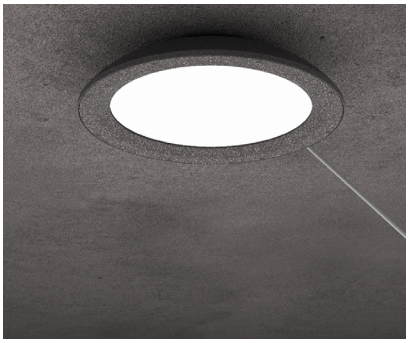


SRT2 with NX Lighting Controls

A	B	C	Weight
18.5" (469mm)	4.0" (1mm)	5.2" (132mm)	15bs (6.8kg)

ADDITIONAL INFORMATION

MOUNTING



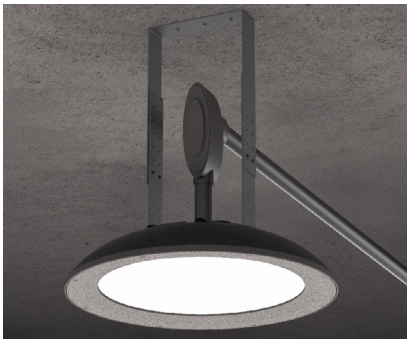
Surface Mount

Mounting plate with “quick mount” hanger for one person simple installation.
(conduit not included)



Pendant Mount

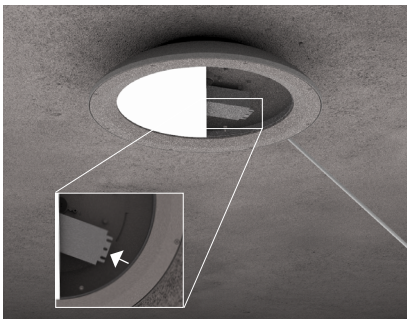
Standard 3/4" threaded entry for pendant applications. (Conduit and pendant not included).
Pendant available as an accessory.



Trunnion/Yoke Mount

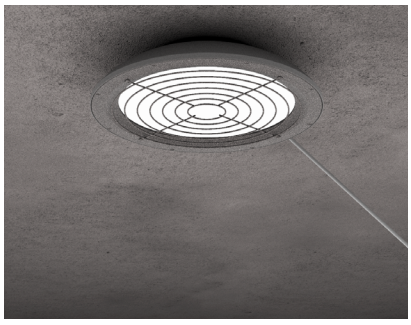
Multiple position trunnion mount adjusts 9" up and down for positioning in 1" increments.
(conduit not included)

ACCESSORIES AND SERVICES



Battery Backup

Integral battery backup option available on SRT2 version.
(conduit not included)



Wire Guard

An optional wire guard can be specified at the factory or as an accessory for field installation.
(conduit not included)



Bird Deterrent

An optional bird shroud deterrent can be specified at the factory or as an accessory for field installation.
(conduit not included)

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SRT2 EDGE-LIT

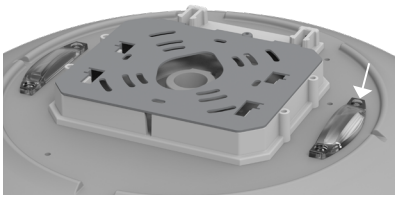
CEILING/SURFACE/GARAGE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ADDITIONAL INFORMATION CONTINUED

UPLIGHT

Optional uplight module provides 800 lumens of indirect illumination for improved visual quality while eliminating cave effect.

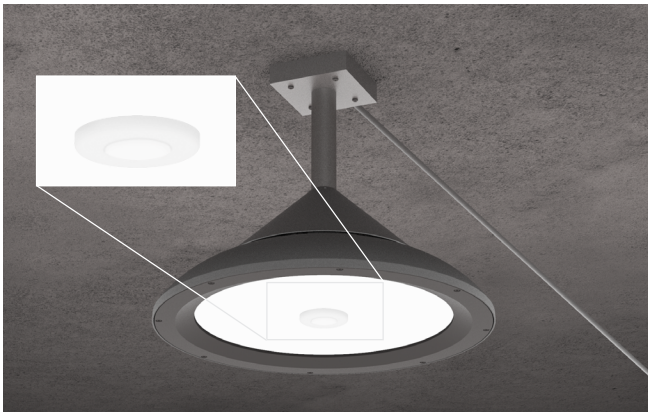






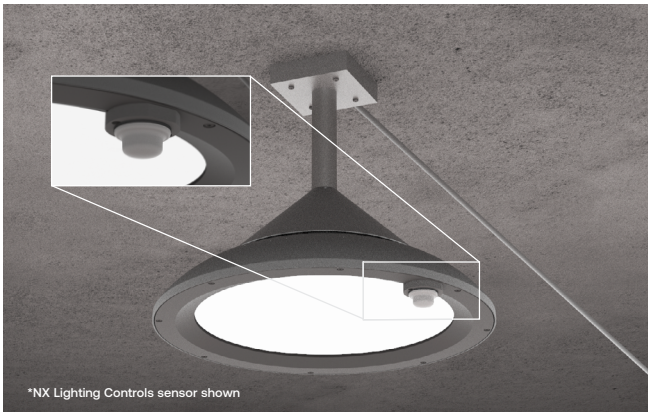
CLEDSJK - Whiteway 6 inch stem and junction box

CONTROLS



Standalone Controls

Optional passive infrared sensors are available for basic occupancy and daylight sensing. Programmable via remote or Bluetooth® phone app. (conduit not included)

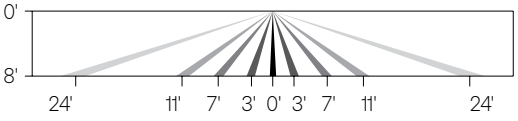


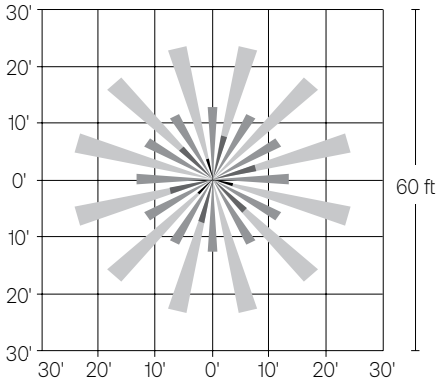
Wireless Controls

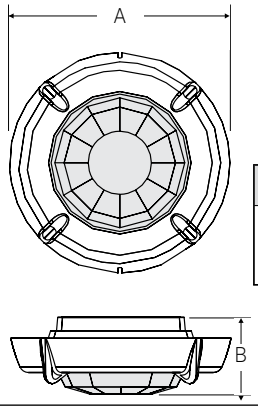
NX LIGHTING CONTROLS™ LIGHTGRID

Optional NX Lighting Controls and LightGRID+ wireless controls are available for SRT2 versions (with or without occupancy sensing). (conduit not included)

SCP-8F







A	B
2.3" (59mm)	.8" (20mm)

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SRT2 EDGE-LIT

CEILING/SURFACE/GARAGE

DATE: | LOCATION:

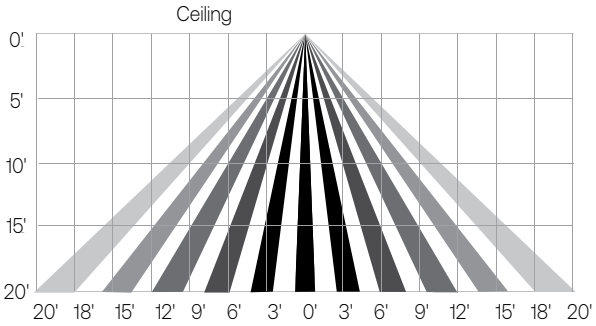
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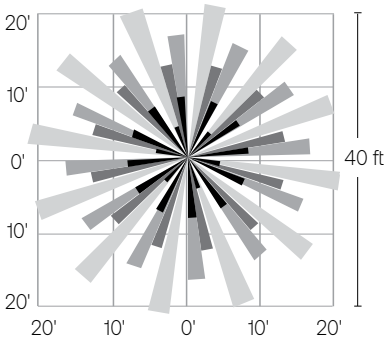
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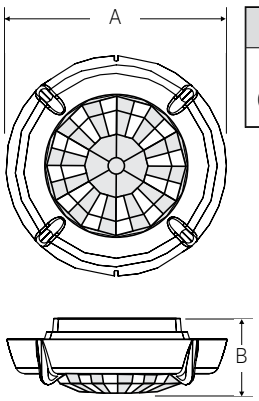
ADDITIONAL INFORMATION CONTINUED

CONTROLS (CONT'D)

SCP-20F

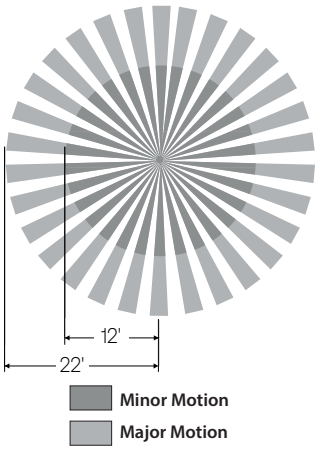


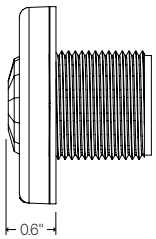


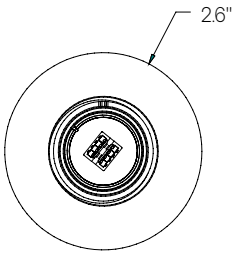


A	B
2.3" (59mm)	.8" (20mm)

NXWS12F AND BTSO12F







NXSMP2-OMNI Range

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KIM LIGHTING®

DATE: | LOCATION:

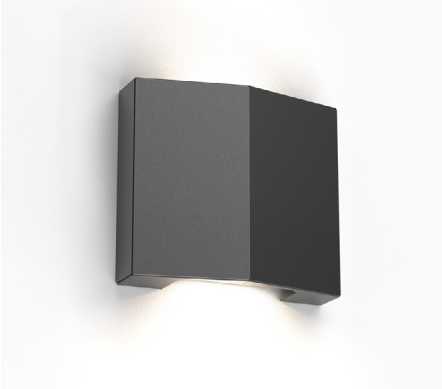
TYPE: | PROJECT:

CATALOG #:

CY2

ARCHITECTURAL AREA/SITE

CYPHER™



Cypher 14"

FEATURES

- Integral Battery Backup Option
- 360° Light Distribution
- RGBW or Static White Luminous Front Option
- Multiple Fascia Options and Finishes
- 4G Vibration Tested

3000K and warmer CCTs only

CONTROL TECHNOLOGY

SPECIFICATIONS

CONSTRUCTION

- Main housing shroud is made of fabricated 5052-H32 aluminum alloy
- Housing mounting interface has a stamped silicone gasket
- Luminaire housing is free of any visible heat fins, hardware or fasteners
- Bracketry and hardware is stainless steel
- Luminaire finish consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish
- Luminaire finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance

LED/OPTICS

- LEDs are mounted to a metal printed circuit board assembly (MCPCB) with a uniform conformal coating over the panel surface and electrical features
- Optical lenses is clear injection molded PMMA acrylic
- Optical array is recessed in order to shield each LED optic across the length of the aperture
- Optical array is sealed for IP66 rating
- Secondary lens is impact resistant 5/32" tempered glass

INSTALLATION

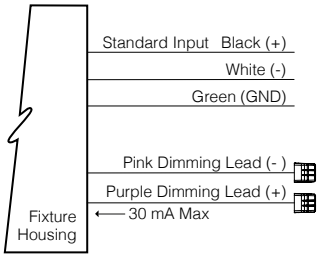
- JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box
- Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates

INSTALLATION (CONTINUED)

- Fixture attaches by two Allen-head hidden fasteners for tamper resistance
- Optional mounting arrangements utilize a die-cast mounting adaptor to allow for surface conduit and through branch wiring
- Housing is able to hang freely in an open service position for inspection of internal wire connections. Once in service position, the housing shall be able to be removed for service by lifting the assembly up off the rear mounting plate and disconnecting the wiring plugs
- Driver assembly is mounted to a prewired internal tray with quick disconnects for removal

ELECTRICAL

- Drivers are in direct contact with the die-cast aluminum housing across the entire surface area of the widest face for maximum thermal transfer
- "Thermal Shield", primary side, thermister provides protection for the sustainable life of LED module and electronic components
- Drivers have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments
- Luminaires have integral surge protection that shall be U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J. Surge protection device shall be wired in series
- Drivers are 0-10V dimming control with a dimming range of 100%-10%. Drivers are U.L. listed. All luminaires shall accept 120-277 volt input and have integral surge protection."Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components



ELECTRICAL (CONTINUED)

- Integral battery backup provides emergency path of egress lighting for the required 90 minutes for -20°C ambient environments
- Luminaire are capable of operating at 100% brightness in a 40°C environment. Both driver and optical array shall have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C

CONTROLS

- Button photocontrol for dusk to dawn energy savings
- Photocell is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others. Photocell adapter shall include an internal twist lock receptacle. Photocell by others

continued on page 3

KEY DATA	
LUMEN RANGE	1,906–5,083
WATTAGE RANGE	26–52
EFFICACY RANGE (LPW)	67–109
WEIGHT	Refer to page 7

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

CY2

ARCHITECTURAL AREA/SITE

ORDERING GUIDE

Example: CY2-35-3K7-1-2D-UNV-BLS-F-RGBW-FPP-PCU-SF

CATALOG #

Series-Output (Base)		CCT-CRI		Model (Light Engine) [1]		Main Distribution (Down)		Secondary Distribution (Up, Sides)		Voltage	
CY2-25	25W, 2500 nominal lumens	**27K8**	2700K, 80CRI	**1**	DownLight Only	**1**	IES Type I	**1**	IES Type I	**UNV**	120-277V
CY2-35	40W, 3500 nominal lumens	**3K7**	3000K, 70CRI	**2**	50/50 Down/Up, **Down/Up distributions must match**	**2**	IES Type II	**2**	IES Type II	**347**	347V
CY2-45	50W, 4500 nominal lumens	**3K8**	3000K, 80CRI	**3**	90/10 Down/Up	**3**	IES Type III	**3**	IES Type III	**480**	480V
		4K7	4000K, 70CRI	**4**	25/25/25/25 Split, **Down/Up/Side Distributions must match**	**4**	IES Type IV	**4**	IES Type IV		
		4K8	4000K, 80CRI	**5**	70/10/10/10 Spit, **Top/Side distributions must match**	**SP**	15° Spot/Column	**SP**	15° Spot/Column		
		5K7	5000K, 70CRI			**WG**	60° Wall Graze	**WG**	60° Wall Graze		
						1D	Type 1 Diffused	**PB**	Pencil Beam [2]		
						2D	Type 2 Diffused	**1D**	Type 1 Diffused		
						3D	Type 3 Diffused	**2D**	Type 2 Diffused		
						4D	Type 4 Diffused	**3D**	Type 3 Diffused		
								4D	Type 4 Diffused		

Base Housing Finish		Fascia Form [1]		Luminous Front [4]		Fascia Panel [5]		Control Options [6]		Options	
BLS	Black Gloss Smooth	**F**	Flat	**Blank**	Standard None	**FPP**	Full Panel Painted	**PCU**	Universal Button Photocell (120-277V)	**EM**	Battery Backup Unit -20° C [8]
BLT	Black Matte Textured	**R**	Radius/Curved	**RGBW**	RGBW Luminous Front	**FPS**	Full Panel Stainless Steel	**SCP**	Programmable Occupancy Sensor	**SF**	Single Fuse (120, 277, 347)
DBS	Dark Bronze Gloss Smooth	**T**	Triangle/Wedge	**LFSW**	Static White Luminous Front	**FPC**	Full Panel Copper	**WIR**	LightGRID+™	**DF**	Double Fuse (208, 240, 480)
DBT	Dark Bronze Matte Textured	**E**	Rounded/Edge			**OPP**	Open Panel Painted [7]	**WiRC**	LightGRID+™ w/ Occupancy Sensor	**SCB**	Surface Conduit Box
GTT	Graphite Matte Textured	**C**	Circle/Curved			**OPS**	Open Panel Stainless Steel [7]				
LGS	Light Gray Gloss Smooth	**CB**	Cylinder Balanced			**OPC**	Open Panel Copper [7]				
LGT	Light Gray Matte Textured	**CT**	Cylinder Tall			**4PP**	4-Square Panel Painted [7]				
PSS	Platinum Silver Gloss Smooth	**CBM**	Custom Building Material Mount Ghost Fascia [9]			**4PS**	4-Square Panel Stainless Steel [7]				
VGT	Verde Green Matte Textured					**4PC**	4-Square Panel Copper [7]				
WHS	White Gloss Smooth					**PPP**	Perforated Panel Painted [7]				
WHT	White Matte Textured					**PPS**	Perforated Panel Stainless Steel				
Color Options						**PPC**	Perforated Panel Copper				
CC	Custom Color [3]										

Notes:

1 Consult factory for custom distributions. See Distribution Matrix on page 4 restrictions

2 PB distribution is available for 90/10 and 70/10/10/10 models only. Not all combinations are recommended. See Distribution Matrix on page 2 for restrictions.

3 Consult factory for custom color, marine and corrosive finish

4 RGBW and LFSW luminous fronts are only available with open, four square and perforated fascia panels

5 Flat and Radius Fascia forms only. Painted panels by default match base housing finish/color. Consult factory for custom panel finishes.

6 Occupancy sensors not available with CB, T, E or C fascia forms

7 Luminous front is required to select the Open Panel and 4-Square Panel fascia panels.

8 Consult factory for information on specific configurations with different fascia forms.

9 Custom Building Material Mount Ghost Fascia option allows the Cypher to blend seamlessly into the building architecture by matching the finish of the architectural background. See page 7 for dimensions and contact factory for additional information. Custom material provided by others.

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CY2

ARCHITECTURAL AREA/SITE

SPECIFICATIONS (CONTINUED)

CONTROL (CONTINUED)

- Each fixture comes equipment with a dual control driver that supports Bluetooth® operation of individual fixtures or DMX control of an entire system of fixtures.

BLUETOOTH®:

- Free Bluetooth® Apps are available for Apple iOS and Google Android mobile devices and are downloadable via the Internet at Apple App Store or Google Play.
- Modular wiring harness in the service area provides user access to the dimming circuitry via DMX.

DMX:

- Fully DMX/RDM Compatible
- Utilizes 4 DMX Channels per fixture

DMX MAP

- Start Address – Red
- Start Address +1 – Green
- Start Address +2 – Blue
- Start Address +3 – White

DMX Addressing is performed by using a compatible RDM handheld unit or via the Bluetooth® App.

- Performed by using a compatible RDM handheld unit or via the Bluetooth® App

DMX WIRING COLOR CODE

- Red Wire – DMX +
- Brown Wire – DMX-
- Yellow Wire – Shield/Ground
- DMX termination must be achieved by adding a DMX terminator to the last fixture in a Daisy-Chain. Fixture does not auto terminate.
- Kim Lighting is proud to offer the Pharos Architectural Controls DMX Controllers and Touch screens. See Pharos Spec Sheet for more details.
  See the Pharos® Spec Sheet for more details.

MOBILE APP:

- Mobile App specification in additional information section.
- Mobile App. dimming range from 0% to 100% through the use of Current RGBW app (available on IOS and Android).
- Color selection and adjustment.
- Camera function for color matching.
- Intensity slider for dimming/ramping up.
- Save and rename up to 10 presets.
- Group and rename fixtures.
- Fixture is password protected, refer to instructions to set unique password.

CERTIFICATIONS

- Luminaire is listed with UL for outdoor, wet location use, UL1598, UL 8750 and Canadian CSA Std. C22.2 no.250
- IP66 rated assembly
- IDA approved, 3000K and warmer CCTs only
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- ANSI C136.31-2010 4G Vibration tested and compliant
- Complies with “Americans with Disabilities Act” or "ADA" on select versions for low mounting height applications (fixtures extend maximum of 4 inches from wall for mounting heights of 80 inches or less)
- Emergency battery back options are California Energy Commission (CEC) Title 20 Compliant

WARRANTY

- 5 year warranty

Bluetooth®

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ANDROID APP ON Google play

Available on the App Store

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

CY2

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS

Nominal Output (Lm)	System Watts	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
			Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
				B	U	G			B	U	G			B	U	G	
2,500	26	Type 1	2499	0	0	0	96	2596	0	0	0	100	2836	0	0	0	109
		Type 2	2265	1	0	1	87	2353	1	0	1	90	2570	1	0	1	99
		Type 3	2413	1	0	1	93	2507	1	0	1	96	2739	1	0	1	107
		Type 4	2213	0	0	1	85	2299	0	0	1	88	2512	0	0	1	97
		Wall Graze	2462	2	0	0	95	2558	2	0	0	98	2795	2	0	0	107
		Spot/Column	2089	2	0	0	80	2171	2	0	0	83	2371	2	0	0	91
		Type 1 Diffused	2193	1	0	1	84	2278	1	0	1	88	2488	1	0	1	96
		Type 2 Diffused	2004	1	0	1	77	2082	1	0	1	80	2274	1	0	1	87
		Type 3 Diffused	1906	1	0	1	73	1980	1	0	1	76	2163	1	0	1	83
		Type 4 Diffused	1936	1	0	1	74	2011	1	0	1	77	2197	1	0	1	84
3,500	40	Type 1	3534	1	0	0	88	3672	1	0	0	92	4011	88	1	0	100
		Type 2	3203	1	0	0	80	3328	1	0	1	83	3635	80	1	0	91
		Type 3	3413	1	0	1	85	3546	1	0	1	89	3874	85	1	0	97
		Type 4	3131	1	0	1	78	3252	1	0	1	81	3553	78	1	0	89
		Wall Graze	3483	2	0	0	87	3618	2	0	0	90	3953	87	2	0	99
		Spot/Column	2955	3	0	0	74	3070	3	0	0	77	3354	74	3	0	84
		Type 1 Diffused	3101	1	0	1	78	3222	1	0	1	81	3519	78	1	0	88
		Type 2 Diffused	2835	1	0	1	71	2945	1	0	1	74	3217	71	1	0	80
		Type 3 Diffused	2695	1	0	1	67	2800	1	0	1	70	3059	67	1	0	76
		Type 4 Diffused	2738	1	0	1	68	2844	1	0	1	71	3107	68	1	0	78
4,500	52	Type 1	4390	1	0	0	84	4561	1	0	0	88	4982	1	0	1	97
		Type 2	4119	1	0	1	79	4280	1	0	1	82	4675	1	0	1	90
		Type 3	4240	1	0	1	82	4405	1	0	1	86	4812	1	0	1	95
		Type 4	4026	1	0	1	77	4183	1	0	1	80	4569	1	0	1	88
		Wall Graze	4479	3	0	0	86	4653	3	0	0	89	5083	3	0	0	99
		Spot/Column	3800	3	0	0	73	3948	3	0	0	76	4313	3	0	0	84
		Type 1 Diffused	3988	1	0	1	77	4143	1	0	1	80	4526	2	0	1	88
		Type 2 Diffused	3645	1	0	1	70	3787	1	0	1	73	4137	1	0	1	80
		Type 3 Diffused	3466	1	0	1	67	3601	1	0	1	69	3934	1	0	1	76
		Type 4 Diffused	3521	1	0	1	68	3658	1	0	1	70	3996	1	0	1	77

ELECTRICAL CHARACTERISTICS

LUMEN PACKAGE	SYSTEM WATTAGE (W)	LINE VOLTAGE		INPUT				MIN. POWER FACTOR	MAX THD (%)	DIMMING RANGE	SOURCE/SINK CURRENT (MA)		ABSOLUTE VOLTAGE RANGE ON 0-10V (+) PURPLE	
		VAC	HZ	120	277	347	480				MIN.	MAX.	MIN.	MAX.
2,500	26	120	50/60	0.2	0.1	0.1	0.1	>0.9	20	10% to 100%	0 mA	1 mA	0V	10V
3,500	40			0.3	0.1	0.1	0.1							
4,500	52			0.4	0.2	0.1	0.1							

TM-21 LIFETIME CALCULATION (500mA)

LUMEN PACKAGE	AMBIENT ENVIRONMENT °C	PROJECTED LUMEN MAINTENANCE (KHRS)					REPORTED L70
		15	25	50	60 (TM-21)	100	
4,500	25	95%	94%	90%	89%	83%	>60Khrs.
	40	93%	91%	84%	82%	73%	

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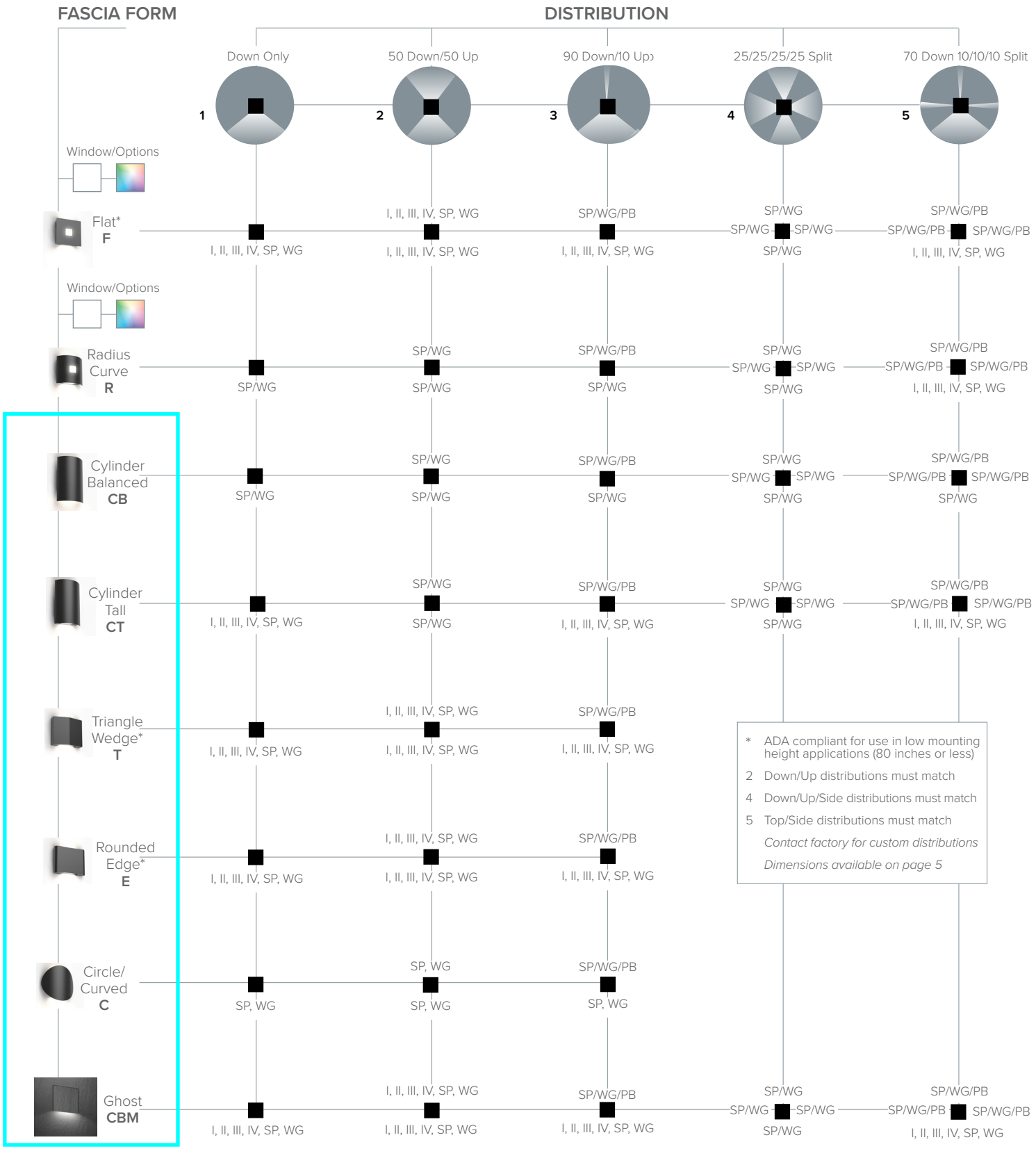
TYPE: PROJECT:

CATALOG #:

CY2

ARCHITECTURAL AREA/SITE

DISTRIBUTION MATRIX



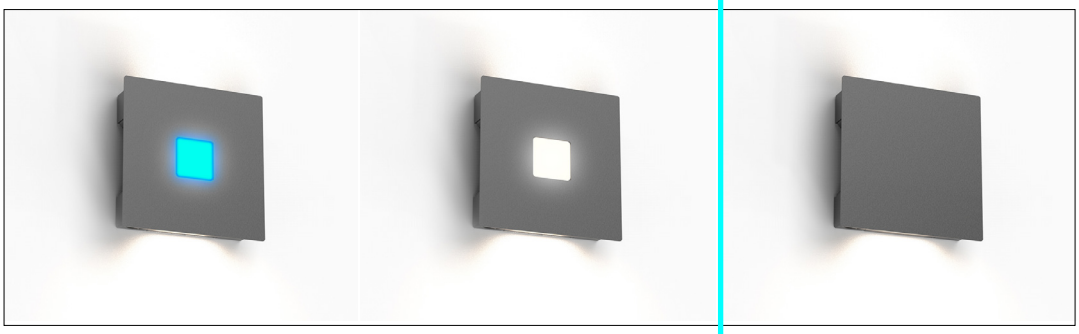
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CY2

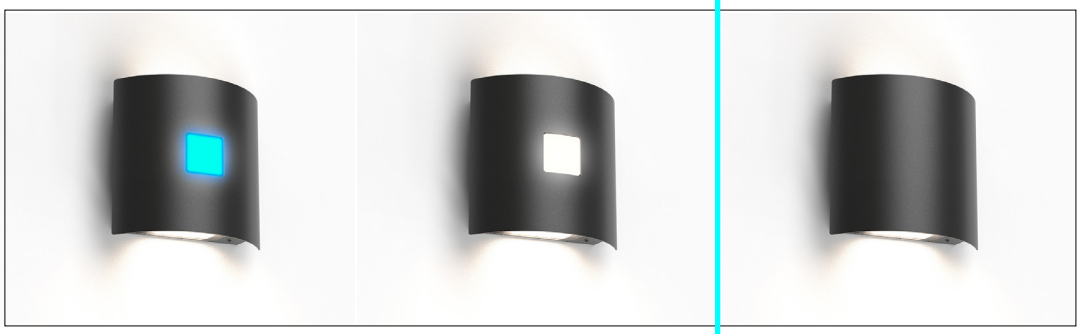
ARCHITECTURAL AREA/SITE

FASCIA

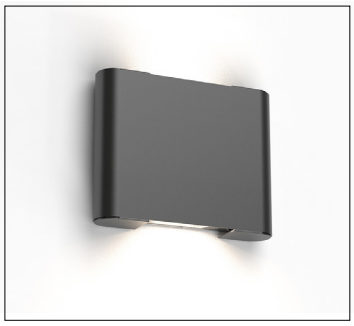
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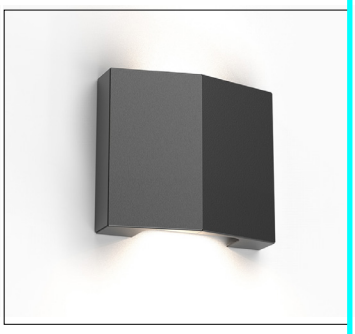
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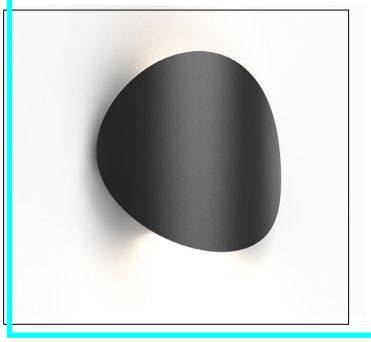
ROUNDED EDGE



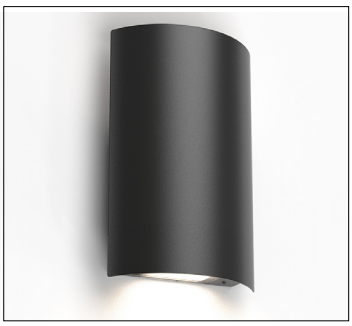
TRIANGLE



CIRCLE



CYLINDER TALL



CYLINDER BALANCED



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KIM LIGHTING®

DATE: LOCATION:

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CATALOG #:

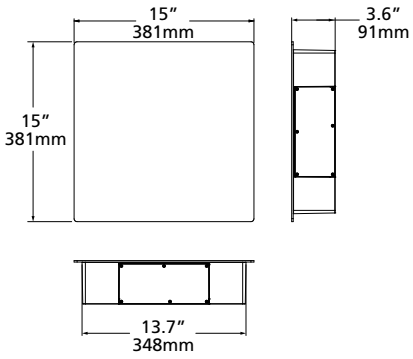
CY2

ARCHITECTURAL AREA/SITE

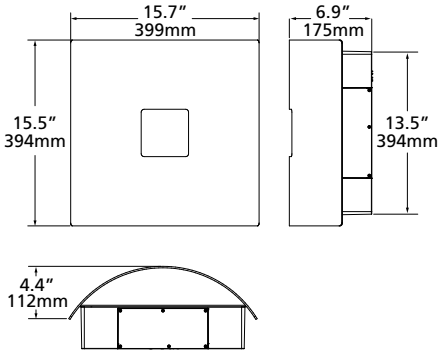
DIMENSIONS

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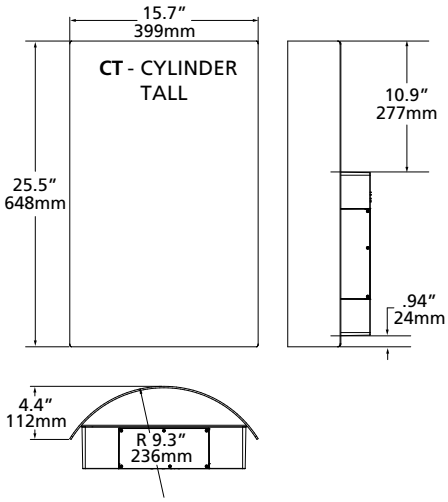
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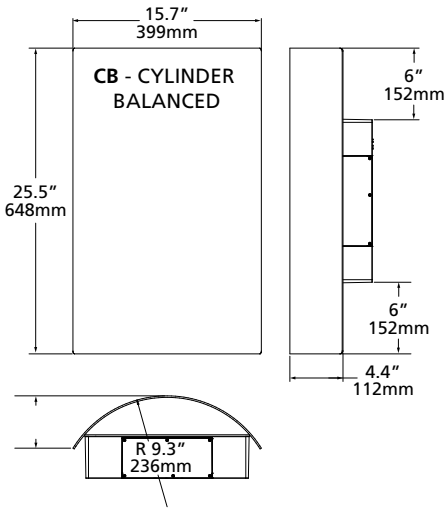
R - RADIUS/CURVED



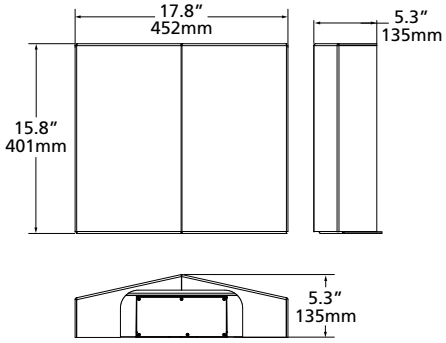
CT - CYLINDER TALL



CB - CYLINDER BALANCED

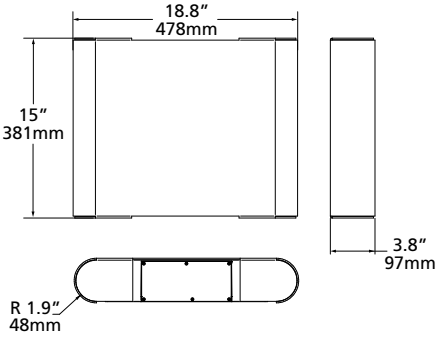


T - TRIANGLE/WEDGE

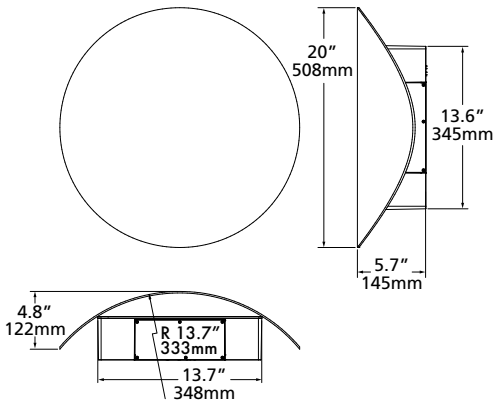


E - ROUNDED EDGE

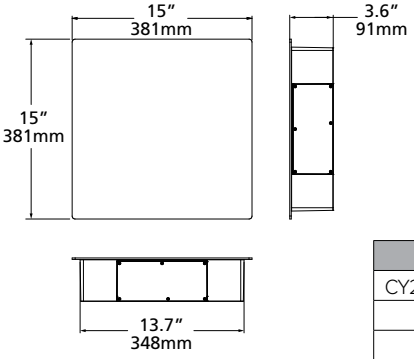
ADA approved.



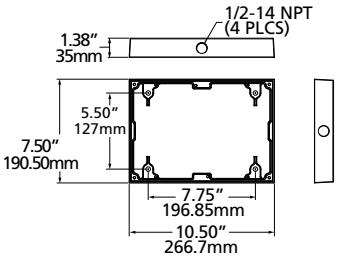
C - CIRCLE/CURVED



CBM - CUSTOM BUILD MATERIAL MOUNT GHOST FASCIA



SCB - SURFACE CONDUIT BOX



CY2 WEIGHT		FIXTURE + FASCIA WEIGHT	
CY2 base fixture	20 lb		
F	2.5 lb	CY2 + F	22.5 lb
R	2.5 lb	CY2 + R	22.5 lb
CB	3.5 lb	CY2 + CB	23.5 lb
CT	3.5 lb	CY2 + CT	23.5 lb
T	3.5 lb	CY2 + T	23.5 lb
E	3.5 lb	CY2 + E	23.5 lb
C	2.5 lb	CY2 + C	22.5 lb

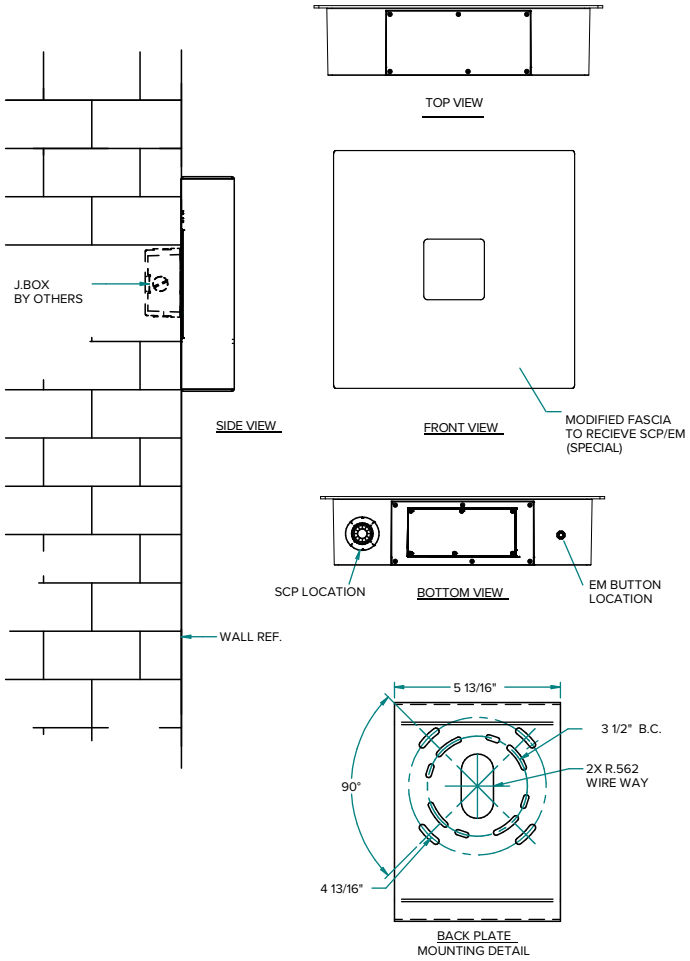
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CY2

ARCHITECTURAL AREA/SITE

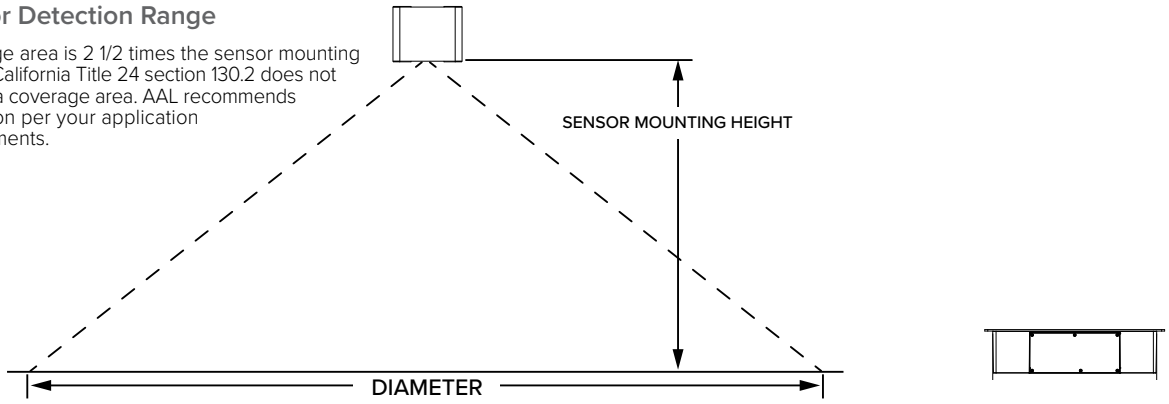
DIMENSIONS (CONTINUED)

Flat Sensor Location



Sensor Detection Range

Coverage area is 2 1/2 times the sensor mounting height. California Title 24 section 130.2 does not specify a coverage area. AAL recommends discretion per your application requirements.



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GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

May 30, 2025

Eric Freeman, City Planner
Planning & Urban Department
389 Congress Street
Portland, ME 04101

Subject: Project ID – PL-002882-2024
203 Fore Street
Proposed Home 2 Suites
Applicant: Chatham Lodging Trust
Letter of Response to Planner Comments

Dear Eric:

On behalf of **Chatham Lodging Trust (Applicant),** our office is pleased to provide this letter of response to City Review Comments dated April 10th, 2025, for the proposed development at 203 Fore Street. We offer the following response for each comment, below. For ease of reference, we have repeated those comments in *italics* followed by our responses for the City's consideration in **bold.**

Staff Review Comments received via email April 10th, 2025

Transportation Standards (Sec. 14.3.1)

Impact on Surrounding Street Systems

1. *DPW has repeatedly seen operational issues with the currently proposed configuration of hotel loading zones in other locations within the City. Frequently the loading zone will be full at hotel check-in which results in double parking into the travel lane essentially blocking vehicles from safely travelling down Fore Street and will cause issues into the intersection. DPW is not in support of this configuration on Fore Street and operations should utilize the existing Hampton Inn valet operations.*

   Response: We understand DPW Staff's concerns about the hotel loading zone spaces and believe that the information provided with this letter, below and previously, provides sufficient evidence that the hotel loading zones can and will be operated in a safe and efficient manner. This includes a management structure comprised of the hotel management staff and the valet vendor, UPP. Further information regarding the valet operation approach is provided below.

2. *Delivery vehicles for the existing Hampton Inn frequently block the westbound travel lane on Fore Street, given that the existing Hampton Inn driveway can accommodate delivery vehicles and other service vehicles all vendors should be directed to do so for both the existing Hampton Inn and the proposed Home 2 Suites.*

   Response: The Applicant is amenable to this approach and will direct delivery vehicles to enter the existing curb cut for loading/unloading.

3. *The City will need easement for existing lighting along the south side of Middle Street.*

   Response: The Applicant is understanding an easement will be necessary and will coordinate with Public Works for the relocation of underground power and light poles accordingly. Notes for the relocation and protection of these elements are identified on the Utility Plan.

Access and Circulation

4. *The primary entrance at the corner of Fore and India Street should front India Street. See attached design memo.*

   Response: The entrance has been revised accordingly and is further discussed in the response letter and plans provided by ProCon.

Traffic Movement Permit

5. *Per MaineDOT Traffic Movement Permit regulations, a Section 7 Study may be required. This determination was identified at the Scoping meeting. The revised report shall be noted as Section 7 of the Traffic Movement Permit.*

   Response: Based on the meeting on Wednesday May 7th, we understand this comment was satisfied with the documents uploaded on March 28th which represented the Section 7 traffic impact study.

6. *There was considerable discussion regarding valet operations and routing to and from the on-street area where hotel guests will drop off and pick up their vehicles.*
   a. *Figures 11 and 12 need to be revised to account for all hotel trips (hotel guests and valet) arriving/departing curbside in front of hotel facing the westerly direction. The following are specific comments:*
      i. *It is my understanding that all hotel guests will arrive curbside and use valet services and not enter the parking lot. Figure 11 indicates 23 (24) trips will enter the site from Franklin Street. I'm not going to summarize all these types of inconsistencies, but the trip distribution must clearly account for hotel guests*

arriving to curbside, and valet services routing the vehicles from the curbside to a designated parking facility – and back to curbside. The report should be specific on valet routings (e.g., leaving curbside and u-turning into the site to return to India Street and the 1 India Street parking lot). This is a complicated assignment of trips, but I need to fully understand the final assignment. Feel free to send me graphic examples, so that I can offer comments, before the report is resubmitted.

Response: Figures 11 and 12 have been split into the following figures:

- ***Figure 11A – Guest Arrival***
- ***Figure 11B – Guest Departure***
- ***Figure 12A – Valet Arrival***
- ***Figure 12B – Valet Departure***

As discussed in the meeting on May 7th, the previous distribution figures were to be split up to demonstrate the vehicles that arrive and depart as guests and those that arrive and depart from the site as valet trips which are either parked on or off-site in the four off-site parking lots previously identified. We note these figures represent the original trip assignment for vehicles traveling to the site where guests taking Franklin Arterial to the hotel would be directed to approach the hotel loading spaces by travelling northeast on middle street, turning southeast (right) onto India Street and then turning south (right) onto Fore Street. Of particular importance are Figures 12A and 12B which demonstrate the movements for valet vehicles which are going to and from the hotel loading zones. These figures demonstrate that safe vehicle movements area available to and from the individual assigned parking lots at 194 Fore Street, 280 Fore Street, and 1 India Street in the AM and PM peak hours. U-turns and other unsafe vehicle movements will be discouraged.

For discussion purposes, we note these figures are conservative for two reasons;

1. **The valet distributions assume that in the AM and PM peak hours, the onsite parking lot is full, and no vehicles will be able to park onsite.**
2. **The valet distribution assumes that every vehicle arriving/departing from the site also requires valet services. Considering this hotel is an extended stay hotel, it can be assumed that some of the vehicle trips generated are comprised of taxis, rideshares (Uber, Lyft, etc.), or other means of transportation. However, there is no data to support how many trips may be comprised of these types of vehicle trips.**

b. *The assignment of trips to the site assumes a significant portion arrives/departs via Fore Street east of India Street. I would expect most trips to arrive from Franklin Street/Congress Street/Washington Avenue.*

Response: We agree with this conclusion and have revised our assignments to our original analysis which emphasizes more vehicles arriving from Franklin via India and Fore Streets.

c. *The report shall speak to how the valet system will be managed from a curbside vehicle space capacity perspective and what strategies will be employed to ensure hotel guest vehicles will arrive in the appropriate direction on Fore Street. If the valet curbside space is unavailable, how will vehicles be managed. It should note the number of valet curbside spaces proposed and adequacy during peak periods. In general, the Section 7 report shall include a Valet Parking Management Plan.*

Response: We have consulted with UPP, the valet operator contracted to provide valet services for both the Hampton Inn and the proposed Home2 Suites. In support of the proposed valet parking operation, we offer the following:

1. **UPP is contracted with the Owner to provide valet services for both hotels. This will allow a synchronized valet operation that can efficiently manage vehicles approaching both hotels and providing parking onsite and in one of four offsite parking lots, all located within 600' of the project site.**
2. **UPP will provide, at a minimum, 1-2 employees at each hotel. During timing of shifts, more employees will be provided to align with peak demand. The attendants at each hotel will be equipped with radios or other wireless devices to ensure timely communication of valet demands. UPP has reviewed and confirmed that three spaces at the Home2 entrance will be sufficient to manage the valet services.**
3. **To ensure guests arrive from the appropriate direction, the hotel can provide specific directions online that may be followed by GPS/travel applications.**
4. **Onsite parking will be prioritized for valet parking first. The 194 Fore Street, 280 Fore Street, and 1 India Street parking lots will be utilized next. In the event that additional offsite parking is necessary, the 100 Middle Street garage will be utilized.**
5. **For all cars that are valeted on site, guests will be advised to pick up their car under the porte-cochere at the Hampton Inn entrance to avoid unnecessary trips around the block to reach the Home2 Suites hotel loading spaces.**

6. **As demonstrated in the revised distribution figures, above, U-turns and other unsafe vehicle movements are discouraged and UPP will ensure vehicles reaching the 1 India parking lot, for example, will turn into the site to turn around to drive northeast on Fore Street.**

As previously discussed in the Transportation Demand Management Plan submitted, the total average offsite parking demand between the two hotels combined is 35-40 parking spaces during peak summer months per day. This is based on information from UPP and the Applicant, an owner and operator of more than 35 hotels.

7. *A concept plan shall be prepared depicting recommendations for the India Street intersections with Middle Street and Fore Street. The plan should consider the following:*
    a. *Depicting the prohibition of parking spaces within 20 feet and the estimated loss of supply.*
    b. *Curb extensions as noted in the report. Vehicle turning templates with and without curb extensions shall be provided.*
    c. *Installation of "All-Way" supplemental plates at the Middle Street intersection.*
    d. *Provide an opinion on the placement of STOP signs (and two sided) as it relates to optimizing visibility.*
    e. *Provide an opinion on the STOP Ahead warning sign in southbound India Street approaching Middle Street.*
    f. *Provide an opinion on the W11-2 Pedestrian Warning sign on northbound India Street approaching Middle Street.*
    g. *Recommend and include strategies that help to create intersections that prioritize pedestrian safety/movements. During field observations vehicles tended to "roll stop" both as through movements and turns creating unsafe pedestrian conditions.*

Response: A concept plan has been prepared demonstrating the prohibition of parking spaces within 20' of the edge of curb ramps and "All-Way" supplemental plaques on the Middle/India Street Stop signs. Notes on the plan identify where existing parking spaces are lost. The concept plan also demonstrates curb extensions at the corner of Fore/India Street as directed by City Staff in a meeting on site on May 15th. In support of the curb extensions, we are also providing a fire truck turning template to demonstrate a fire truck's ability to maneuver around the curb extensions.

Regarding the additional opinions/recommendations requested in Items d thru g, above, we offer the following:

d. All Stop signs appear to be properly located. The two-sided Stop signs are a reasonable option to increase visibility for the stop signs given the current intersection skews.
e. The Stop Ahead sign located in the southbound approach to the Middle/India intersection appears to be necessary as the existing 8' curb extension contains utility poles and landscaping which may otherwise hinder a vehicles view of the Stop sign in advance of the intersection.
f. The W11-2 Pedestrian Warning sign on the northbound India Street side is not necessary in our opinion as the intersection is a controlled crossing location (4-way stop).
g. Other than the mitigation currently identified in the concept plan, other strategies to prioritize pedestrian improvements would be other visual aids such as different crosswalk painting instead of the current piano key type paint. This could include a ladder style painting with longitudinal bars and perpendicular bars on each side.

Environmental Quality Standards (Sec. 13.6.2)

Site Landscaping and Buffers

8. *The landscape plan should be updated to match the site plan.*

Response: The Landscape Plan by Carroll Associates Landscape Architects is provided with this submission which matches the site plan.

Water Quality, Stormwater Management and Erosion Control

9. *As a condition of this approval, the City of Portland requires the applicant to retain the services of a third-party inspector for the duration of construction until final site stabilization is in place. The inspector is required in order to ensure all construction and stabilization activities comply with the permit conditions and the approved drawings and specifications*

Response: The Applicant is amenable to this condition of approval and will engage a third-party inspector accordingly.

10. *The owner/operator of an approved stormwater management system, and all assigns shall comply with the conditions of Chapter 32, Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements.*

Response: The Applicant understands these requirements and is prepared to comply with the conditions of Chapter 32 accordingly.

11. *A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds. The following stormwater management documentation shall be submitted to the Water Resources Division of Public Works and the Department of Planning and Urban Development prior to the issuance of a Certificate of Occupancy:*
    a. *Final executed stormwater maintenance agreement with the final approved post stormwater management operation and maintenance plan.*
    b. *Certification, based on initial comprehensive inspection from the project Engineer of Record, certifying the approved stormwater systems were installed properly, are fully operational, and are functioning as intended.*
    c. *As-built drawings including grading and drainage and updated details for any stormwater systems on site.*
    d. *DPW Impervious Area Adjustment Form 5A*
    e. *DPW Stormwater Credit Application Form 3*
    f. *DPW stormwater program forms can be found at the following link: https://www.portlandmaine.gov/1102/Credit-Manual-and-Applications*

Response: The Applicant will coordinate to execute the stormwater maintenance agreement with the City and the final documentation will be completed, as identified, prior to the issuance of a Certificate of Occupancy.

These files are being transmitted via email and uploaded separately to EPlan.

We look forward to your review of these materials and trust that this information satisfactorily meets the resubmission requirements. If you have any questions regarding the information being submitted, please contact our office.

Sincerely,

GORRILL PALMER



Kaleb Bourassa, PE
Project Manager
Phone: 207-772-2515 x297

kbourassa@gorrillpalmer.com

Attachments: Architectural Response Letter
Revised Traffic Figures
Traffic Concepts
Revised Civil & Architectural Plans

c: Kent Beirne – Procon
Dennis Craven – Chatham Lodging Trust
Steve Bushey – Gorrill Palmer

K:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\P Applications\Local\LOR\LOR #3\ltr_LOR#3_05.30.25.docx

Att. M

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T 603.623.8811
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P.O. Box 4430
Manchester, NH 03108

May 29, 2025

City of Portland
Planning and Urban Development Department
389 Congress Street, 4th Floor
Portland, ME 04101
Attn: Eric Freeman

Re: PL-002892-2024

Dear Eric,

We have received your design review comments, dated April 10, 2025, regarding the proposed Hilton Home 2 mixed use building at 203 Fore Street, Portland, ME.

Please find our formal responses below to each of the city comments regarding Building Design Standards within the India Street Form-Based Code zone where the submitted project requires additional information and/or a path to compliance.

- **Standard 6 Building Entries, Standard 6.3:** See revised sheets A1.01 and A2.01 indicating a double door facing India Street as the principal entrance into the hotel.
- **Standard 6 Building Entries, Standard 6.7:** See revised sheets A1.01, A2.02 and A2.04 indicating additional building entries along Fore Street to meet the standard.

In addition, we have maintained the proposed hotel building to accommodate OSHA 1926 minimum clearance distances to the existing overhead 3-phase electrical wires during construction and maintenance along Middle and India Streets. The ground floor setback has been maintained at ten (10) feet within the Urban Active subdistrict as the ground plane frontage will be an extension of the accessible public right of way.

The upper portion of the building facing Middle Street is setback from the ground level footprint approximately four (4) feet and setback approximately three (3) feet facing India Street. This resulted in a reduction of two (2) guestrooms. The total number of proposed guestrooms has been modified from 132 guestrooms to 130 guestrooms.

If you have any questions and/or concerns, please feel free to call and we will gladly discuss these items to assist in the resolution of these issues.

Sincerely,

Kent Beirne, AIA
VP Architecture ~ PROCON
Attachments
cc: File

Att. N

July 10, 2024

Gorrill Palmer
300 Southborough Dr., Suite 200
South Portland, ME 04106

Attn: Stephen Bushey, PE

Subject/Description of project: Chatham Portland DT LLC, Portland - Natural Gas Ability to Serve Response

Dear Stephen,

Thank you for your interest in using natural gas for the above referenced project.

This is to confirm that natural gas can be made available from our distribution system to serve your proposed project. Once a site plan showing the gas riser location is available we can size the required gas service. The new gas service could come off of the main on either Middle St. or at the intersection of Fore St./India St. The approval by our engineering is based off a nameplate load of 2.95 MCFH. In order to determine is the customer would need to share in the cost to install the gas service we would need to see a site plan showing the route and distance of the gas service. We would also need confirmation that we could install the gas service to the building with one mobilization instead of installing gas to get out of the way of paving and then coming back a second day to finish the service when the building has been constructed. If two mobilizations are required we can evaluate the cost as such and confirm if there would be a cost to the customer or not. Please let us know.

All work necessary to provide service will be performed in accordance with the Maine Public Utilities Commission requirements.

If you have any further questions or require additional information, please contact me at 207-541-2543 or email at carpenters@unitil.com.

Sincerely,

Scott Carpenter

Scott Carpenter
Senior Business Development Representative
207-541-2543

ME GAS OPERATIONS
376 Riverside Industrial Parkway
Portland, ME 04103

T 866.933.3821 www.unitil.com

Att. O

From:	COUGH, JAMES
To:	Celeste White
Cc:	Stephen Bushey; Kaleb Bourassa; Kent Beirne, AIA
Subject:	CMP Quote and Service Letter May 2025 Chatham Portland DT2 LLC - PORTLAND EAST, FORE STREET p10007.2 - E84 - 10301112257 - 801000680936 - 250087271 $70,622.99
Date:	Thursday, May 29, 2025 6:38:50 AM
Attachments:	9310_0250087271_20250528_174859.pdf Easement_Information_Worksheet.doc

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Chatham Portland DT2 LLC - PORTLAND EAST, FORE STREET p10007.2 - E84 - 10301112257 - 801000680936 - 250087271 $70,622.99

RE: Service for CHATHAM PORTLAND DT2 LLC
203 Fore St Portland, Maine
SAP # 10301112257 FORE STREET -10007.3 PADXMR 3P 1000K 12GRDY 208Y/120P FT E

Dear Ms. White:

In support of your project at 203 Fore St Portland, Central Maine Power has confirmed our construction cost to install the necessary electrical infrastructure**. The cost associated with CMP's portion of the project is $70,622.99. The quote is attached.** This cost includes all of CMP's material, labor and trucking necessary to provide the upgraded three phase electrical services to this site. This is a firm cost that is valid for 90 days from the date of the invoice and must be paid in advance of any work performed by CMP. Please contact Consolidated and Spectrum to determine if these utilities will bill you as well.

When we have received your payment, applicable easements (still waiting on the Easement Information Worksheet), and the electrical inspection, the job can be scheduled and completed. CMP may elect to do some construction work prior to receiving the electrical inspection, but the service cannot be energized until it is in. It should be noted that the transformer will be ordered once we receive payment and easements. Be aware that material availability may impact your desired installation schedule.

As you may be aware, there are global supply chain issues impacting the utility industry. CMP is closely monitoring and managing their inventory to serve our customers. Larger padmount transformers may not be readily available for the date that you will need to be energized. Please consider this as part of your construction plan. The energy service advisor will continue to work closely with you and let you know as soon as the transformer becomes available. Should you have any questions or concerns throughout this process, please do not hesitate to contact your ESA directly at the number or email provided.

Central Maine Power will construct, own and maintain the line extension to serve your property. This does not include customer owned secondaries or related equipment-all of which is provided, installed and maintained by the customer in accordance with the CMP Handbook of Standard Requirements

General Work Scope:

CMP will install a 1000 kva 120/208v three phase pad mount transformer based on your submitted load sheets. You will be installing the secondaries to all the services. You are limited to 8 sets of secondaries for the three-phase pad mounted service. From existing pad mount located at 10007.2 CMP will install 4/0 CU primary in your 3x5" conduits. Please coordinate the installation of the conduits from existing 10007.2 to 1007.3, approximately 35'.

You will be responsible for installing the conduits, and metering in accordance with the CMP Handbook of Standard Requirements. The transformer was sized based on your submitted load sheets.

AIC:

AIC for the 1000 kva 120/208v transformer is 79,310 amps. This information should be sent to your electrician as well. Please consult the Handbook of Standard Requirements or contact me if you have additional questions.

Metering:

Based on the submitted load sheet, you will have a 3000a CT for the Hotel, and 2x200a and 1x400a self-contained meters. CMP must pre-approve the metering location. CMP must pre-approve the CT gear as well.

Please consult the Handbook of Standard Requirements or contact me if you have additional questions.

Power Quality:

We wish to advise that it is the Customer's responsibility to install adequate phase loss protection on all their equipment that can be damaged by abnormal voltage conditions. Abnormal voltage conditions are typically attributable to storm activity, animal contact with the electric distribution system and vehicular accidents involving CMP property. You can also visit our website at CMP Power Quality for more information on this topic.

Reallocation:

Recently, changes were made to the three-phase construction policy, which require CMP to reallocate construction costs paid by customers. If applicable, those projects identified as "developments" do not qualify for reallocation of funds. Please see this document at our website for details about the reallocation conditions. Any reallocation charges will be specifically denoted on your invoice. The website link is found here; CMP Reallocation Policy .

This line extension will be part of Central Maine Power's distribution system. In the event the property served under this Agreement is sold or otherwise conveyed, all rights and obligations of the Agreement shall stay with the property. Please note that if you rent or lease this property to another

and you want to receive the reimbursement payments, you must make special arrangements with the Central Maine Power Company. Otherwise, any reimbursement payments will be sent to the "Customer" taking service at the service location.

Electricity Supplier Information:

Central Maine Power Company (CMP) will provide your facility with electric delivery service. If you don't already have a provider, you will need to make arrangements with a competitive electricity provider in order to receive electricity supply for your facility. In the event you fail to choose a competitive electricity provider, you will receive Standard Offer service arranged by the Maine Public Utilities Commission. If you wish to be served by a competitive electricity provider immediately upon establishment of delivery service, you must arrange for this service directly through your chosen competitive electricity provider, who must enroll your account no later than 5 PM on the business day prior initiation of delivery service by CMP. An up-to-date list of competitive suppliers can be found at the:

1. Maine Public Utilities Commission (MPUC) web site, https://www.maine.gov/mpuc/, by selecting Central Maine Power in the drop-down box for Regulated Utilities
2. By calling the MPUC at (207) 287-3831

Where to Send your payment:

You can now pay ONLINE, by PHONE, or by MAIL.

Quote payments only by ACH accepted online: www.cmpco.com/payquote

Quote or Invoice payments by ACH or credit card accepted by calling 1-800-750-4000 option 4.

Quote or Invoice payments by check:
Please make the check out to Central Maine Power. Single payments for multiple notifications will cause significant delays in processing. Also please write the work request numbers (**SAP #)** in the memo section of the check to allow better tracking of your payment.

Please send the check to the address below:

Central Maine Power Company
PO Box 847811
Boston, MA 02284-7811

In the meantime, if you have any questions or concerns about the information I have provided, please contact me.

Regards,

Jamie

Jamie Cough
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207-610-0055

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P.O. Box 4430
Manchester, NH 03108

Date: 8/1/24

Construction Management and Site Logistic Plan

This document and its subsequent attachment Exhibits comprise the Construction Management Plan being submitted to the Portland Department of Planning & Urban Development Department for the new 5-story, mixed-use extended stay hotel building located at 203 Fore Street. This plan is being submitted by PROCON construction on behalf of the owner, Chatham Lodging Trust.

The purpose of the Construction Management plan is to identify, mitigate and plan for all potential impacts throughout the duration of construction. PROCON construction will ensure that the safety of the public and the surrounding communities are at the top of our priorities.

This CM plan will be continually updated as the project progresses to meet the needs of the project, community, and the City of Portland. PROCON Construction's main objective is to deliver the project to the Owner, Chatham Lodging, and the City of Portland successfully with zero safety accidents or incidents by means of communication and teamwork.

A. Project Description

The project consists of new construction for a five-story, 85,500 SF +/-, 132 guestroom extended stay hotel. The structure consists of a 4-story, type 5A, one-hour protected combustible construction (wood frame) over a 1-story above grade, type 1A, three-hour protected construction (steel frame, three-hour protected) podium building with fully automatic NFPA 13 sprinkler system throughout.

Occupancy groups A-2, A-3, B & R-1 located on first floor having entrance lobby, breakfast/lounge, buffet with supporting food prep kitchen, meeting room, back of house offices, fitness areas, elevator lobby, egress stairs, building storage, mechanical, electrical and water service entrance room with fire separation rated partitions and assemblies as indicated and as required by code.

Occupancy group R-1 use group located on second, third, fourth, and fifth floors with supporting electrical, building storage, common egress corridors, elevators and stairs with fire separation rated partitions and assemblies as indicated and as required by code. A 2-HR rated fire barrier creating a horizontal exit shall be incorporated from the 2nd floor to the underside of roof deck to eliminate the requirements for an accessible means of egress with associated emergency operation, signaling and standby power requirements per 2015 IBC section 1009.2.1 exception 1.

There will be approx. 5,300 SF of retail/restaurant tenant space along Middle and India Streets.

B. Construction Schedule

The project is expected to commence construction sometime in the spring/summer of 2025 and is anticipated to be completed spring/summer of 2027. Construction duration is approximately 24 months.

Construction work hours will be in accordance with City of Portland ordinance requirements.

Work hours will be limited to Monday – Friday 7:00am -7:00pm. Should Saturday work be required, the use of heavy equipment will be kept within the time constraints of 8:00am to 4:00pm.

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T 603.623.8811
F 603.623.7250
P.O. Box 4430
Manchester, NH 03108

C. Security & Public Safety

Please refer to Exhibit A for the site fencing/gates, traffic and pedestrian routing plan, which will be utilized for the duration of the project. If required by the city, Knox Box Pad Locks will be installed at each gate for fire department emergency access.

The fire safety program on-site will consist of the following:

1. Fire extinguishers will be placed throughout the construction site for the duration of the project.
2. On-site fuel storage will be limited but will be required throughout construction. A free-standing, 30-minute fire-rated enclosure will be provided for this safe and secure storage.
3. During construction, our Means of Egress will have at least two permanent stairs. Temporary signage will be installed to clearly indicate these egress methods.
4. PROCON construction will provide dumpsters for the removal of debris from the site. All subcontractors are responsible for the daily clean-up of their work areas. Additionally, PROCON construction will have laborers to assist with this daily clean-up. Daily safety walks by the Construction Superintendent will be utilized to ensure that all working floors are equipped with an inspected fire extinguisher and a clear means of egress in the event of an emergency.
5. Any personnel (whether working or visiting the site) will go through our safety orientation that will include our emergency evacuation plan. Hard hats and high visible (Safety Orange or Fluorescent green) shirts and/or vest shall be worn at all times within the construction site.
6. Once the combustible wood superstructure construction starts the project will implement a temporary pre-action fire sprinkler system within the wood structure. A detailed narrative Exhibit will be provided at a future date.

D. Construction Management Principles

The impact of this project during construction will be minimized via the following management practices and principals:

1. As depicted on the attached Site Logistics plan (Exhibit A), the Construction Zone will be secured with a combination of jersey barriers, fencing and gates along Middle Street, India Street and Fore Street as well as the other side of this site adjacent to the existing Hampton Inn Hotel. These barriers will prevent the public from any access into the construction site.
2. All construction activities will be performed within the limits of the site fence to ensure the public is never exposed to any risks caused by construction activities. The sidewalks along Middle Street and India Street adjacent to the building will be closed for a majority of the construction duration of the project until completion. One vehicle entrance will be maintained into and out of the site from Fore Street for deliveries. A minimum of three man gates will also be provided around the construction site as shown on the Site Logistics plan (Exhibit A).
3. All deliveries will be scheduled and coordinated to ensure there is minimal off-site queuing.
4. All construction activities will occur within the sound ordinance times.

E. Development Review of Construction Management Plan

PROCON construction has developed a comprehensive management plan that will be in place for the duration of the construction timeline (or until permanent/final measures are installed and can be utilized).

T 603.623.8811
F 603.623.7250
P.O. Box 4430
Manchester, NH 03108

PROCON Construction utilizes a site-specific safety policy for all workers on-site. Each member will complete a job specific safety orientation prior to starting work activities. At no point will the public have access to the project site within the fenced limits.

F. Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

All fees, building permit fee and guarantees will be paid/issued prior to the commencement of construction.
All street opening permits will be applied for by the selected site contractor upon award of the contract and in hand prior to opening the street for work.

There is no blasting anticipated for this project, however due to the soil conditions, it is anticipated that the foundation system may involve the installation of piles to support the building's column loads.

G. Construction Administration and Communication

The PROCON contact person for all construction activities for the project will be:

Project Superintendent: TBD

PROCON Construction Main Office number: (603) 623-8811

Due to the proximity to occupied buildings and the number of anticipated deliveries, community outreach and communication will be required throughout construction to keep the public and neighboring businesses informed of our plan.

Signage will be posted onsite with additional emergency contact information for the selected Superintendent that will be the site contact for the project. An Emergency Call Log will be developed and distributed to the project team including all subcontractors.

Periodic reporting and updating of our Construction Management Plan will be required to update the city and community of the following activities:

1. Construction schedule updates.
2. Material deliveries, including notice of any oversized loads that may impact public traffic.
3. Requests for upcoming off-hours work including weekends and holidays.
4. Notice of any upcoming activities that may produce strong noise, vibration or dust that could adversely affect the neighboring communities.
5. Requests for any street openings or public sidewalk work to be completed as part of the construction contract.

H. Construction Permitting and Traffic Control Plans

The construction will be near pedestrian right of ways and will interact with public traffic throughout the duration of the project. There will be little to no lay down area for materials on-site. Deliveries will be scheduled in advance and planned for accordingly. We will stay in constant communication with the City and the neighboring businesses to keep them informed of our upcoming construction activities / deliveries with the intent to minimize impacts to all surrounding Streets.

This project includes new utilities that will require new taps/tie-ins within the public ROW. All street opening permits will be applied for and approved prior to start of utility work in the street.

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Manchester, NH 03108

I. Site Management and Controls

PROCON construction will adopt the following site management and maintenance activities through the of the project:

1. Trash and debris will be contained within the project fencing and changed out on a regular basis. PROCON will establish a recycling program for construction debris which is recyclable and coordinate these efforts with Waste Management or another local rubbish recycling company.
1. A stabilized construction entrance will be installed at the gate locations and maintained by the selected sitework contractor. Street cleaning will be reviewed daily and cleaned as required to remove dirt/debris caused by the construction efforts.
2. Noise will comply with City Ordinances.
3. If needed, water will be used to control dust during the sitework activities of the project. We do not anticipate any other activities that will require dust control measures.
4. Onsite snow removal will be handled by PROCON construction.

J. Erosion Control and Preservation of Trees

We will comply with the approved erosion and sedimentation control plan.

K. Construction Staging Area

Exhibit A of this document is the site logistics plan for the project. An offsite marshalling area may be needed during the erection of the steel structure, concrete placements, and the exterior wall systems due to the limited area on site. Once all these subcontractors are procured, we will have further review and update this plan accordingly.

L. Parking During Construction

Off-site parking is required. Employee parking will be provided by employers utilizing legal parking methods. It will be discussed in the Subcontract agreements that no street parking will be allowed during work hours and all street parking to be available for local businesses and the public. PROCON and Chatham Lodging will develop a plan for subcontractors to park either with available private parking lots nearby and/or further parking lots with a bussing plan to provide transportation to the construction site.

M. Special Measures as Necessary

This is a 4-story wood frame building over 1-story structural steel building that will be erected utilizing a Crane. Once an erector/crane operator has been selected, we will further review and discuss with the City to update this plan if needed. See attached Exhibit A for proposed crane location.

Should we encounter any groundwater, dewatering will be handled by the sitework contractor. This can be further with the Contractor/s at the Preconstruction meeting for specific details.

This site is participating in a Voluntary Response Action Program (VRAP) along with MDEP as there are the potential for elevated levels of VOCs. PROCON construction and Chatham Lodging Trust will engage an environmental

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Manchester, NH 03108

engineer/scientist to test soil samples prior to and during construction to ensure the safety of the workers and surrounding community. Any areas disturbed during excavation containing contaminated soils will be tested and disposed of in accordance with MDEP.

N. Project truck routing

All truck deliveries will be routed as stated below:
Incoming deliveries: US Highway I-295 exit 7 off I-295 onto Franklin Street heading south then a left onto Fore Street which will lead construction site entrance gate.
Outgoing Traffic: Construction traffic will leave the site and take a right onto Fore street, right onto Franklin Street Franklin Street and back on to US Highway I-295.

NORTH

HAMPSHIRE STREET

MIDDLE STREET
PAVED – PUBLIC – 66' WIDE

FORE STREET
PAVED – PUBLIC – 50' WIDE

INDIA STREET
PAVED – PUBLIC – 66' WIDE

LOT 2

LOT 1

LOT 1 (PLAN REF. 1)
TM 29–L–1 AND 2
N/F
THE HOTEL, RESTAURANT AND PORTSIDE RESIDENCES CONDOMINIUM
30243/274

TM 29–L–4
N/F
80–90 CORPS
10466/206

"THE HONEY PAW"
#78 MIDDLE ST.

BRICK BUILDING

#88 MIDDLE ST.
"REMAX SHORELINE"

"HAMPTON INN HOTEL"
#209 FORE ST.

6 STORY BRICK BUILDING

#207 FORE ST.

#28

#26

Muster Point

Pedestrian Gate

ACCESS EASEMENT BENEFITING LOT 1

ACCESS EASEMENT BENEFITING LOT 2

LIMIT OF CARPORT STRUCTURE - SEE STRUCTURAL / ARCHITECTURAL PLANS

5-STORY HOME 2 SUITES
132 ROOMS
SEE FLOOR PLANS BY PROCON
TOTAL GLA = _____ SF

RETAIL C
1648 SF

RETAIL B
1840 SF

RETAIL A
1769 SF

STAIR 2

STAIR 1

ELEV.

Sidewalk closed signage for India St.

India St. Sidewalk closed

Gate

Construction Gate Entrance

Pedestrian Gate

India St. Sidewalk closed

Emergency Pedestrian Gate

Sidewalk closed signage for India St.

8" DI FIRE
SV27P253
4" DI DOMESTIC
SV27P254

LEGEND

- CONSTRUCTION FENCE
- NEW HOTEL
- DUMPSTER
- PROCON FIELD TRAILER
- STORAGE
- PORT-A-POTTY
- MASON'S AREA
- STAGING AREA
- CRANE
- NEW 4" STORZ CONNECTION
- MUSTER POINT
- FUEL STORAGE
- HYDRANT

Deliveries

Due to the confined nature of the site, we will implement a Just in Time Delivery system to minimize on site material storage.

Delivery time is between 7am - 4:30PM

Signage at Construction Gates



EXHIBIT A

SITE LOGISTICS PLAN DURING CONSTRUCTION

20 0 10 20 40
1 inch = 20 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
T.B.D.
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
1	TBD	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01–SITE.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: PARKING PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-3.1

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(207) 772-2515 | GorrillPalmer.com

July 1, 2025

Eric Freeman, City Planner
Planning & Urban Department
389 Congress Street
Portland, ME 04101

Subject: Project ID – PL-002882-2024
203 Fore Street
Proposed Home 2 Suites
Applicant: Chatham Lodging Trust
Waiver Requests

Dear Eric:

On behalf of **Chatham Lodging Trust (Applicant),** our office is providing the formal waiver requests below in support of the proposed development at 203 Fore Street. For ease of reference, we have repeated the applicable Land Use Code Standard in *italics* followed by our responses for the City's consideration in **bold.**

Waiver Requests:

Parking and Vehicle Display Lot Landscaping – Land Use Code Sec. 14.6.2.C.3

This provision of the Land Use Code requires at least two trees per five parking spaces to be planted in landscaped islands and that landscaped islands shall be provided such that there are no more than 40 uninterrupted parking spaces. There are 96 parking spaces which would require at least 19 trees to be planted. The current landscape plan proposes 29 new trees to be planted on site. The site layout design has reinforced the building along Fore, India, and Middle Streets with landscaped spaces along Middle and Fore Street connecting the mid-block permeability corridor through the parking lot. There are no areas where more than 40 parking spaces are uninterrupted in line. Of the 96 proposed parking spaces on site, the parking layout also includes 44 covered or partially covered parking spaces beneath the hotel structure and covered parking structure along Middle Street. The covered parking structure will include landscaped plantings above. We believe this approach, which provides a covered parking structure with landscaping above, meets the intent of the parking lot landscaping requirement and we respectfully request a waiver from providing parking lot islands per the code.

Drive Aisle Width – Technical Manual Section 1.10.3

This provision of the technical manual requires parking lot drive aisle widths to be 24' wide. The parking area will only be accessible to valet and service vehicles and the parking lot will be effectively managed such that the decreased drive aisle widths do not pose an issue for parking of guests' vehicles. The drive aisle widths shown on Sheet C-3.1 are 22.3' wide and 11' wide, however, during valet operations, other vehicles can be moved such that the effective widths necessary for movement of vehicles will be increased. Delivery vehicles will typically enter the parking area and stop to unload within the 22.3' wide drive aisle where they will be able to back up to turn around towards the existing Hampton Inn dumpster area and exit the property. For these reasons, we respectfully request a waiver from the standard drive aisle width.

We look forward to your review of these materials and trust that this information satisfactorily meets the waiver justification requirements. If you have any questions regarding the information being submitted, please contact our office.

Sincerely,

GORRILL PALMER



Kaleb Bourassa, PE
Project Manager
Phone: 207-772-2515 x297
kbourassa@gorrillpalmer.com

Attachments:

c: Kent Beirne – Procon
Dennis Craven – Chatham Lodging Trust
Steve Bushey – Gorrill Palmer

K:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\P Applications\Local\2025.07.01_waiver request\ltr_waiver request_2025.07.01.docx

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

I, Kaleb Bourassa, of Gorrill Palmer, herby certify that a Neighborhood Meeting was held on Thursday, September 12th, 2024, at 5:30pm at the Hampton Inn Conference Room located at 209 Fore Street in Portland, ME for the proposed mixed-use Hotel and Retail development located at 203 Fore Street in Portland, ME.

I also certify that on August 27th, 2024 (at least 10 days prior to the neighborhood meeting), notices were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1,000 feet of a proposed industrial subdivision or industrial zone change.

2. Residents on the "interested parties" list.

Signed,



Kaleb Bourassa, PE
Project Manager
Phone 207-772-2515 x297
KBourassa@GorrillPalmer.com

Attachment to this certification are:
1. Copy of notice sent
2. Sign-in Sheet
3. Record of Feedback (Meeting Notes)

u:\3904.01_home 2 suites portland chatham lodging\p applications\local\2024.09.12_neighborhood meeting\2024.10.04_neighborhood meeting certification.docx

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August 21, 2024

Dear Neighbor:

Please join us for a Neighborhood Meeting to discuss the proposed Major Site Plan application (PL-002892-2024) by Chatham Lodging Trust for a mixed-use Hotel (Home 2 Suites) and 5,000 SF Retail development project at 203 Fore Street in Portland, ME.

Meeting Location: **Hampton Inn Conference Room - look for signs- enter off 209 Fore St. Portland, ME 04103**

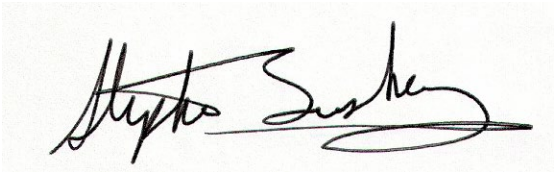
Meeting Date: **Thursday September 12, 2024**

Meeting Time: **5:30 PM – 6:30 PM**

The City Code requires that property owners within 500 feet (except notices must be sent to property owners within 1,000 feet for industrial zoning map amendments and industrial subdivisions) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. We will take attendance and submit a sign-in sheet to the Planning Board. The meeting will last no more than 60 minutes. If you have any questions, please feel free to contact Stephen Bushey 207.772.2515 x286.

Sincerely,

GORRILL PALMER



Stephen Bushey, PE
Senior Associate
sbushey@gorrillpalmer.com/Sbushey@ljbinc.com
207-772-2515 ext. 286

Note: Under Section 14-32(C) and 14-525 of the City Code of Ordinances, an applicant for a Major Site plan development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within three weeks of submitting a preliminary application or two weeks of submitting a final site plan application, if a preliminary plan was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street, Portland, ME 04101.

U:\3904.01_Home 2 Suites Portland Chatham Lodging\G Abutterss\neighborhood meeting notice 2024.08.20.docx

Chatham Lodging Trust – Home 2 Suites

Neighborhood Meeting September 12, 2024 – 203 Fore Street

Attendance List

Name	Property Location	Contact information
FOX, B	185 FORE ST	FOX.BARBARA1@GMAIL.COM
RICK JOHNSON	"	RICKJOH@MAC.COM
Kevin Rodel	167 Newbury St.	kprodel@gmail.com
JEAN PRINCIPE	167 NEWBURY	jean.principe@gmail.com
JULIA FLANDERS	22 HANCOCK ST	julia.s.flanders@gmail.com
Judith Katz-Leavy	22 Hancock St Apt 408	jkatzleavy@gmail.com
Sandra Dore	416 Fore St	genmarr@aol.com
Paula Foley Stelmack	207 Fore St Unit 1	markandpaula2020@gmail.com
Roy & Meg Lane	113 Newbury	meg.lane25@gmail.com
Mark Stelmack	207 Fore St, Unit 1	markandpaula2020@gmail.com
Bill Whitmore	35 Middle St	bwhitmore@cportcu.org
WITOLD FITZSIMON	146 NEWBURY ST	WITOLDFS@GMAIL.COM
STEVE KOFF	185 FORE ST	SKOFF@ME.COM
Gordon Carey	113 Newbury	Carey59@hotmail.com
Dan Sv. Grotts	62 India St	DaGrotts@gmail.com
Vicki Friedman	113 Newbury	vfriedman@me.com
JACK SWAN	15 MIDDLE ST	
HEATHER GUDEA	ELEPHANT PARK, LLC 33 HAMPSHIRE ST	HOSTELHEATHER@GMAIL.COM
JANINE GLEASON	166 FOREST, #26	JGleason@gmail.com
CHRISTINE MINNIGAN BROWN	207 Fore St #7	mrschris55@gmail.com
Marianne VanFleet Oxenhorn	62 India Street 205	Kabobox@bellsouth.net
Cathy Roach	62 India St #206	cathyRoach1@gmail
Serena Powell & Dan Skinner	23 Hampshire St #1	SMPOWELL26@YAHOO.COM

Name	Property Location	Contact information
Rick Holcett	15 Middle St. #402	rhulcett@gmail.com
Annie Jackson	62 INDIA ST # 405	annie'jax@gmail.com
Mark A. Clark	15 Middle St. #B209	ClarkMark7@gmail.com
CHRIS KORZEN	28 HAMPSHIRE	chriskorzen@gmail
Bethany field	26 Hampshire	bethany.field@gmail.com
John Fischer	23 Hampshire #3	jofischer@gmail.com
KENT BEIRNE		KBEIRNE@PROCONINC.com
Kaleb Bourassa		Kbourassa@gorrillpalmer.com

Chatham Lodging Trust – Home 2 Suites
Neighborhood Meeting
September 12, 2024
5:30 PM – 6:30PM

MEETING MINUTES

1. ATTENDEES

Presenters
Kaleb Bourassa (KB-GP), Gorrill Palmer
Kent Beirne (KB-PC), ProCon

Neighbors
See Sign-In Sheet for full list of Attendees

2. MINUTES

- Presenter introductions and explanation for purpose of meeting and current application process.
- **Kaleb Bourassa (KB-GP)** provided explanation for purpose of meeting, application process and current status of application. Noting additional comments and questions can be directed to the Planning Department.
- **Kent Beirne (KB-PC)** provided overview of building scope using slideshow presented on screen.
- Various questions and comments were heard and discussed as follows:
  - What does it mean for the project to be deemed complete? ***KB-GP*** *responded that the basic application must contain certain materials as outlined in the Ordinance, application form, and application checklists.*
  - When you say City Staff are reviewing, who is reviewing? ***KB-GP*** *responded that the application will be reviewed by City Staff including Planning Staff and Engineering/Public Works Staff as well as other third-party peer reviewers that may be associated with the project. For instance, the City utilizes a third-party peer reviewer for Traffic reviews.*
  - What happened to the project 5 years ago? ***KB-PC*** *noted this is not the same project.*
  - How does the process work? Where can we see these plans and application materials? ***KB-GP*** *noted that currently, the Applicant has made an application which has been deemed complete and the design team is reviewing and responding to review comments from Staff. Once a response to comments and supplemental materials are provided to Staff and the neighborhood meeting is held, Planning Staff will place the application on a workshop agenda with the Planning Board. Then the project will continue through the Planning Board process.*
  - Does the project require any variances? ***KB-GP*** *noted the project does not currently require any variances.*
  - Isn't this project located in a historic district? ***KB-PC*** *responded that the project is not located in a historic district and that it is applicable to the India Street form-based code.*

- What is being done for noise, lighting, construction management? ***KB-PC*** *noted that a Construction Management Plan was submitted with the application. The Plan will include measures for noise and lighting including time of work.*
- When will the project take place? *KB-PC noted the hope is for the permitting process to take place this Fall/Winter2024 with approvals in the Winter, allowing for construction in 2025.*
- How tall is the building? How tall is the Hampton Inn? ***KB-PC*** *noted the Hampton Inn will be taller than the proposed building by approximately 1-story. The proposed building will be 5-stories (54') along Fore Street and 4-stories (46') along Middle Street. The architectural plans noted the heights which were approximately,*
- How is building height determined? ***KB-PC*** *noted the building height is determined by the average height at the corners of the building. This has been taken into account in the current building design and will be finalized as the design is completed.*
- How close will the building be to the road? ***KB-PC*** *responded that the building needs to be located within 5' of the right-of-way boundary and, so, the building will be approximately at the back of the existing sidewalk and +/-10' from the curb.*
- How far apart will the existing Hampton Inn and new hotel be? ***KB-PC*** *noted that the buildings are located approximately 50' away.*
- What are dimensions of building along Fore, India, and Middle Streets? ***KB-PC*** *explained the requirements of the form-based code require modules/partitions to be included*
- Will you be able to see the water from Middle Street? ***KB-PC*** *stated that the same view will change since the lot is a parking lot currently. However, the form-based code includes a mid-block permeability requirement to provide an open space allowing visibility/connection between public streets. This is provided with the staircase from Middle Street and walkway to Fore Street which will go between the Hampton Inn and the proposed Homes 2 Suites.*
- Where are other buildings on Middle Street in relation to this building? *Not all buildings easily appeared on the plans presented on screen, however,* ***KB-GP*** *noted the Retail C and the edge of the patio area were in line with the Duckfat structure on Middle Street.*
- How will parking be handled? There is not enough parking now. ***KB-PC*** *the Applicant has contracted with UPP to handle the valet parking for both the Hampton Inn and the Homes 2 Suites. UPP will be able to provide sufficient parking to meet the needs of both properties. Additionally, 108 parking spaces are provided on site.*
- Where will parking for existing condos and existing ADA spaces be located? What about Toast parking? How many parking spaces are there? ***KB-PC*** *noted parking for existing condo owners will be allocated on site.*
- Are 3 valet spaces enough? What happens when the hotel is busy and the valet spaces back up? ***KB-PC*** *noted the valet service will be able to handle the demand.*
- How will deliveries be handled? Delivery vehicles already park in Fore Street. ***KB-PC*** *noted that the intention will be for delivery vehicles to enter into the parking lot or unload on Fore Street.*
- How will trash be handled? Shared dumpsters with Hampton Inn? Is that enough? ***KB-PC*** *noted the Homes 2 Suites will utilize the shared dumpster facilities already located on site.* The dumpster facilities or the frequency of collections may need to be reviewed further.
- Will there be any traffic mitigation required? ***KB-GP*** *responded that the design team has held a scoping meeting with City Staff to review the scope of the traffic study and that no mitigation has been identified yet.*

- Are all existing green spaces on the property going away? ***KB-PC*** *responded that the existing green areas on site will be removed, however, there are planned open areas and green space along Middle Street and Fore Street.*
- Will there be trees planted on the parking structure/deck? ***KB-PC*** *noted the landscaping design has not been completed however the soil depth on the structure will not support trees. Trees in large planters may be an option.*
- How will stormwater be handled on site? The city already has flooding issues in large storm events. ***KB-GP*** *noted the current stormwater design will provide flood control for rainwater via underground storage chambers in the parking area which will reduce the amount peak discharge rate emanating from the site.*
- What about the contaminated soil? What will you do with it when you dig it up? ***KB-PC*** *noted that an environmental consultant has been enlisted and that plans for the contaminated soil have not yet been finalized.*
- What about the water on the parking structure/deck? ***KB-GP*** *responded that there will be a drainage layer incorporated into the design of the parking structure to collect runoff and connect to the chamber system.*
- Will the parking structure/deck be designed to allow future development? ***KB-PC*** *stated the parking structure is not being designed to support a building.*
- Where will the mechanical equipment be located? The Hampton Inn is noisy. ***KB-PC*** *noted any mechanical equipment will be located on the rooftop.*
- Will the mechanical equipment on the roof be screened? ***KB-PC*** *responded yes.*
- Will there be any residential units/can there be? ***KB-PC*** *noted the development will not include any residential units.*
- What will the retail units be? ***KB-PC*** *noted the prospective tenants for the retail spaces have not been finalized.*
- Where will the stair access be/will there be stair access onto Middle Street? ***KB-PC*** *noted there will be no direct staircases from the Hotel onto Middle Street.*

Att. S

Traffic Impact Study
Homes 2, Portland

Chatham Lodging Trust
222 Lakeview Avenue, Suite 200
West Palm Beach, FL 33401









Submitted By:
Gorrill Palmer
300 Southborough Dr., Suite 200
South Portland, Maine 04106
207.772.2515

March 2025

GORRILL PALMER
An LJB Engineering Company

TRAFFIC IMPACT STUDY
HOME2 SUITES
PORTLAND, MAINE

March 2025

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Appendices

Appendix A – Site and Supporting Plans
Appendix B – Turning Movement Figures & Traffic Counts
Appendix C – Existing Pedestrian Conditions
Appendix D – Crash History



Introduction

This Traffic Impact Study (TIS) is being submitted per the City's request to support the MaineDOT Traffic Movement Permit (TMP) application for the proposed hotel, restaurants, and retail area in Portland, Maine. The City has delegated review authority to administer the TMP permit process. Sections 1-6 of the TMP application were submitted to the City of Portland in February 2025, and a scoping meeting was held for this project on March 11, 2025. This TIS reflects comments from the City and T.Y. LIN (the City's delegated traffic reviewer) at the scoping meeting. Much of this information was provided in the TMP application Sections 1-6 but is repeated here for convenience of review.

Site Description and Site Plan

This study is for a proposed Hotel, Restaurants, and Retail Area at 203 Fore Street - Portland, Maine. The site is currently occupied by an existing parking lot and is bounded by Hampton Inn to the west, India Street to the east, Fore Street to the south, and Middle Street to the north. The overall site is shown on Portland's Tax Map 029 as Lot L003001. The site is proposed to be accessed via one full movement entrance shared with the existing Hampton Inn on Fore Street and approximately three valet spaces along the frontage on Fore Street. The site plan is included in Appendix A.

Trip Generation

Trip generation for the project has been calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation,* Eleventh Edition, the most recent edition accepted by MaineDOT. The applicant proposes a Hotel, Two Restaurants, and a Retail Area. The exact use of the retail space is unknown at this time, but it is expected to be a low-traffic generator. For this evaluation, an apparel store is assumed. After a review of the Land Use Codes (LUC) provided in the 11th Edition of the *Trip Generation*, the following was selected to calculate the trip generation for the proposed project:

Proposed Trip Generation Variables

- LUC 311 – All Suites Hotel – 132 Keys
- LUC 876 – Apparel Store – 1,777 SF
- LUC 932 – High Turnover (Sit-Down) Restaurant – 1,843 SF & 1,651SF

In calculating trip generation, the MaineDOT methodology requires a review of both the average rate and the fitted curve equation. If $r^2 \geq 0.80$, the fitted curve equation is typically used, and if $r2 < 0.80$, then the average rate is generally used. Trip generation calculations are provided in Appendix B.

Table 1 summarizes the trip generation for the proposed hotel.

Table 1 – Trip Generation Hotel (LUC 311 – 132 Keys**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday*	4.31	569
AM Peak Hour of Adjacent Street	0.34	45
PM Peak Hour of Adjacent Street*	0.36	48
AM Peak Hour Generator	0.37	49
PM Peak Hour Generator*	0.37	49
Saturday Peak Hour Generator**	N/A	N/A

* Trip gen rates based on fitted curve equation

**No available trip gen in ITE 11th edition

Table 2 summarizes the trip generation for the proposed retail.

Table 2 – Trip Generation Apparel Store (LUC 876 – 1,777 SF**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday*	66.40	118
AM Peak Hour of Adjacent Street*	1.00	2
PM Peak Hour of Adjacent Street	4.12	8
AM Peak Hour Generator*	4.80	9
PM Peak Hour Generator	4.20	8
Saturday Peak Hour Generator	5.32	10

* One study available

Table 3 summarizes the trip generation for one of the proposed High Turnover (Sit-Down) Restaurants.

Table 3 – Trip Gen. High Turnover (Sit-Down) Restaurant (LUC 932 – 1,843 SF**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday	107.20	197
AM Peak Hour of Adjacent Street	9.57	18
PM Peak Hour of Adjacent Street	9.05	17
AM Peak Hour Generator	13.68	25
PM Peak Hour Generator	16.35	30
Saturday Peak Hour Generator	11.19	21

Table 4 summarizes the trip generation for one of the proposed High Turnover (Sit-Down) Restaurants.

Table 4 – Trip Gen. High Turnover (Sit-Down) Restaurant (LUC 932 – 1,651 SF**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday	107.20	177
AM Peak Hour of Adjacent Street	9.57	16
PM Peak Hour of Adjacent Street	9.05	15
AM Peak Hour Generator	13.68	23
PM Peak Hour Generator	16.35	27
Saturday Peak Hour Generator	11.19	18

Table 5 summarizes the combined trip generation for the proposed site.

Table 5 – Combined Trip Generation

Time Period	Trip Generation (Trip Ends)
Weekday	1061
AM Peak Hour of Adjacent Street	81
PM Peak Hour of Adjacent Street	88
AM Peak Hour Generator	106
PM Peak Hour Generator	114

As shown in Table 5, the AM and PM Peak Hours of Generator traffic are 106 and 114 trips, respectively. Based on this, the project requires a 100-200 trip-end MaineDOT Traffic Movement Permit (TMP). The City of Portland has delegated review authority to administer this application for the MaineDOT. The above trip generation was confirmed at the scoping meeting.

Study Area

Using MaineDOT methodology, the study area appears limited to the site driveway and streets within the immediate surrounding area. This would include Middle Street, Fore Street, and India Street, as they border the potential site. The study area was discussed and confirmed during the scoping meeting.

Traffic Volumes

Based on conversations with the City of Portland, it was determined that traffic counts would be completed for only the PM peak hour at the following locations:

- India Street / Middle Street
- India Street / Fore Street
- Fore Street / Site Drive

Counts were completed by GP on Tuesday, September 10, from 3:00 PM – 6:00 PM for Middle Street / India Street, Wednesday, September 11, from 3:00 PM – 6:00 PM for Fore Street / India Street, and Fore Street / Site Drive on Friday, September 27 from 3:00 PM – 6:00 PM. MaineDOT's available data on their website shows that traffic volumes along the site frontage have decreased from 2016 to 2022. To be conservative, the yearly growth was decided to be 0.5%. Traffic counts are located in Appendix B.

Trip Distribution

Based on ITE's Trip Generation Manual, the following trip distribution is forecast for the combined Land Use Codes:

Table 6 – Trip Distribution

Time Period	Trip Ends		
	Enter	Exit	Total
Weekday	531	530	1061
AM Peak Hour of Adjacent Street	45	36	81
PM Peak Hour of Adjacent Street	47	41	88
AM Peak Hour Generator	57	49	106
PM Peak Hour Generator	57	57	114

Trip Composition and Assignment

Trip Composition:

Primary trips are made for the sole purpose of going to or from the site. When exiting the site, these primary drivers return to where they came from. Diverted trips are made a short distance out of the way while en route to somewhere else. Pass-by trips are made by people who would otherwise drive past the site and decide to stop at it. All the trips were considered primary for the initial purposes of this section and the figures.

Trip Assignment:

The hotel's trip assignment is based on traffic counts completed in the area, traffic flow suggested by the City of Portland in the scoping meeting, and valet trips. The forecast trip generation to and from the general site area will not be increased, but it was expressed during the scoping meeting that valet trips to/from nearby parking lots be shown on trip assignment figures. For the purposes of this study, it was assumed that all traffic to/from the site would be

taken by valet to parking in the area. This will increase vehicle movements in the immediate area, as shown in Figures 11 and 12 in Appendix B.

Proposed Uses in Vicinity of Proposed Development

Based on discussions with the City of Portland's assistant city planner, Eric Freeman, and the City of Portland's delegated reviewer, Tom Errico of TY LIN, two other developments provide additional traffic in our study area. WEX phase 3 and 58 Fore Street ("Portland Foreside") will provide additional traffic in the study area. Other development figures are located in Appendix B in figures 8 & 9.

Capacity Analysis

At the scoping meeting, the City of Portland expressed that capacity analysis was unnecessary for TIS submittal.

Site Access & Parking

The proposed hotel and the existing adjacent Hampton Inn hotel are owned and operated by the same entity and will share the existing full-movement entrance on Fore Street. As part of the project, three valet spaces along the proposed hotel's frontage near the site drive are proposed. Hotel visitors will be valet only, with no on-site self-parking. The Hampton Inn and proposed Home2 Suites will share the same valet service, Unified Parking Partners (UPP). This will allow for seamless parking coordination between the two hotels. If valet spaces on Fore Street are occupied when a vehicle arrives, they will be directed off-street to enter the existing shared driveway. Once off-street, UPP can meet the needs of the guests and provide valet service. This approach is intended to avoid congestion on Fore Street.

UPP intends to primarily use four available lots within one block of the site for off-site parking (Appendix B Figure 4); the lots are as follows:

- 280 Fore Street – 20 Available Spaces
- 194 Fore Street – 20 Available Spaces
- 1 India Street – 44 Available Spaces
- 100 Middle Street – 245 Available Spaces (only used for heavy weekend and overnight stays)

In addition to the above off-site spaces, approximately 84 valet spaces are provided on-site. The restaurant and retail areas will not have dedicated parking spaces or use the valet service, and visitors will use public parking to access these uses.

Sight Distance

Appendix A shows the proposed site plan; there are no detailed entrance dimensions, as the existing driveway will not be altered. To evaluate available sight distances for the existing entrance, Gorrill Palmer completed a field review on 6/27/2024. The City of Portland and MaineDOT use the same standards for sight distances. Table 7 below summarizes the sight distance standards for MaineDOT.

Table 7 – Standards for Sight Distance

Speed Limit (mph)	Passenger Vehicle – MaineDOT (ft)
25	200
30	250
35	305
40	360
45	425
50	495

MaineDOT and the City of Portland sight distance evaluation methodology is as follows:

Driveway Observation Point:	10 feet from the traveled way
Height of Eye at Driveway:	3.5 feet above the ground
Height of Approaching vehicle:	4.25 feet above the ground

Based on the MaineDOT Map Viewer, the speed limit for Fore Street along the site frontage is 25 mph. The posted speed limit of 25 mph was used for the sight distance evaluation.

Table 8 summarizes the measured sight distance at the existing entrance location based on the type of vehicle it is expected to accommodate.

Table 8 – Sight Distance Summary

Driveway	Passenger Vehicle Required (feet)	Observed Looking Left* (feet)	Observed Looking Right* (feet)
Full Movement Entrance	200	310 (To Intersection)	210 (To Intersection)

*Assumes not blocked by parked cars

Both distances could not be confirmed due to vehicles parked along the site frontage. However, the sight distance is expected to exceed requirements without parked vehicles. To improve the sight distance for this entrance, on-street parking in the immediate area would need to be removed; however, the City would need to do that if desired.

Bicycle, Pedestrian, and Transit

Per conversations at the scoping meeting, the city requested alternatives to improve pedestrian safety for the four intersections surrounding the site. The study area for the pedestrian and bicycle inventory and analysis includes the immediate intersections around the project, including the following four intersections:

- Franklin Street / Middle Street
- Franklin Street / Fore Street
- Middle Street / India Street
- Fore Street / India Street

Inventory & Analysis

Franklin Street/Middle Street & Franklin Street/Fore Street:

Both of these intersections are signalized intersections utilizing conventional crosswalks and curb ramps. A center median provides refuge along Franklin Street for both intersections. All curb ramps utilize truncated dome warning plates and are equipped with actuated signal pedestrian push buttons.

Not all push buttons are located proximate to the curb ramps. Some truncated dome warning plates do not cover the entire ramp width and are missing panels or filled in with pavement.

Middle Street/India Street:

Middle and India Streets are two-lane streets with an all-way stop intersection. All legs of the intersection include curb ramps and painted crosswalks. A pedestrian crossing sign adjacent to the curb ramp in the intersection's northwest corner alerts vehicles traveling westbound towards Congress Street.

India Street/Fore Street:

Fore and India Streets are two-lane streets with an all-way stop intersection. The intersection's legs include curb ramps and painted crosswalks.

Other Access to the Site:

Mid-block along Middle Street, a crosswalk, is located at the intersection with Hampshire Street. This crosswalk aligns with the existing access through the Hampton Inn property, providing pedestrian passage to Fore Street. The crosswalk is painted with accessible curb ramps on either side.

An existing access is also located mid-block between Middle and Fore Streets along Franklin Street. This provides pedestrian passage from Franklin Street north into the Hampton Inn site.

A proposed mid-block access is provided along the south side of the proposed Home2 Suites Hotel, approximately ±200 feet from the respective corners of India Street, spanning from Middle to Fore Street.

Existing condition photos are located in Appendix C.

Lighting:

The entire study area has a mix of decorative streetlights and standard pole-mounted lights on utility poles. The decorative lights are located along Middle, Fore, India, and Franklin Street. On the project side of Middle and India Street, the decorative poles are located behind the sidewalk or not at all due to overhead wire conflicts. The typical utility pole-mounted streetlights light the intersections of Middle / India Streets and Fore / India Streets. The Middle / India Street intersection appears well-lit and includes at least three lights covering the intersection. The Fore / India Street intersection appears to have two lights broadcasting over the intersection with an additional decorative light nearby southerly on Fore Street.

Bicycle Facilities:

No bicycle lanes are located along Franklin, Middle, India, or Fore Street. Bicycle racks are available along the Middle Street sidewalk (both sides), India Street sidewalk (north side), and Fore Street sidewalk (west side).

The proposed project includes bicycle racks along Middle Street.

Options to Improve Existing Facilities

Various options to improve pedestrian facilities were explicitly reviewed for the intersections of Middle / India Street and Fore / India Street. The following three items were considered as potential improvements:

- Remove parking within 20' of crosswalks – all intersections were observed to allow on-street parking within 20' of crosswalks. This change would improve the visibility of pedestrians at the edge of the roadway from approaching vehicles.

- Increase crosswalk paint width and repaint crosswalks—the existing paint appears visible and is in a piano-key alignment. Increasing the crosswalks' paint width will increase visibility and encourage vehicles to decelerate and/or stop sooner.

- Curb extensions—Based on the existing alignments at the Middle / India Street and Fore / India Street intersections, we recommend adding curb extensions at least 4' wide only along India Street. This will allow pedestrians to be closer to the traveled way and increase visibility from approaching vehicles.

Transit

There are bus stops within a quarter mile of the proposed site. A Husky Lines bus stop is provided at the intersection of Thames Street and Hancock Street. At the intersection of Congress Street and India Street, a Breez / Metro bus stop is provided. No other bus stops are offered in the quarter-mile area.

Safety Review

Gorrill Palmer requested and reviewed the latest three-year crash history for Fore Street, India Street, and Middle Street along the site frontage from the MaineDOT, as well as reviewing safety information on the MaineDOT Crash Query website from 2021 to 2023, the most recent MaineDOT history available. Crash history is provided in Appendix D.

MaineDOT evaluates whether a location has a crash problem by using two criteria to define a High Crash Location (HCL). Both criteria must be met for a location to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:

2. A minimum of eight crashes over the same three-year period.

High Crash Locations:

Based on a review of the crash data, no high crash locations are along the site frontage. To identify locations close to becoming HCLs, we identified locations that meet one of the two criteria.

Table 9 – Safety Review Summary

Node(s)	Location	Number of Crashes	Critical Rate Factor
Intersection			
63225	Congress Street / Franklin Street NB	18	0.88
18519	Congress Street / Franklin Street SB	9	0.40

18517	Fore Street / Franklin Street	13	0.86
15397	Commercial Street / Franklin Street / Maine State Pier	11	0.78
18518	Franklin Street / Middle Street	8	0.43
Segment			
18517 to 18762	Fore Street from Franklin Street to Custom House Street	4	1.62
18814 to 19413	Middle Street from Pearl Street to Church Street	2	1.37
18518 to 18801	Middle Street from Franklin Street to Hampshire Street	2	1.02
18801 to 18817	Middle Street from Hampshire Street to India Street	5	2.06
18817 to 18818	Middle Street from India Street to Hancock Street	1	1.09
18800 to 18801	Hampshire Street from Newbury Street to Middle Street	1	2.12
18796 to 18804	India Street from East Federal Street to Newbury Street	4	2.20
18804 to 18817	India Street from Newbury Street to Middle Street	4	2.49

Based on the information in Table 9, no locations are close to becoming a HCL.

Pedestrian & Bicycle crashes:

In addition to the high crash locations, GP reviewed available crash information for pedestrian or bicycle crashes within the immediate area for 2021-2023. A singular non-fatal bicycle crash was recorded in the study area. The collision occurred at Middle Street / Franklin Street on 8/10/2022 at 12:34 PM. A singular non-fatal pedestrian crash was recorded in the study area. The collision occurred at the Middle Street / Franklin Street intersection on 9/22/2022 at 11:00 AM.

It should be noted that a fatal pedestrian crash occurred on January 3, 2025, at the intersection of India Street and Fore Street. We understand that an eastbound Fore Street vehicle turning left to travel north on India Street hit a pedestrian within the crosswalk crossing India Street. The crash occurred in the middle of the day, with clear and dry weather conditions. Other details of the crash are not available.

Potential Mitigation

Potential mitigation was discussed at the scoping meeting, and the City stated they felt that the intersection's overall operations were acceptable but wanted to concentrate efforts on pedestrian safety in the area, more specifically at the two adjacent intersections with India

Street. Based on discussions at the scoping meeting and the reviews provided in this TIS, GP recommends considering the following potential off-site mitigation to improve pedestrian safety at the India Street intersections with Middle Street and Fore Street.

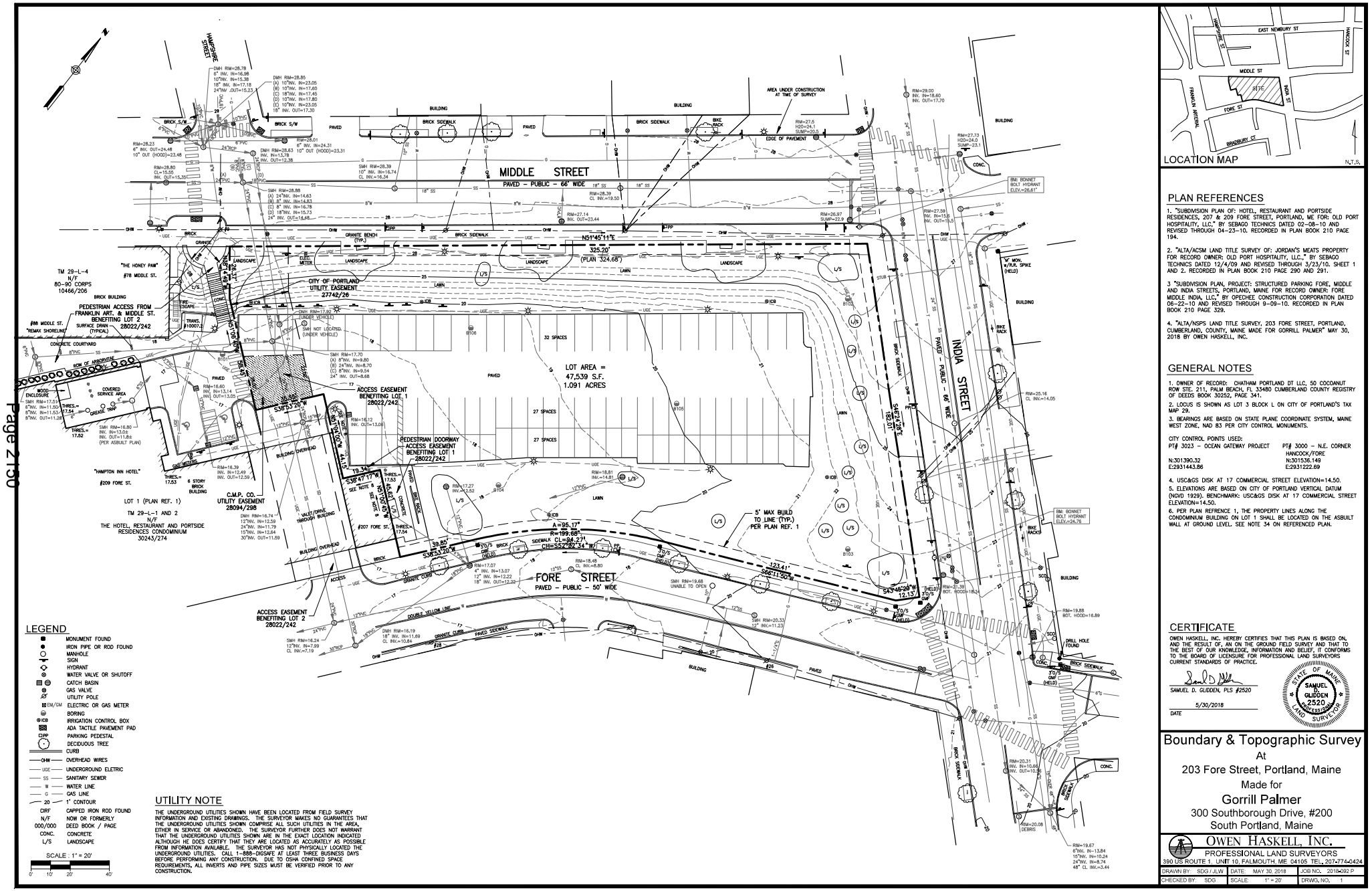
- Remove parking within 20' of crosswalks: Intersections were observed to allow on-street parking within 20' of crosswalks. The removal of parking within 20' could improve the visibility of pedestrians at the edge of the roadway from approaching vehicles.

- Increase crosswalk paint width and repaint crosswalk: The existing paint appears visible and is in a piano-key alignment. Increasing the crosswalks' paint width will increase visibility and encourage vehicles to stop.

- Curb extensions: Based on the existing alignments at Middle / India Street and Fore / India Street intersections, we recommend adding curb extensions at least 4' wide only along India Street. This will allow pedestrians to be closer to the traveled way and increase visibility to approaching vehicles.

u:\chatham lodging trust\3904.01_home 2 suites portland chatham lodging\n traffic\tis\revised tis - homes2.docx

Appendix A
Site and Supporting Plans



LEGEND

- MONUMENT FOUND
- IRON PIPE OR ROD FOUND
- MANHOLE
- SIGN
- HYDRANT
- WATER VALVE OR SHUTOFF
- CATCH BASIN
- GAS VALVE
- UTILITY POLE
- ELECTRIC OR GAS METER
- BORING
- IRRIGATION CONTROL BOX
- ADA TACTILE PAVEMENT PAD
- PARKING PEDESTAL
- DECIDUOUS TREE
- CURB
- OHW — OVERHEAD WIRES
- UGE — UNDERGROUND ELETRIC
- SS — SANITARY SEWER
- W — WATER LINE
- G — GAS LINE
- 20 — 1' CONTOUR
- CIRF — CAPPED IRON ROD FOUND
- N/F — NOW OR FORMERLY
- 000/000 — DEED BOOK / PAGE
- CONC. — CONCRETE
- L/S — LANDSCAPE

SCALE : 1" = 20'

0' 10' 20' 40'

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

LOCATION MAP N.T.S.

PLAN REFERENCES

1. "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.

2. "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC.," BY SEBAGO TECHNICS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.

3 "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06-22-10 AND REVISED THROUGH 9-09-10. RECORDED IN PLAN BOOK 210 PAGE 329.

4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND, COUNTY, MAINE MADE FOR GORRILL PALMER" MAY 30, 2018 BY OWEN HASKELL, INC.

GENERAL NOTES

1. OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.

2. LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.

3. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
N:301390.32	N:301536.149
E:2931443.86	E:2931222.69

4. USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

6. PER PLAN REFRENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

SAMUEL D. GLIDDEN, PLS #2520

5/30/2018
DATE

STATE OF MAINE SAMUEL D. GLIDDEN 2520 PROFESSIONAL LAND SURVEYOR

Boundary & Topographic Survey

At

203 Fore Street, Portland, Maine

Made for

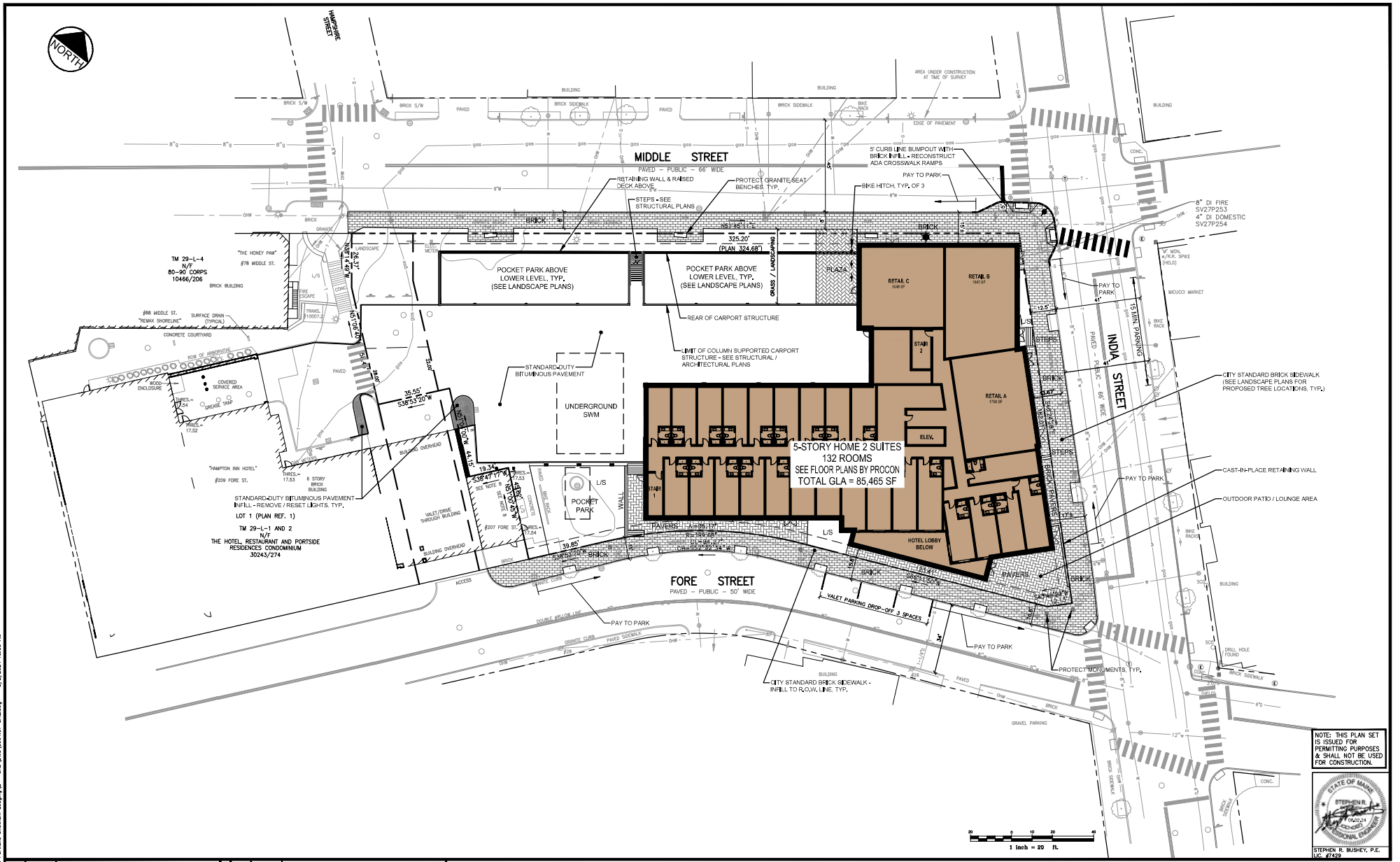
Gorrill Palmer

300 Southborough Drive, #200

South Portland, Maine

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: SDG / JLW	DATE: MAY 30, 2018	JOB NO. 2018-092 P
CHECKED BY: SDG	SCALE: 1" = 20'	DRWG. NO. 1



NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE STEPHEN R. BUSHEY 09/02/24 REGISTERED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E. LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-SITE.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: SITE LAYOUT PLAN

Project: Home 2 Suites – 203 Fore Street
Portland, Maine

Client: Chatham Portland DT, LLC c/o Chatham Lodging Trust
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-3.0

I:\3904.01_Home 2 Suites Portland Chatham Lodging\2 - CAD\DWG\3904.01-SITE.dwg 8/2/2024 10:00 AM

Appendix B

Turning Movement Figures
Traffic Counts

SITE LOCATION WITHIN TOWN LIMITS

Figure No. 1



HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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TWO MILE RADIUS

Figure No. 2



HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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¼ MILE RADIUS

Figure No. 3



HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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OFF-SITE VALET PARKING

Figure No. 4



HOMES 2
PORTLAND, MAINE

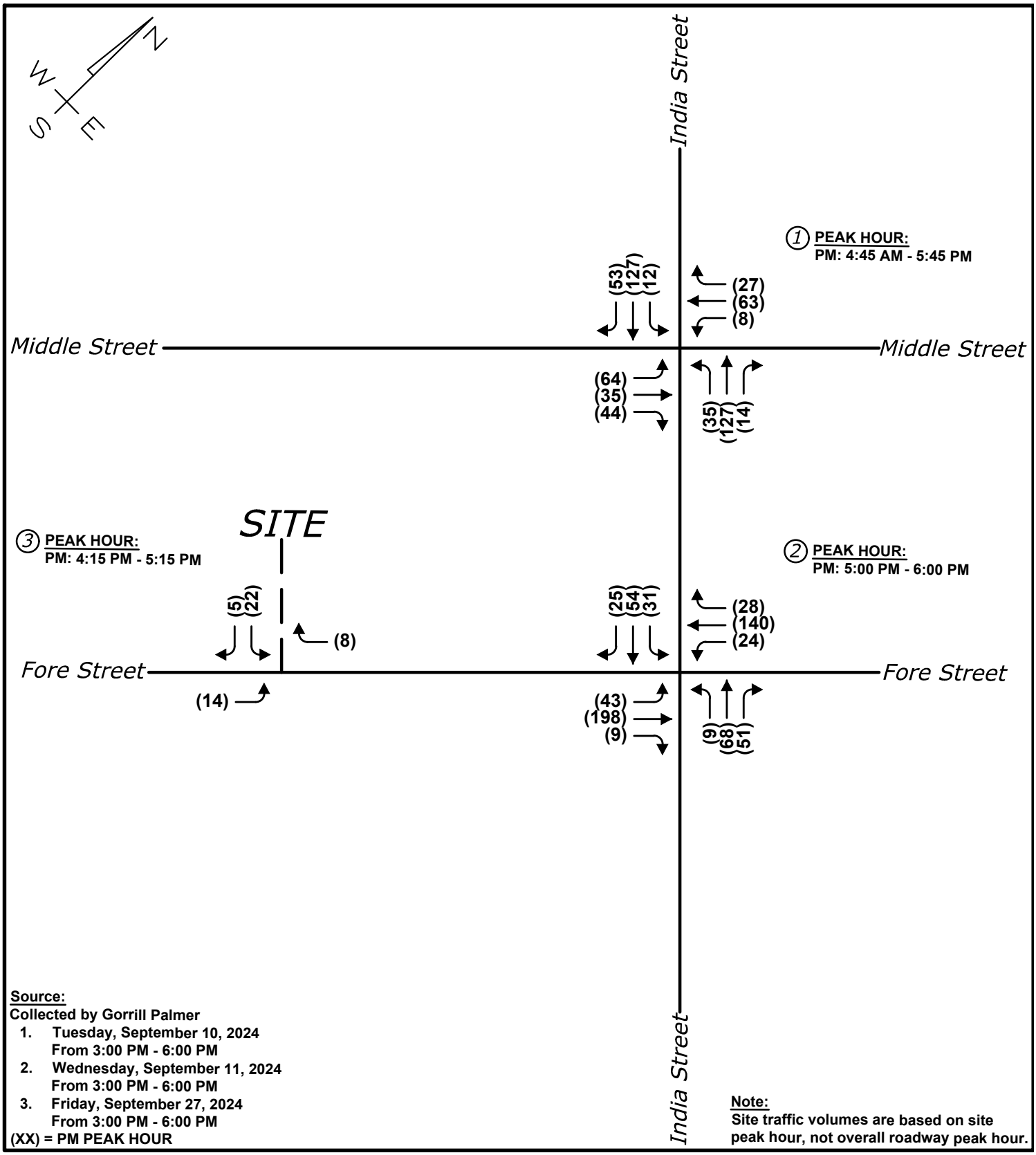
Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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2024 RAW VEHICLE VOLUMES

Figure No. 5



Source:
Collected by Gorrill Palmer

1. **Tuesday, September 10, 2024**
   From 3:00 PM - 6:00 PM
2. **Wednesday, September 11, 2024**
   From 3:00 PM - 6:00 PM
3. **Friday, September 27, 2024**
   From 3:00 PM - 6:00 PM

(XX) = PM PEAK HOUR

Note:
Site traffic volumes are based on site peak hour, not overall roadway peak hour.

HOMES 2
PORTLAND, MAINE

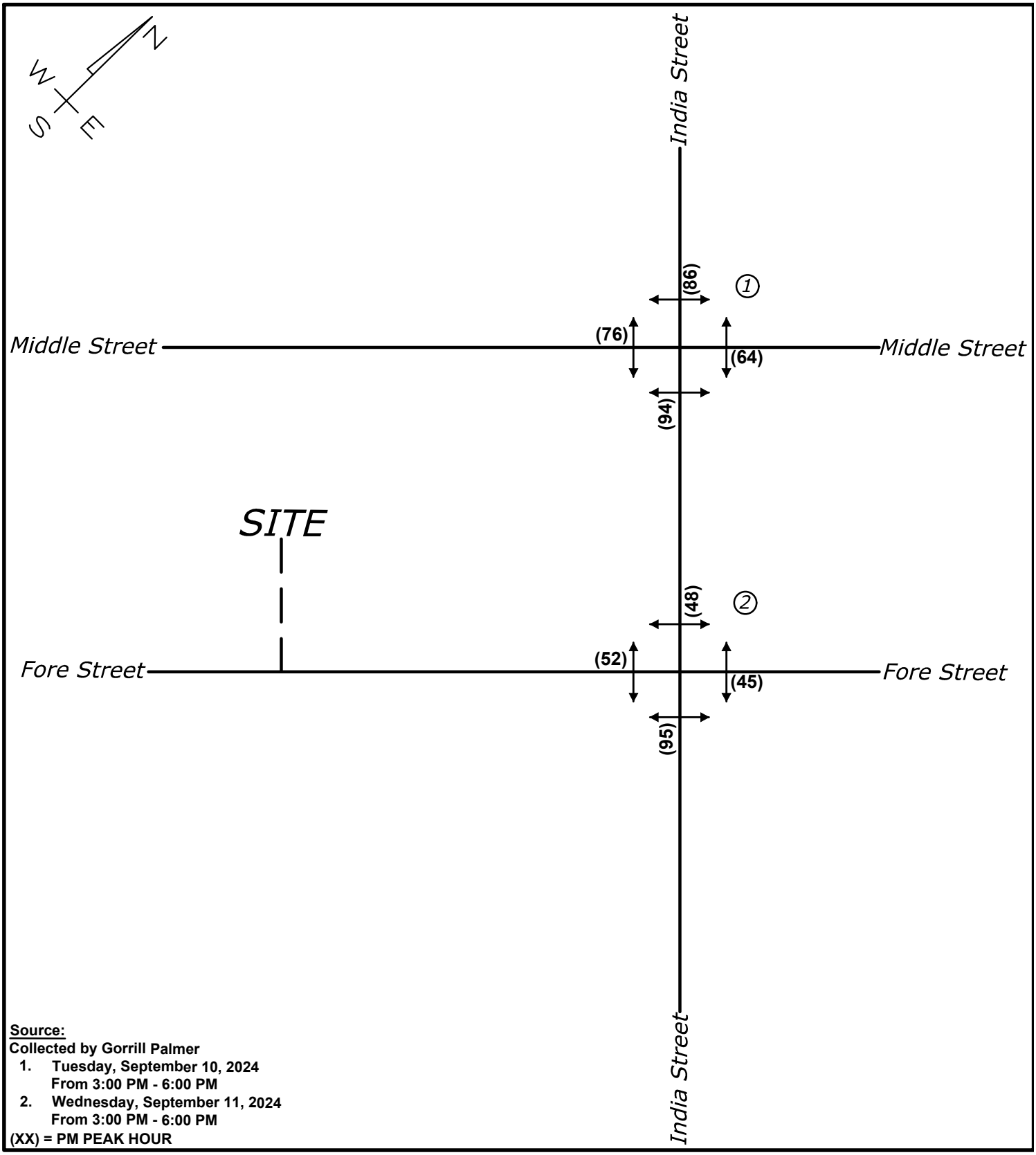
Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	3/20/2025
Checked:	RED	File Name:	Figure Set.dwg

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2024 RAW PEDESTRIAN VOLUMES

Figure No. 6



Source:
Collected by Gorrill Palmer

1. **Tuesday, September 10, 2024**
   From 3:00 PM - 6:00 PM
2. **Wednesday, September 11, 2024**
   From 3:00 PM - 6:00 PM

(XX) = PM PEAK HOUR

HOMES 2
PORTLAND, MAINE

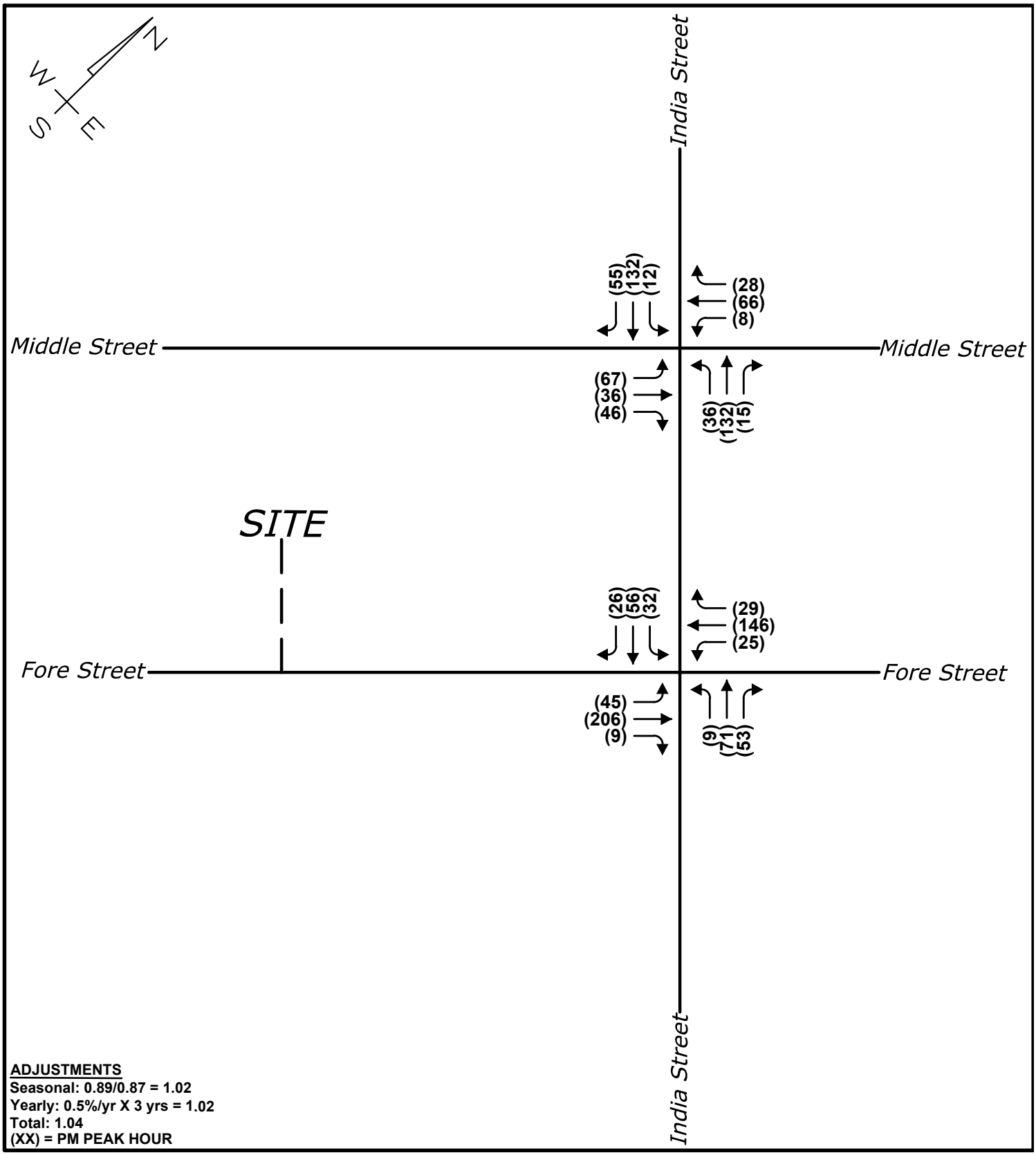
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Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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2027 ADJUSTED VEHICLE VOLUMES

Figure No. 7



HOMES 2
PORTLAND, MAINE

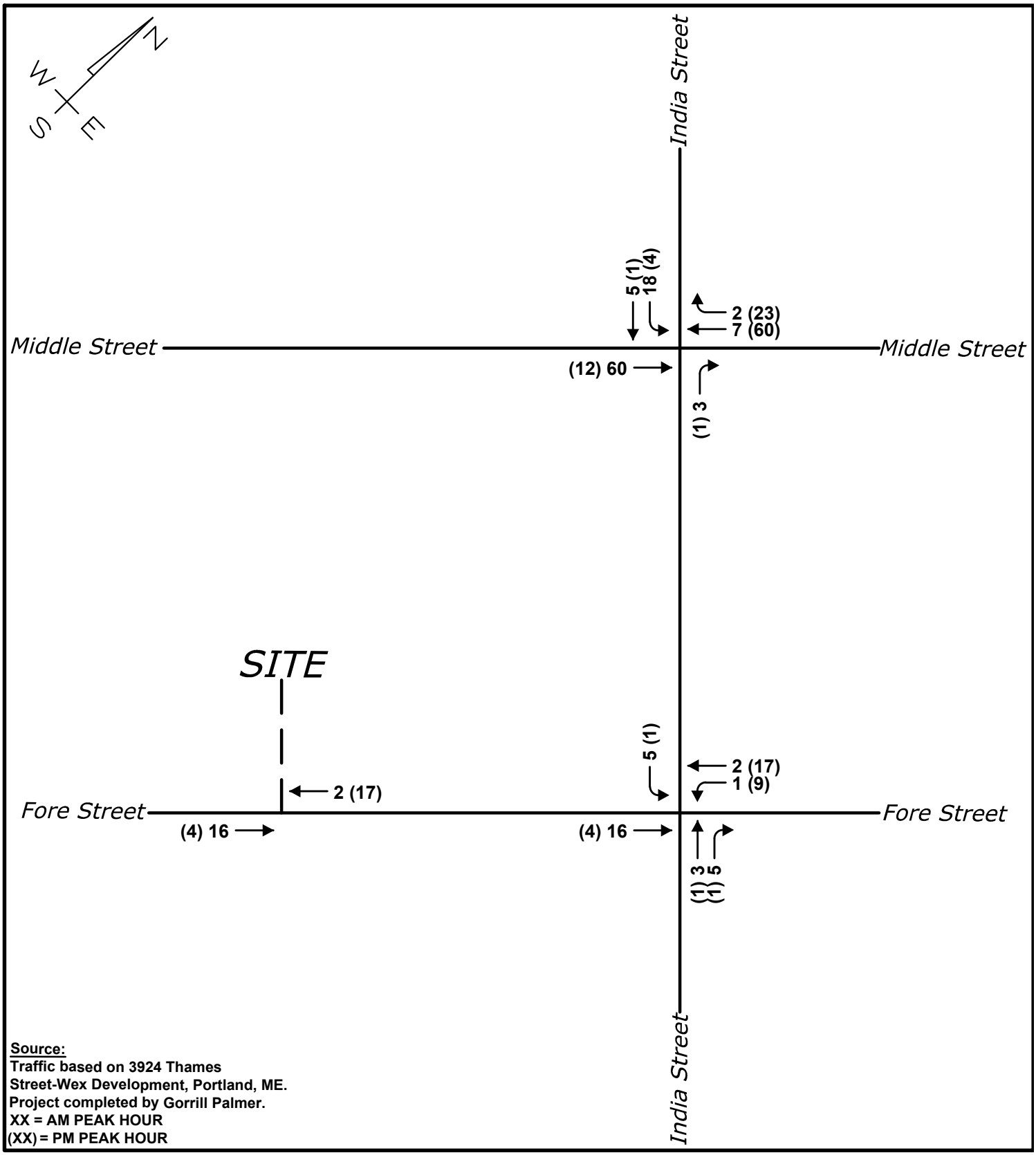
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Checked: RED File Name: Figure Set.dwg

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WEX OTHER DEVELOPMENT

Figure No. 8



Source:
Traffic based on 3924 Thames Street-Wex Development, Portland, ME. Project completed by Gorrill Palmer.
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

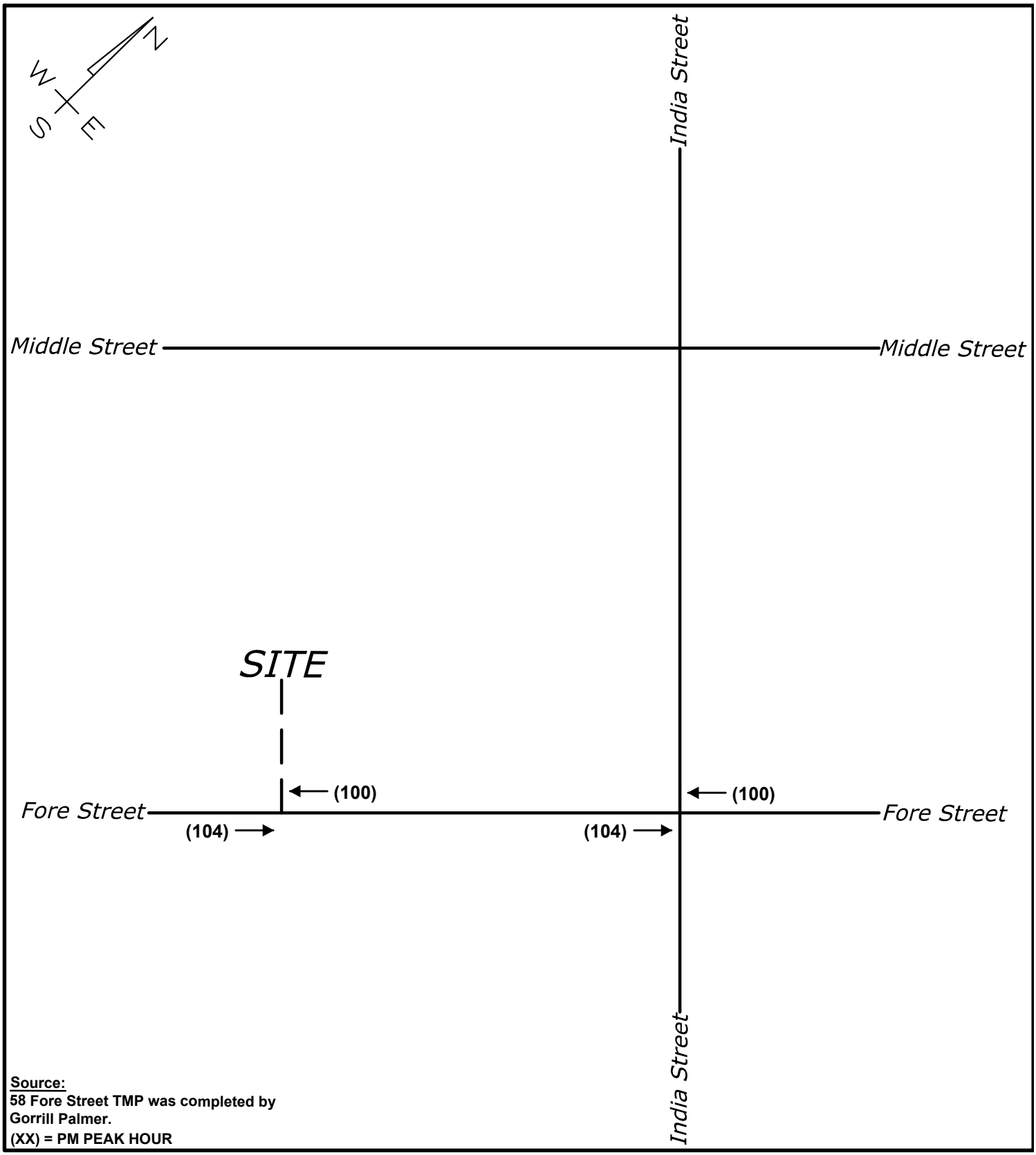
HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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58 FORE STREET ("PORTLAND FORESIDE") Figure No. 9



HOMES 2
PORTLAND, MAINE

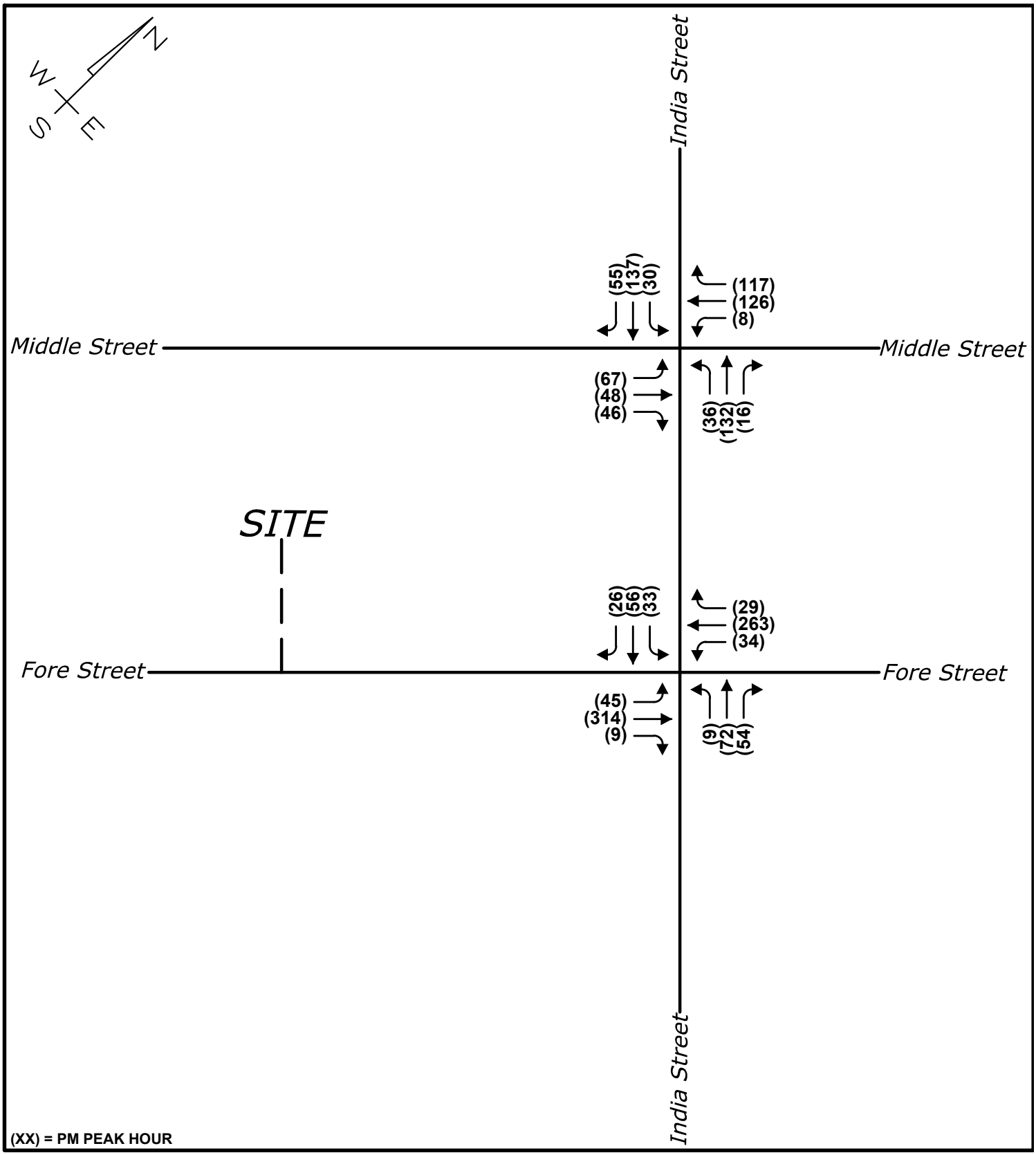
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Checked:	RED	File Name:	Figure Set.dwg

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2027 PREDEVELOPMENT

Figure No. 10



HOMES 2
PORTLAND, MAINE

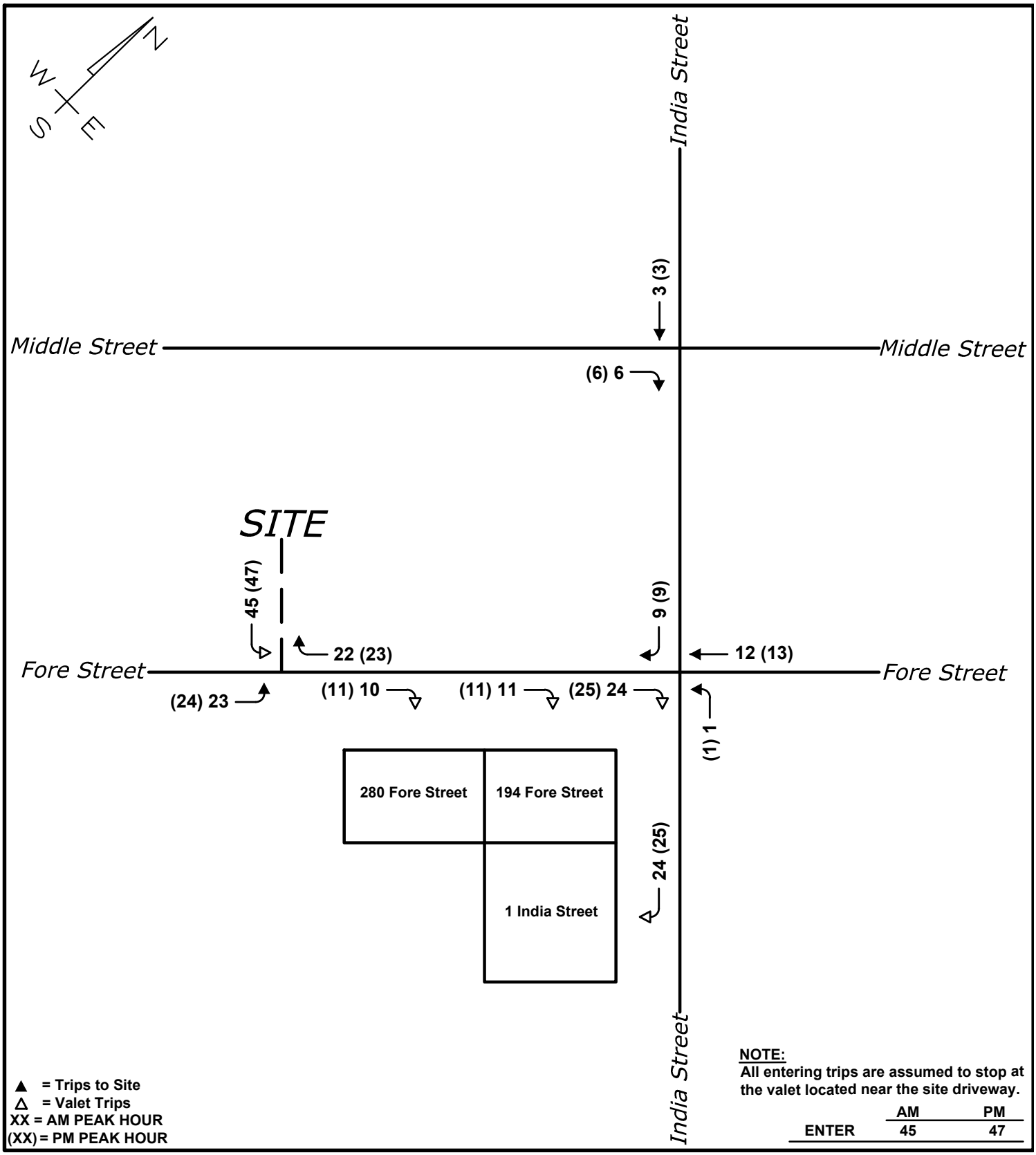
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Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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FORECAST ENTERING SITE TRIP DISTRIBUTION

Figure No. 11



HOMES 2
PORTLAND, MAINE

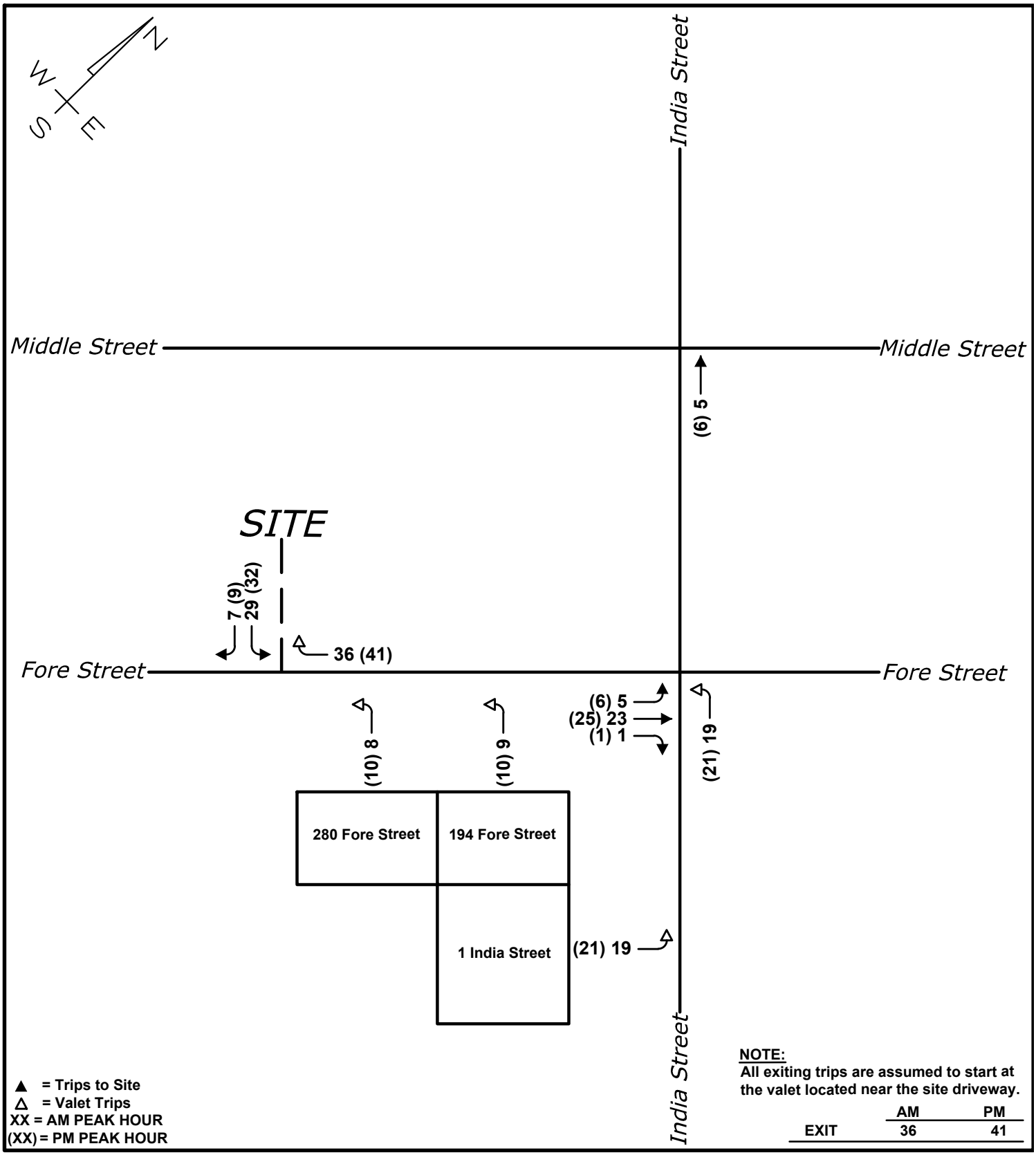
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FORECAST SITE TRIP DISTRIBUTION

Figure No. 12



HOMES 2
PORTLAND, MAINE

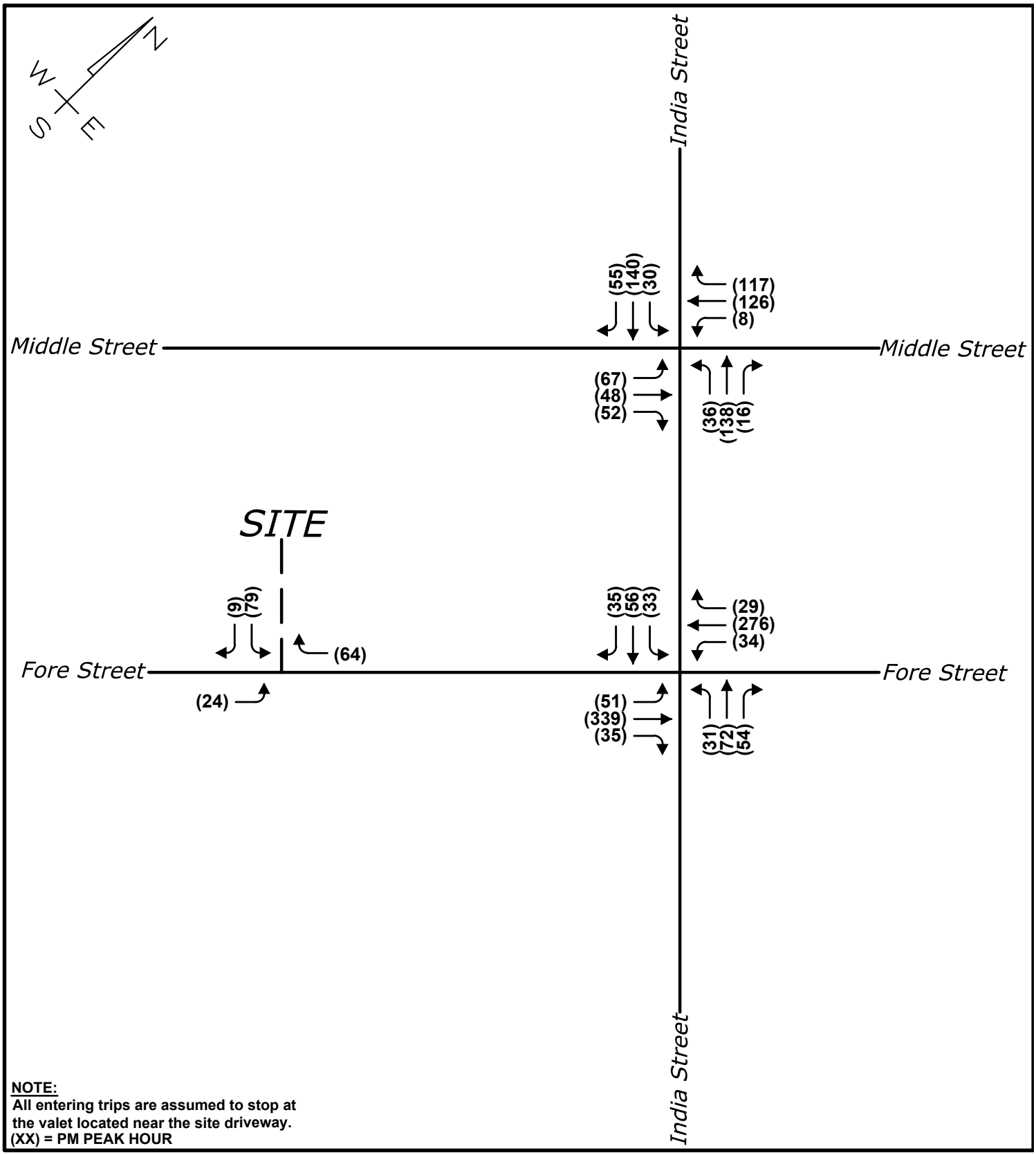
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Draft: KJB Date: 3/20/2025
Checked: RED File Name: Figure Set.dwg

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2027 POSTDEVELOPMENT

Figure No. 13



NOTE:
All entering trips are assumed to stop at the valet located near the site driveway.
(XX) = PM PEAK HOUR

HOMES 2
PORTLAND, MAINE

Design: KJB Scale: NONE
Draft: KJB Date: 3/20/2025
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South Portland, Maine 04106
207-772-2515

LOCATION: FORE STREET-SITE
COUNTER: KJB
BOARD: 1
WEATHER: CLEAR

File Name : Fore Street & Site
Site Code : 3904.01
Start Date : 9/27/2024
Page No : 1

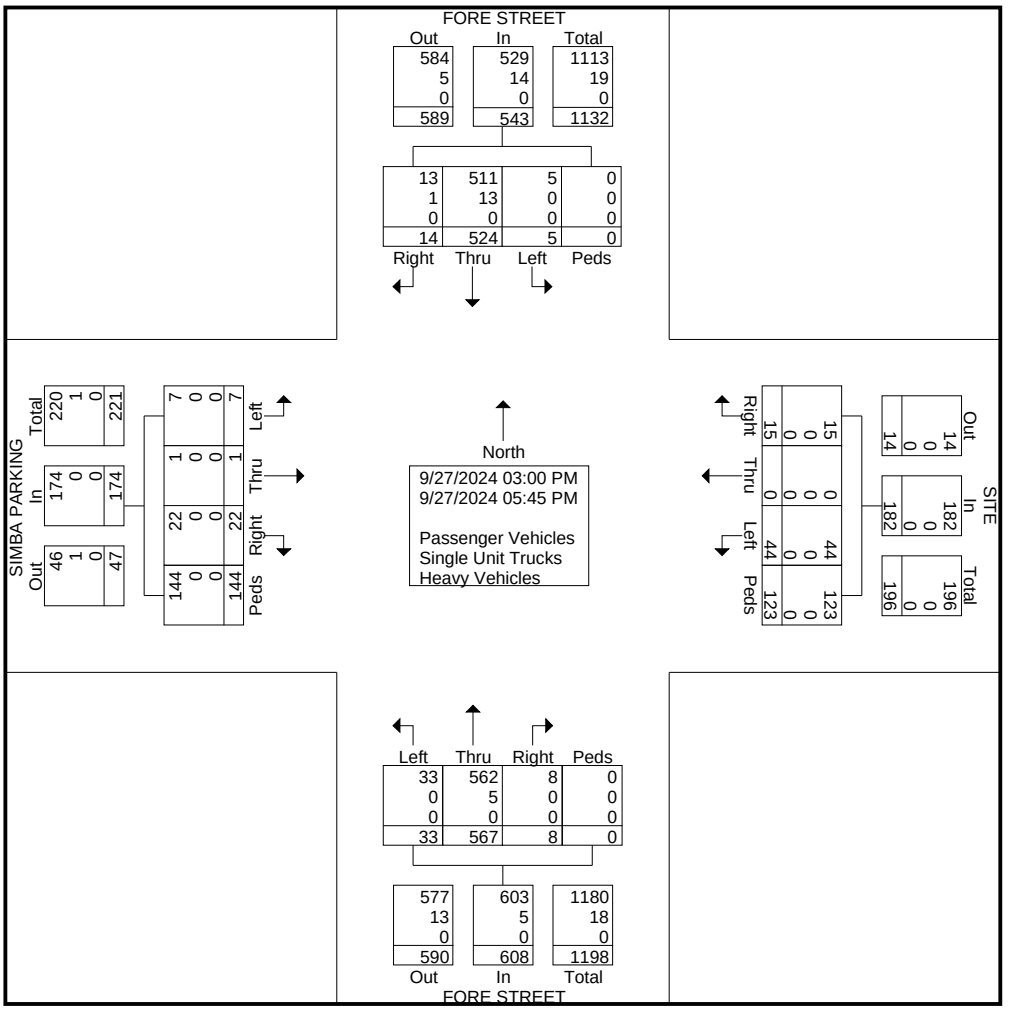
Groups Printed- Passenger Vehicles - Single Unit Trucks - Heavy Vehicles

	FORE STREET From North					SITE From East					FORE STREET From South					SIMBA PARKING From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	0	38	0	0	38	2	0	1	15	18	0	65	3	0	68	5	1	0	19	25	149
03:15 PM	2	49	0	0	51	0	0	5	11	16	0	38	2	0	40	1	0	0	13	14	121
03:30 PM	0	46	1	0	47	1	0	3	12	16	0	36	4	0	40	4	0	1	20	25	128
03:45 PM	1	33	0	0	34	2	0	1	8	11	1	49	3	0	53	1	0	1	7	9	107
Total	3	166	1	0	170	5	0	10	46	61	1	188	12	0	201	11	1	2	59	73	505
04:00 PM	0	58	2	0	60	1	0	4	13	18	2	47	1	0	50	1	0	1	6	8	136
04:15 PM	1	46	1	0	48	0	0	8	17	25	0	45	4	0	49	0	0	0	17	17	139
04:30 PM	2	42	0	0	44	1	0	5	11	17	3	48	2	0	53	2	0	1	7	10	124
04:45 PM	4	45	0	0	49	1	0	5	7	13	0	49	5	0	54	1	0	0	16	17	133
Total	7	191	3	0	201	3	0	22	48	73	5	189	12	0	206	4	0	2	46	52	532
05:00 PM	1	36	1	0	38	3	0	4	14	21	0	61	3	0	64	2	0	0	10	12	135
05:15 PM	0	47	0	0	47	1	0	4	8	13	0	43	0	0	43	3	0	0	10	13	116
05:30 PM	1	39	0	0	40	3	0	3	0	6	1	45	2	0	48	1	0	1	17	19	113
05:45 PM	2	45	0	0	47	0	0	1	7	8	1	41	4	0	46	1	0	2	2	5	106
Total	4	167	1	0	172	7	0	12	29	48	2	190	9	0	201	7	0	3	39	49	470
Grand Total	14	524	5	0	543	15	0	44	123	182	8	567	33	0	608	22	1	7	144	174	1507
Apprch %	2.6	96.5	0.9	0		8.2	0	24.2	67.6		1.3	93.3	5.4	0		12.6	0.6	4	82.8		
Total %	0.9	34.8	0.3	0	36	1	0	2.9	8.2	12.1	0.5	37.6	2.2	0	40.3	1.5	0.1	0.5	9.6	11.5	
Passenger Vehicles	13	511	5	0	529	15	0	44	123	182	8	562	33	0	603	22	1	7	144	174	1488
% Passenger Vehicles	92.9	97.5	100	0	97.4	100	0	100	100	100	100	99.1	100	0	99.2	100	100	100	100	100	98.7
Single Unit Trucks	1	13	0	0	14	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	19
% Single Unit Trucks	7.1	2.5	0	0	2.6	0	0	0	0	0	0	0.9	0	0	0.8	0	0	0	0	0	1.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Fore Street & Site
Site Code : 3904.01
Start Date : 9/27/2024
Page No : 2

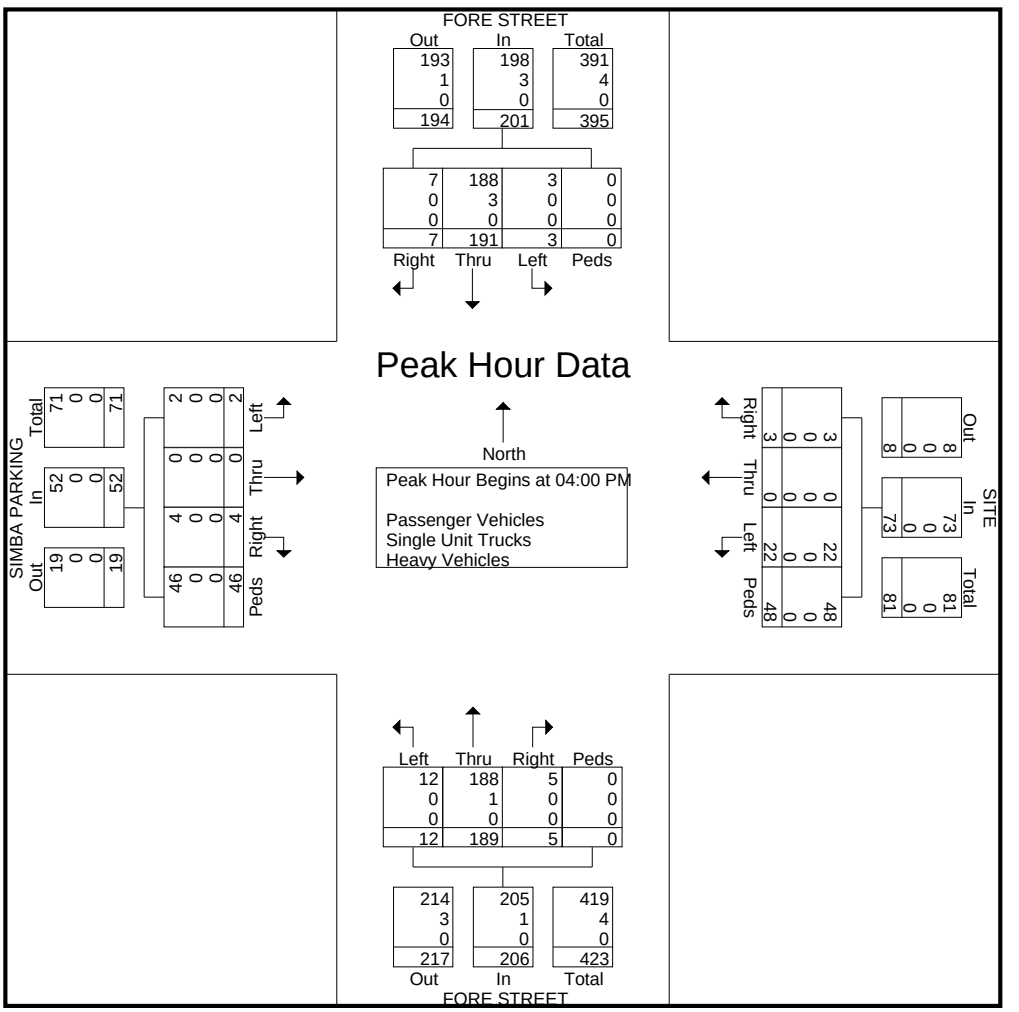


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Site Code : 3904.01
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Page No : 3

	FORE STREET From North					SITE From East					FORE STREET From South					SIMBA PARKING From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	**58**	**2**	0	**60**	**1**	0	4	13	18	2	47	1	0	50	1	0	**1**	6	8	136
04:15 PM	1	46	1	0	48	0	0	**8**	**17**	**25**	0	45	4	0	49	0	0	0	**17**	**17**	**139**
04:30 PM	2	42	0	0	44	1	0	5	11	17	**3**	48	2	0	53	**2**	0	1	7	10	124
04:45 PM	**4**	45	0	0	49	1	0	5	7	13	0	**49**	**5**	0	**54**	1	0	0	16	17	133
Total Volume	7	191	3	0	201	3	0	22	48	73	5	189	12	0	206	4	0	2	46	52	532
% App. Total	3.5	95	1.5	0		4.1	0	30.1	65.8		2.4	91.7	5.8	0		7.7	0	3.8	88.5		
PHF	.438	.823	.375	.000	.838	.750	.000	.688	.706	.730	.417	.964	.600	.000	.954	.500	.000	.500	.676	.765	.957
Passenger Vehicles	7	188	3	0	198	3	0	22	48	73	5	188	12	0	205	4	0	2	46	52	528
% Passenger Vehicles	100	98.4	100	0	98.5	100	0	100	100	100	100	99.5	100	0	99.5	100	0	100	100	100	99.2
Single Unit Trucks	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
% Single Unit Trucks	0	1.6	0	0	1.5	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.8
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

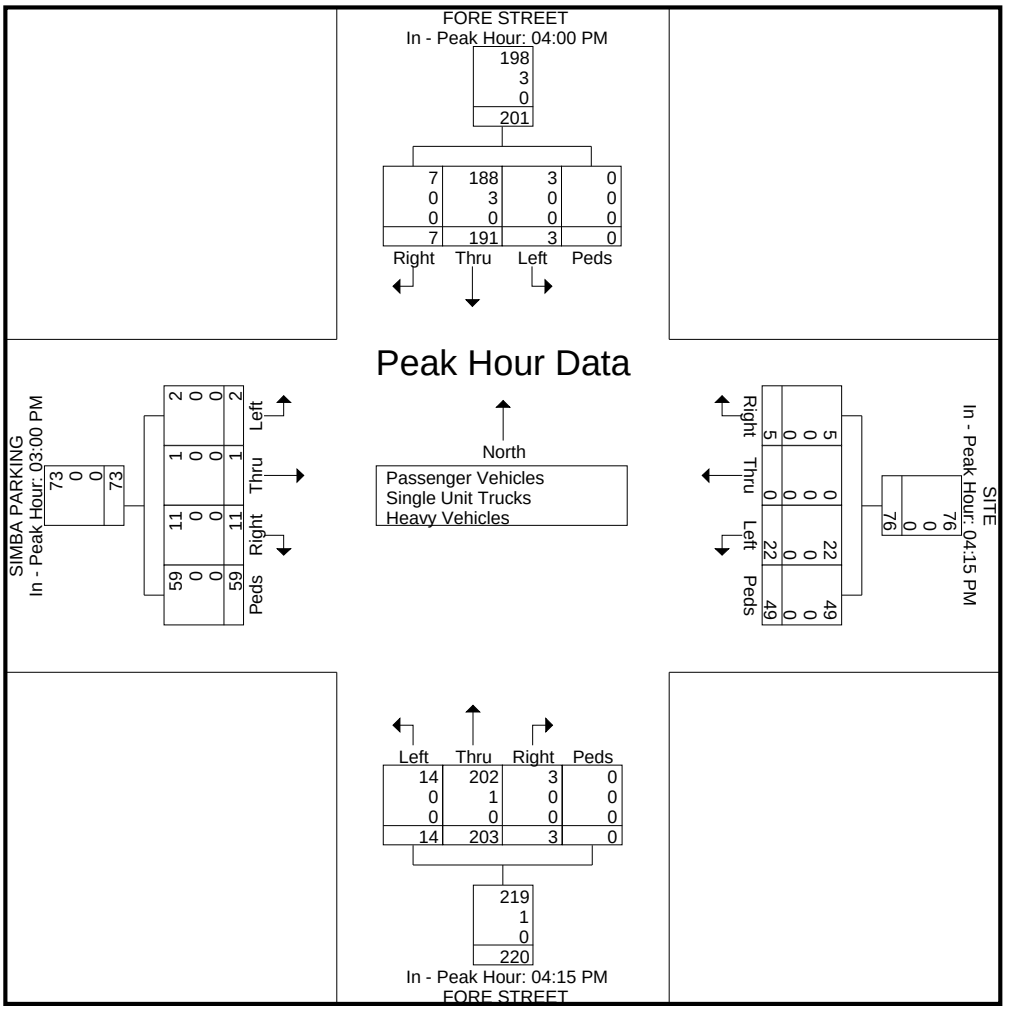


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File Name : Fore Street & Site
Site Code : 3904.01
Start Date : 9/27/2024
Page No : 4

	FORE STREET From North					SITE From East					FORE STREET From South					SIMBA PARKING From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					04:15 PM					04:15 PM					03:00 PM					
+0 mins.	0	**58**	**2**	0	**60**	0	0	**8**	**17**	**25**	0	45	4	0	49	**5**	**1**	0	19	**25**	
+15 mins.	1	46	1	0	48	1	0	5	11	17	**3**	48	2	0	53	1	0	0	13	14	
+30 mins.	2	42	0	0	44	1	0	5	7	13	0	49	**5**	0	54	4	0	**1**	**20**	25	
+45 mins.	**4**	45	0	0	49	**3**	0	4	14	21	0	**61**	3	0	**64**	1	0	1	7	9	
Total Volume	7	191	3	0	201	5	0	22	49	76	3	203	14	0	220	11	1	2	59	73	
% App. Total	3.5	95	1.5	0		6.6	0	28.9	64.5		1.4	92.3	6.4	0		15.1	1.4	2.7	80.8		
PHF	.438	.823	.375	.000	.838	.417	.000	.688	.721	.760	.250	.832	.700	.000	.859	.550	.250	.500	.738	.730	
Passenger Vehicles	7	188	3	0	198	5	0	22	49	76	3	202	14	0	219	11	1	2	59	73	
% Passenger Vehicles	100	98.4	100	0	98.5	100	0	100	100	100	100	99.5	100	0	99.5	100	100	100	100	100	
Single Unit Trucks	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	
% Single Unit Trucks	0	1.6	0	0	1.5	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



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LOCATION: MIDDLE STREET & INDIA STREET
COUNTER: KJB
BOARD: 1
WEATHER: CLEAR

File Name : Middle Street & India Street
Site Code : 3904.01
Start Date : 9/10/2024
Page No : 1

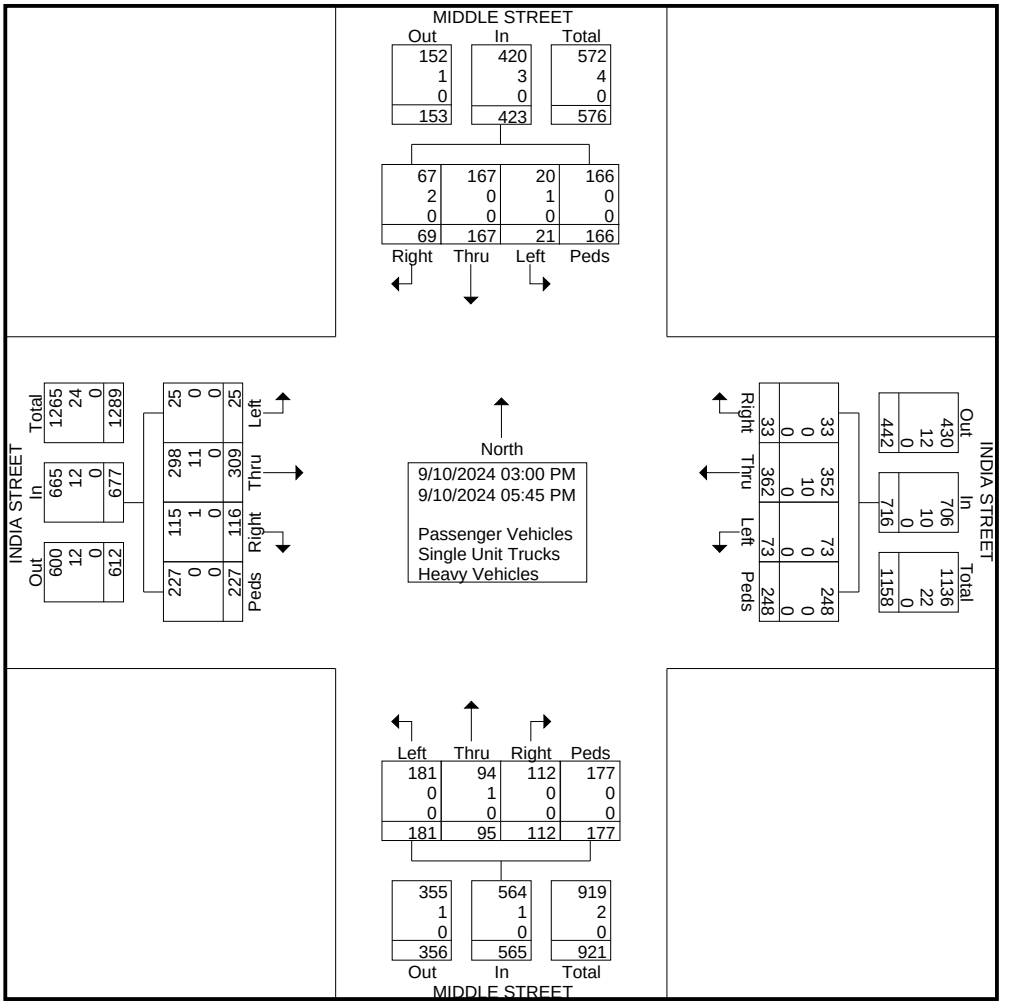
Groups Printed- Passenger Vehicles - Single Unit Trucks - Heavy Vehicles

	MIDDLE STREET From North					INDIA STREET From East					MIDDLE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	7	8	3	11	29	2	31	3	30	66	11	11	12	10	44	5	19	0	27	51	190
03:15 PM	11	11	1	14	37	1	24	5	39	69	8	4	17	26	55	5	27	2	33	67	228
03:30 PM	6	10	0	16	32	0	20	6	14	40	9	6	7	13	35	8	24	3	14	49	156
03:45 PM	3	15	1	16	35	1	24	4	9	38	12	7	17	10	46	9	18	2	20	49	168
Total	27	44	5	57	133	4	99	18	92	213	40	28	53	59	180	27	88	7	94	216	742
04:00 PM	2	21	2	15	40	4	42	5	21	72	5	6	10	9	30	4	19	4	16	43	185
04:15 PM	4	15	2	9	30	5	24	6	15	50	6	10	24	13	53	5	14	0	16	35	168
04:30 PM	4	17	2	13	36	3	40	3	12	58	8	10	14	9	41	5	29	2	10	46	181
04:45 PM	7	12	3	18	40	5	26	8	25	64	11	8	16	21	56	9	35	1	13	58	218
Total	17	65	9	55	146	17	132	22	73	244	30	34	64	52	180	23	97	7	55	182	752
05:00 PM	5	26	2	22	55	2	35	10	34	81	14	9	18	26	67	15	30	5	28	78	281
05:15 PM	8	13	1	12	34	4	30	10	26	70	8	12	19	16	55	17	24	5	22	68	227
05:30 PM	7	12	2	12	33	3	36	7	9	55	11	6	11	13	41	12	38	1	23	74	203
05:45 PM	5	7	2	8	22	3	30	6	14	53	9	6	16	11	42	22	32	0	5	59	176
Total	25	58	7	54	144	12	131	33	83	259	42	33	64	66	205	66	124	11	78	279	887
Grand Total	69	167	21	166	423	33	362	73	248	716	112	95	181	177	565	116	309	25	227	677	2381
Apprch %	16.3	39.5	5	39.2		4.6	50.6	10.2	34.6		19.8	16.8	32	31.3		17.1	45.6	3.7	33.5		
Total %	2.9	7	0.9	7	17.8	1.4	15.2	3.1	10.4	30.1	4.7	4	7.6	7.4	23.7	4.9	13	1	9.5	28.4	
Passenger Vehicles	67	167	20	166	420	33	352	73	248	706	112	94	181	177	564	115	298	25	227	665	2355
% Passenger Vehicles	97.1	100	95.2	100	99.3	100	97.2	100	100	98.6	100	98.9	100	100	99.8	99.1	96.4	100	100	98.2	98.9
Single Unit Trucks	2	0	1	0	3	0	10	0	0	10	0	1	0	0	1	1	11	0	0	12	26
% Single Unit Trucks	2.9	0	4.8	0	0.7	0	2.8	0	0	1.4	0	1.1	0	0	0.2	0.9	3.6	0	0	1.8	1.1
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Middle Street & India Street
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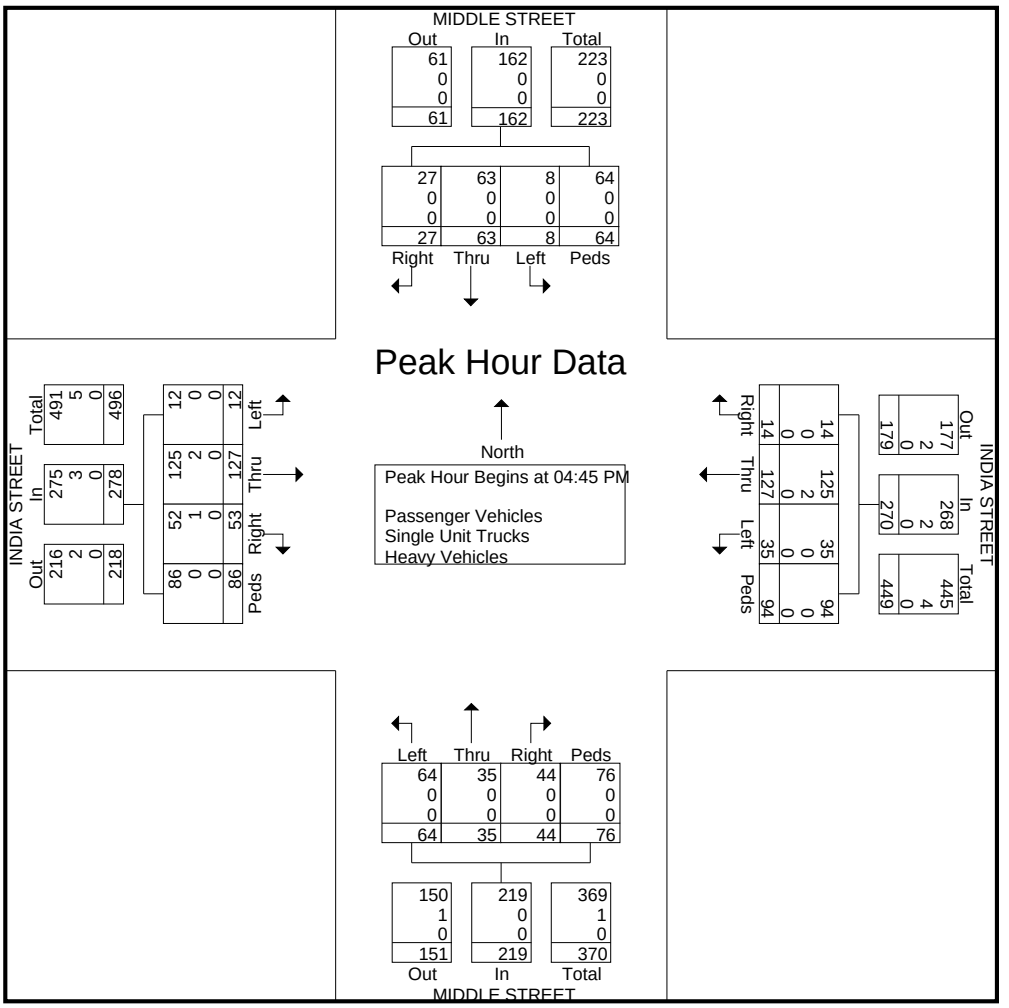


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File Name : Middle Street & India Street
Site Code : 3904.01
Start Date : 9/10/2024
Page No : 3

	MIDDLE STREET From North					INDIA STREET From East					MIDDLE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	7	12	**3**	18	40	**5**	26	8	25	64	11	8	16	21	56	9	35	1	13	58	218
05:00 PM	5	**26**	2	**22**	**55**	2	35	**10**	**34**	**81**	**14**	9	18	**26**	**67**	15	30	**5**	**28**	**78**	**281**
05:15 PM	**8**	13	1	12	34	4	30	10	26	70	8	**12**	**19**	16	55	**17**	24	5	22	68	227
05:30 PM	7	12	2	12	33	3	**36**	7	9	55	11	6	11	13	41	12	**38**	1	23	74	203
Total Volume	27	63	8	64	162	14	127	35	94	270	44	35	64	76	219	53	127	12	86	278	929
% App. Total	16.7	38.9	4.9	39.5		5.2	47	13	34.8		20.1	16	29.2	34.7		19.1	45.7	4.3	30.9		
PHF	.844	.606	.667	.727	.736	.700	.882	.875	.691	.833	.786	.729	.842	.731	.817	.779	.836	.600	.768	.891	.827
Passenger Vehicles	27	63	8	64	162	14	125	35	94	268	44	35	64	76	219	52	125	12	86	275	924
% Passenger Vehicles	100	100	100	100	100	100	98.4	100	100	99.3	100	100	100	100	100	98.1	98.4	100	100	98.9	99.5
Single Unit Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	5
% Single Unit Trucks	0	0	0	0	0	0	1.6	0	0	0.7	0	0	0	0	0	1.9	1.6	0	0	1.1	0.5
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

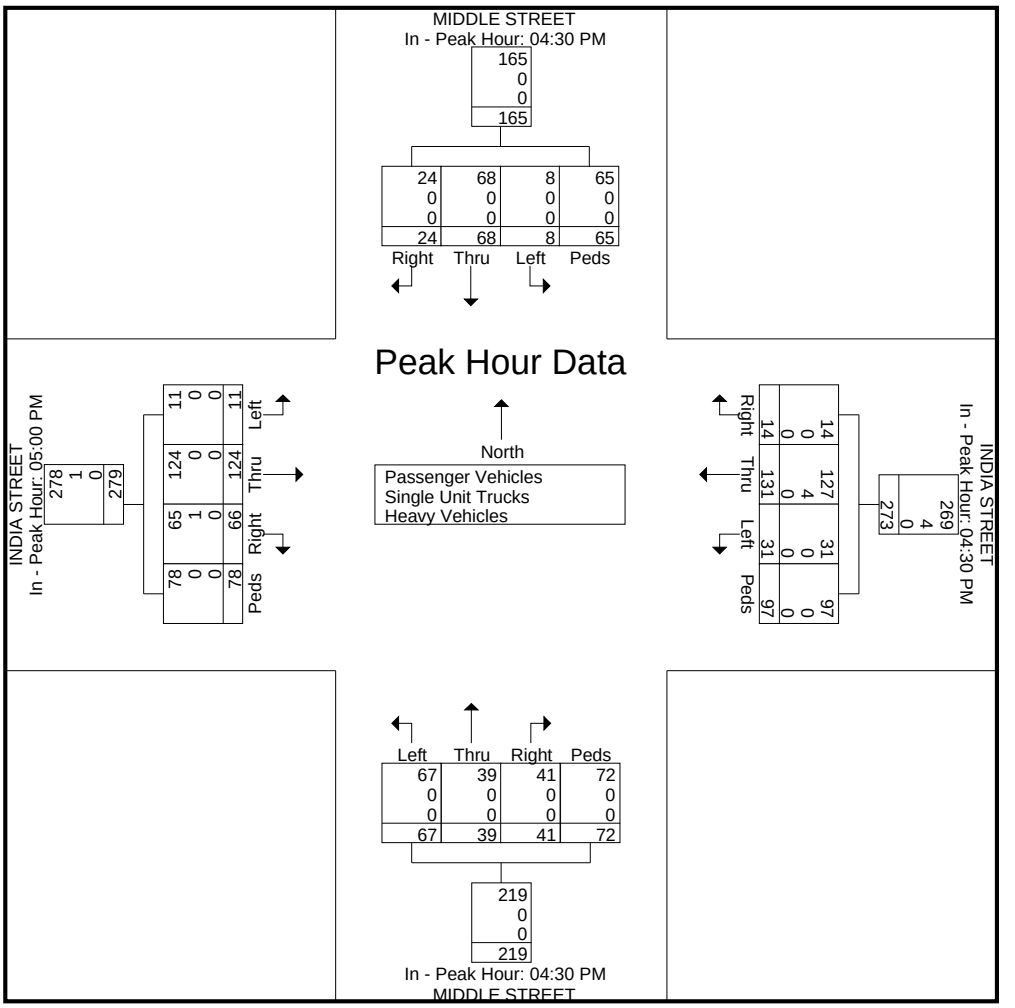


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300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : Middle Street & India Street
Site Code : 3904.01
Start Date : 9/10/2024
Page No : 4

	MIDDLE STREET From North					INDIA STREET From East					MIDDLE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					04:30 PM					04:30 PM					05:00 PM					
+0 mins.	4	17	2	13	36	3	**40**	3	12	58	8	10	14	9	41	15	30	**5**	**28**	**78**	
+15 mins.	7	12	**3**	18	40	**5**	26	8	25	64	11	8	16	21	56	17	24	5	22	68	
+30 mins.	5	**26**	2	**22**	**55**	2	35	**10**	**34**	**81**	**14**	9	18	**26**	**67**	12	**38**	1	23	74	
+45 mins.	**8**	13	1	12	34	4	30	10	26	70	8	**12**	**19**	16	55	**22**	32	0	5	59	
Total Volume	24	68	8	65	165	14	131	31	97	273	41	39	67	72	219	66	124	11	78	279	
% App. Total	14.5	41.2	4.8	39.4		5.1	48	11.4	35.5		18.7	17.8	30.6	32.9		23.7	44.4	3.9	28		
PHF	.750	.654	.667	.739	.750	.700	.819	.775	.713	.843	.732	.813	.882	.692	.817	.750	.816	.550	.696	.894	
Passenger Vehicles	24	68	8	65	165	14	127	31	97	269	41	39	67	72	219	65	124	11	78	278	
% Passenger Vehicles	100	100	100	100	100	100	96.9	100	100	98.5	100	100	100	100	100	98.5	100	100	100	99.6	
Single Unit Trucks	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	0	0	0	1	
% Single Unit Trucks	0	0	0	0	0	0	3.1	0	0	1.5	0	0	0	0	0	1.5	0	0	0	0.4	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



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South Portland, Maine 04106
207-772-2515

LOCATION: FORE STREET & INDIA STREET
COUNTER: KJB
BOARD: 1
WEATHER: CLEAR

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 1

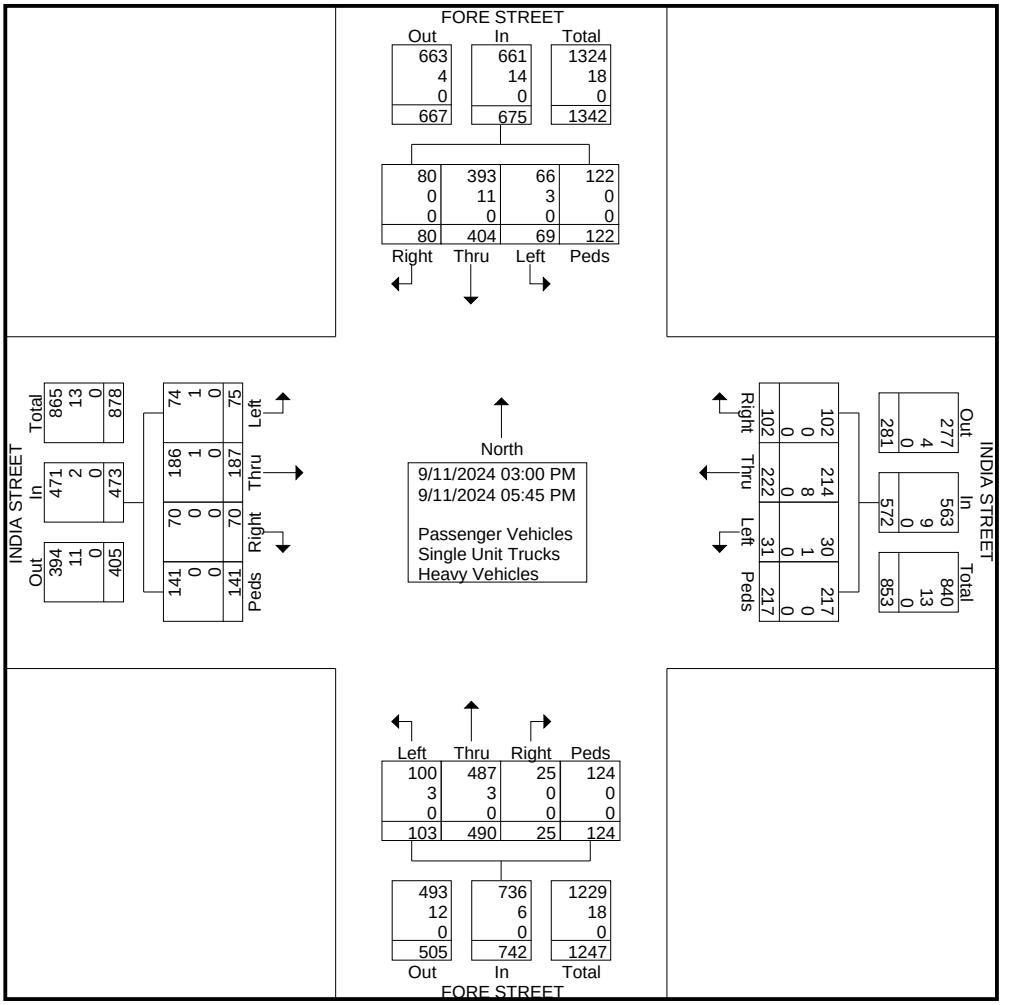
Groups Printed- Passenger Vehicles - Single Unit Trucks - Heavy Vehicles

	FORE STREET From North					INDIA STREET From East					FORE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	6	30	6	4	46	7	24	6	18	55	4	31	8	10	53	3	15	5	11	34	188
03:15 PM	3	24	6	7	40	3	25	2	11	41	2	33	4	6	45	5	14	4	12	35	161
03:30 PM	6	37	7	8	58	7	21	2	11	41	1	22	7	18	48	7	12	6	8	33	180
03:45 PM	5	29	4	6	44	8	11	2	11	32	3	26	6	6	41	8	19	6	4	37	154
Total	20	120	23	25	188	25	81	12	51	169	10	112	25	40	187	23	60	21	35	139	683
04:00 PM	13	31	5	15	64	4	20	3	21	48	0	29	10	5	44	8	25	5	21	59	215
04:15 PM	8	36	4	15	63	10	22	2	15	49	2	53	9	9	73	10	19	4	8	41	226
04:30 PM	6	37	8	14	65	8	17	3	14	42	3	47	6	9	65	1	9	6	16	32	204
04:45 PM	5	40	5	8	58	4	14	2	21	41	1	51	10	9	71	3	20	8	13	44	214
Total	32	144	22	52	250	26	73	10	71	180	6	180	35	32	253	22	73	23	58	176	859
05:00 PM	6	40	5	11	62	7	20	2	23	52	0	52	14	8	74	8	17	13	6	44	232
05:15 PM	6	36	6	13	61	18	19	2	25	64	3	50	11	12	76	4	16	1	11	32	233
05:30 PM	7	44	6	11	68	16	10	4	13	43	1	56	10	15	82	6	10	6	12	34	227
05:45 PM	9	20	7	10	46	10	19	1	34	64	5	40	8	17	70	7	11	11	19	48	228
Total	28	140	24	45	237	51	68	9	95	223	9	198	43	52	302	25	54	31	48	158	920
Grand Total	80	404	69	122	675	102	222	31	217	572	25	490	103	124	742	70	187	75	141	473	2462
Apprch %	11.9	59.9	10.2	18.1		17.8	38.8	5.4	37.9		3.4	66	13.9	16.7		14.8	39.5	15.9	29.8		
Total %	3.2	16.4	2.8	5	27.4	4.1	9	1.3	8.8	23.2	1	19.9	4.2	5	30.1	2.8	7.6	3	5.7	19.2	
Passenger Vehicles	80	393	66	122	661	102	214	30	217	563	25	487	100	124	736	70	186	74	141	471	2431
% Passenger Vehicles	100	97.3	95.7	100	97.9	100	96.4	96.8	100	98.4	100	99.4	97.1	100	99.2	100	99.5	98.7	100	99.6	98.7
Single Unit Trucks	0	11	3	0	14	0	8	1	0	9	0	3	3	0	6	0	1	1	0	2	31
% Single Unit Trucks	0	2.7	4.3	0	2.1	0	3.6	3.2	0	1.6	0	0.6	2.9	0	0.8	0	0.5	1.3	0	0.4	1.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 2

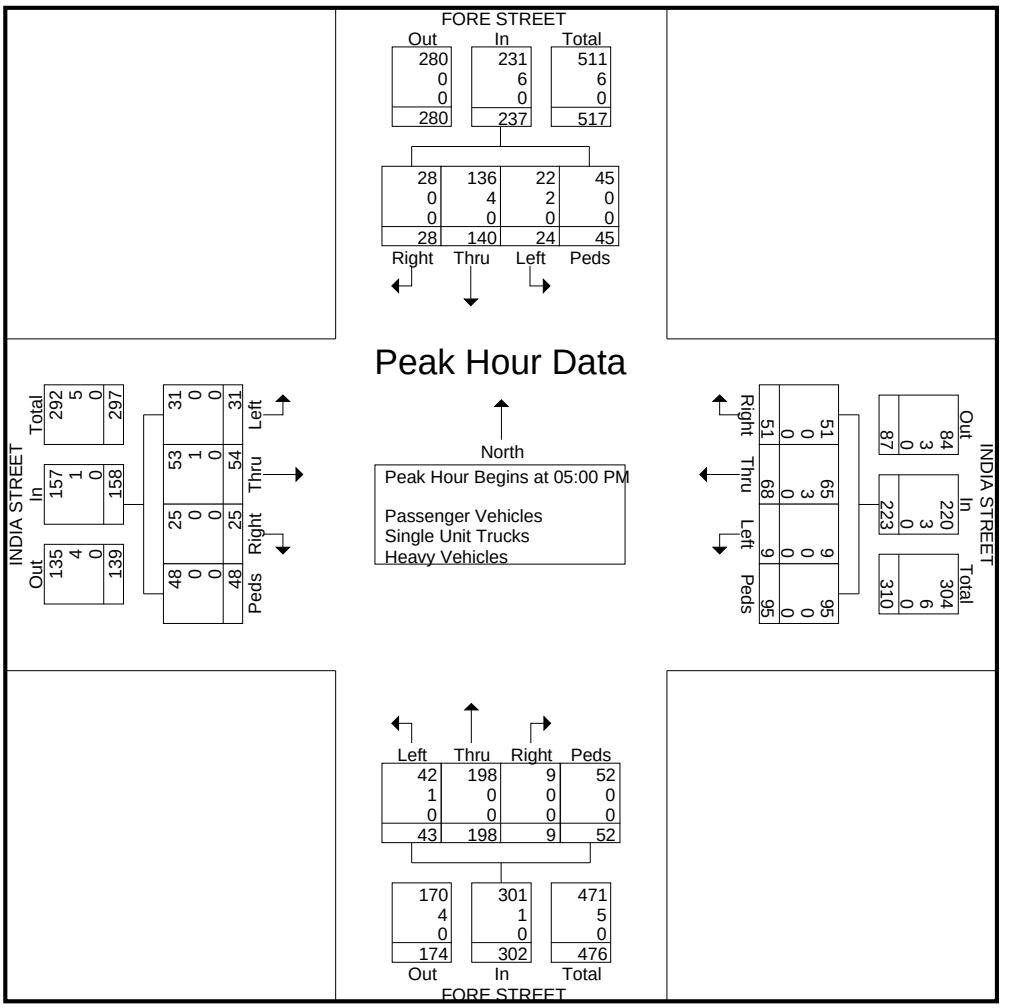


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207-772-2515

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 3

	FORE STREET From North					INDIA STREET From East					FORE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	6	40	5	11	62	7	**20**	2	23	52	0	52	**14**	8	74	**8**	**17**	**13**	6	44	232
05:15 PM	6	36	6	**13**	61	**18**	19	2	25	**64**	3	50	11	12	76	4	16	1	11	32	**233**
05:30 PM	7	**44**	6	11	**68**	16	10	**4**	13	43	1	**56**	10	15	**82**	6	10	6	12	34	227
05:45 PM	**9**	20	**7**	10	46	10	19	1	**34**	64	**5**	40	8	**17**	70	7	11	11	**19**	**48**	228
Total Volume	28	140	24	45	237	51	68	9	95	223	9	198	43	52	302	25	54	31	48	158	920
% App. Total	11.8	59.1	10.1	19		22.9	30.5	4	42.6		3	65.6	14.2	17.2		15.8	34.2	19.6	30.4		
PHF	.778	.795	.857	.865	.871	.708	.850	.563	.699	.871	.450	.884	.768	.765	.921	.781	.794	.596	.632	.823	.987
Passenger Vehicles	28	136	22	45	231	51	65	9	95	220	9	198	42	52	301	25	53	31	48	157	909
% Passenger Vehicles	100	97.1	91.7	100	97.5	100	95.6	100	100	98.7	100	100	97.7	100	99.7	100	98.1	100	100	99.4	98.8
Single Unit Trucks	0	4	2	0	6	0	3	0	0	3	0	0	1	0	1	0	1	0	0	1	11
% Single Unit Trucks	0	2.9	8.3	0	2.5	0	4.4	0	0	1.3	0	0	2.3	0	0.3	0	1.9	0	0	0.6	1.2
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

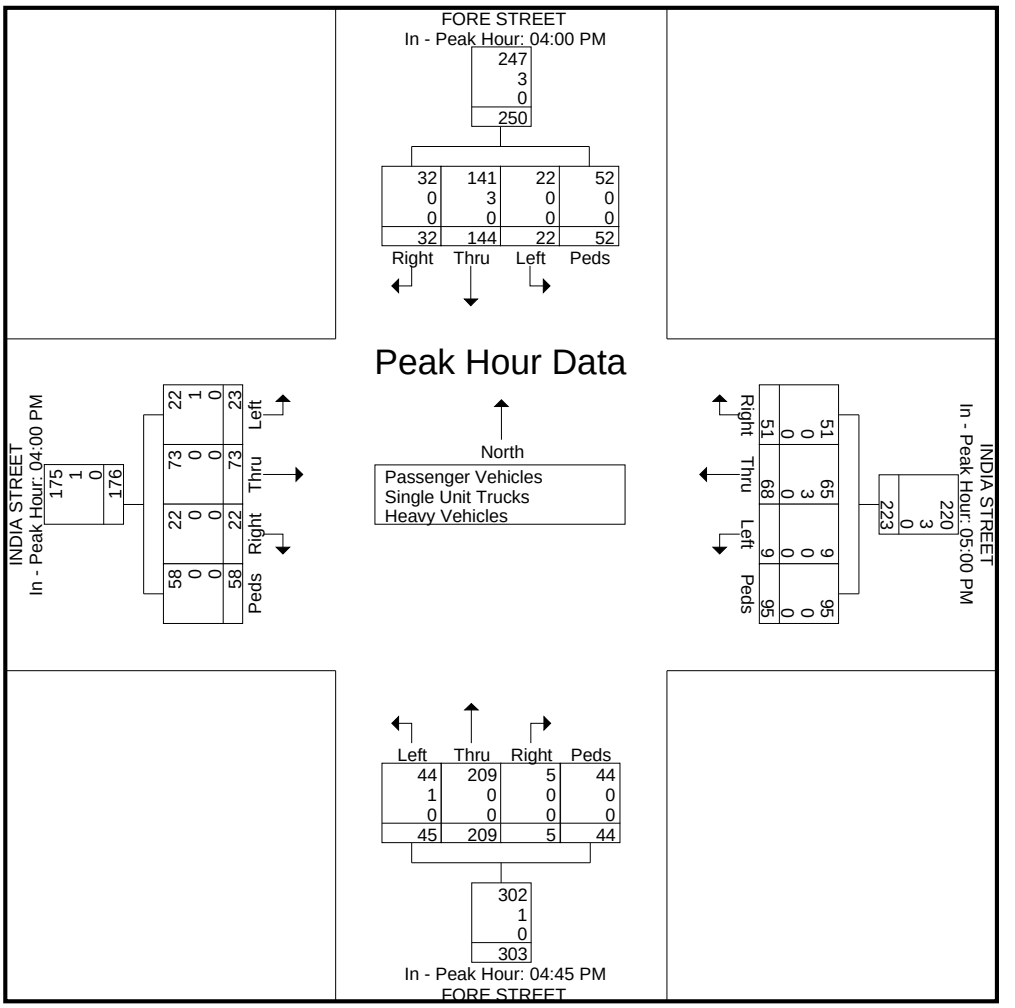


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207-772-2515

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 4

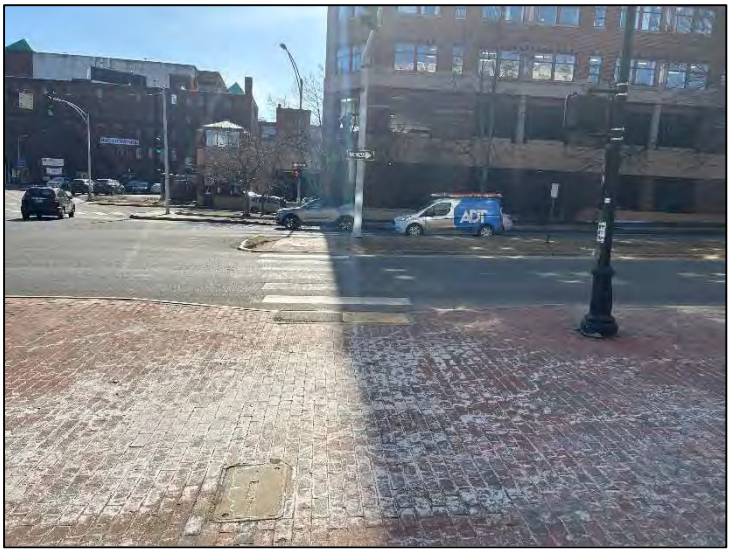
	FORE STREET From North					INDIA STREET From East					FORE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					05:00 PM					04:45 PM					04:00 PM					
+0 mins.	**13**	31	5	**15**	64	7	**20**	2	23	52	1	51	10	9	71	8	**25**	5	**21**	**59**	
+15 mins.	8	36	4	15	63	**18**	19	2	25	**64**	0	52	**14**	8	74	**10**	19	4	8	41	
+30 mins.	6	37	**8**	14	**65**	16	10	**4**	13	43	**3**	50	11	12	76	1	9	6	16	32	
+45 mins.	5	**40**	5	8	58	10	19	1	**34**	64	1	**56**	10	**15**	**82**	3	20	**8**	13	44	
Total Volume	32	144	22	52	250	51	68	9	95	223	5	209	45	44	303	22	73	23	58	176	
% App. Total	12.8	57.6	8.8	20.8		22.9	30.5	4	42.6		1.7	69	14.9	14.5		12.5	41.5	13.1	33		
PHF	.615	.900	.688	.867	.962	.708	.850	.563	.699	.871	.417	.933	.804	.733	.924	.550	.730	.719	.690	.746	
Passenger Vehicles	32	141	22	52	247	51	65	9	95	220	5	209	44	44	302	22	73	22	58	175	
% Passenger Vehicles	100	97.9	100	100	98.8	100	95.6	100	100	98.7	100	100	97.8	100	99.7	100	100	95.7	100	99.4	
Single Unit Trucks	0	3	0	0	3	0	3	0	0	3	0	0	1	0	1	0	0	1	0	1	
% Single Unit Trucks	0	2.1	0	0	1.2	0	4.4	0	0	1.3	0	0	2.2	0	0.3	0	0	4.3	0	0.6	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



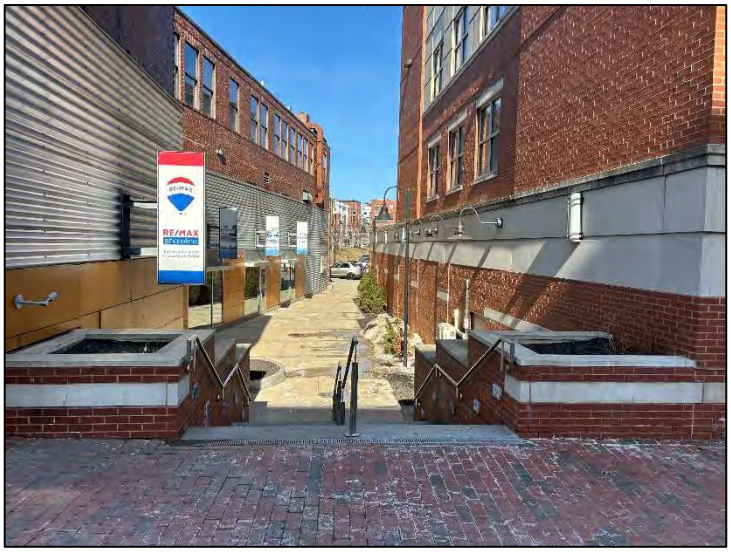
Appendix C

Existing Pedestrian Conditions

Franklin Street / Fore Street Intersection





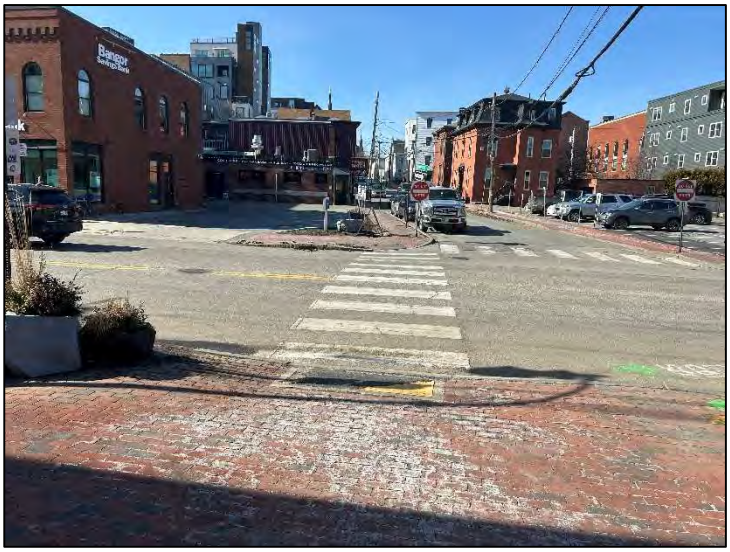


Franklin Street / Middle Street Intersection

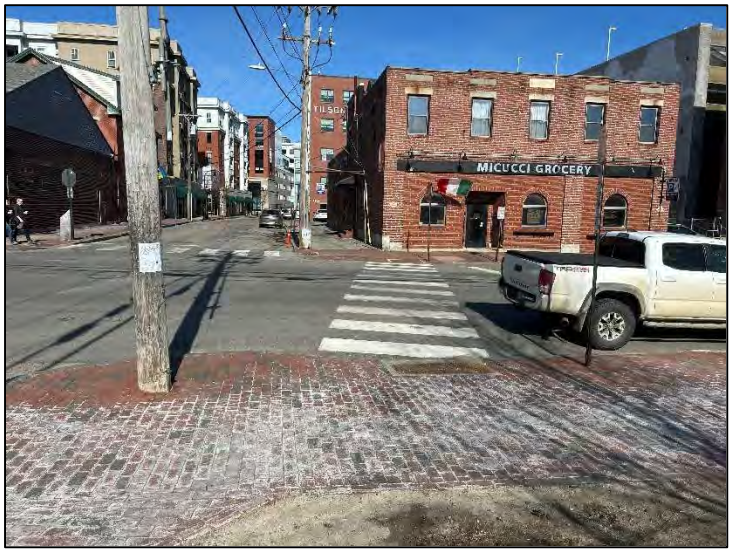


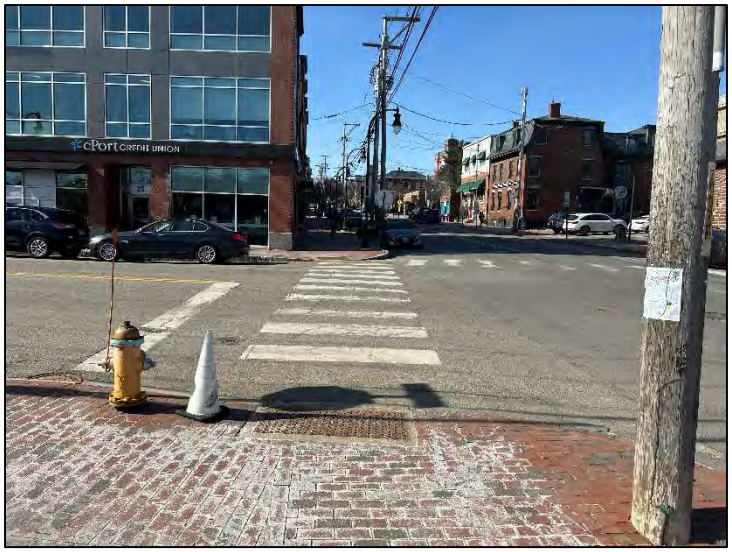


Middle Street / Hampshire Street Intersection



Middle Street / India Street Intersection







Middle Street / India Street Intersection







Fore Street / India Street Intersection







Fore Street / India Street Intersection







Appendix D
Crash History

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Portland
Franklin St (Rte 1A)-Fore St-Commercial St-India St-Middle St area

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: **0001A**	Start Node: **18518**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **63225**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0001A**	Start Node: **18517**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18518**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0001A**	Start Node: **15397**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18517**	End Offset: **0**	☑ **Exclude Last Node**
Route: **001AS**	Start Node: **18519**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18518**	End Offset: **0**	☑ **Exclude Last Node**
Route: **001AS**	Start Node: **18518**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18517**	End Offset: **0**	☑ **Exclude Last Node**
Route: **001AS**	Start Node: **18517**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15397**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560286**	Start Node: **71558**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18815**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561001**	Start Node: **15397**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18821**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560505**	Start Node: **18814**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18818**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560342**	Start Node: **18801**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18795**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561000**	Start Node: **18796**	Start Offset: **0**	☑ **Exclude First Node**

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Portland
Franklin St (Rte 1A)-Fore St-Commercial St-India St-Middle St area

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

	End Node: **18817**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561000**	Start Node: **18817**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18822**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561000**	Start Node: **18822**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18821**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
63225	0001A - 12.11	Int of CONGRESS ST FRANKLIN ST	9	18	0	1	3	4	10	44.4	5.671	1.06	1.21	0.88
											Statewide Crash Rate:	0.71		
18519	001AS - 1.94	Int of CONGRESS ST FRANKLIN ST	9	9	0	0	1	2	6	33.3	6.421	0.47	1.18	0.40
											Statewide Crash Rate:	0.71		
18822	0560286 - 0.45	Int of FORE ST INDIA ST	2	3	0	0	0	0	3	0.0	2.286	0.44	0.46	0.00
											Statewide Crash Rate:	0.15		
18815	0560286 - 0.69	Int of FORE ST PEARL ST	9	2	0	0	0	0	2	0.0	1.651	0.40	1.58	0.00
											Statewide Crash Rate:	0.71		
18762	0560286 - 0.66	Int of CUSTOM HOUSE ST FORE ST	2	0	0	0	0	0	0	0.0	1.464	0.00	0.46	0.00
											Statewide Crash Rate:	0.13		
18517	0560286 - 0.56	Int of FORE ST FRANKLIN ST	9	13	0	0	2	1	10	23.1	3.891	1.11	1.30	0.86
											Statewide Crash Rate:	0.71		
71558	0560286 - 0.37	Int of FORE ST HANCOCK ST	2	0	0	0	0	0	0	0.0	1.693	0.00	0.44	0.00
											Statewide Crash Rate:	0.13		
15397	0561001 - 0	Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER	9	11	0	1	3	1	6	45.5	3.521	1.04	1.33	0.78
											Statewide Crash Rate:	0.71		
18821	0561001 - 0.11	Int of COMMERCIAL ST INDIA ST THAMES ST	2	0	0	0	0	0	0	0.0	1.552	0.00	0.50	0.00
											Statewide Crash Rate:	0.15		
19413	0560505 - 0.20	Int of CHURCH ST MIDDLE ST	2	0	0	0	0	0	0	0.0	2.018	0.00	0.42	0.00
											Statewide Crash Rate:	0.13		
18801	0560505 - 0.31	Int of HAMPSHIRE ST MIDDLE ST	2	0	0	0	0	0	0	0.0	1.286	0.00	0.47	0.00
											Statewide Crash Rate:	0.13		
18518	0560505 - 0.27	Int of FRANKLIN ST MIDDLE ST	9	8	0	0	2	1	5	37.5	5.028	0.53	1.24	0.43
											Statewide Crash Rate:	0.71		
18814	0560505 - 0.16	Int of MIDDLE ST PEARL ST	9	3	0	0	0	1	2	33.3	2.750	0.36	1.41	0.00
											Statewide Crash Rate:	0.71		
18817	0560505 - 0.38	Int of INDIA ST MIDDLE ST	2	1	0	0	0	0	1	0.0	1.749	0.19	0.49	0.00
											Statewide Crash Rate:	0.15		
18818	0560505 - 0.46	Int of HANCOCK ST MIDDLE ST	2	0	0	0	0	0	0	0.0	0.393	0.00	0.56	0.00
											Statewide Crash Rate:	0.13		
18800	0560342 - 0.05	Int of HAMPSHIRE ST NEWBURY ST	2	0	0	0	0	0	0	0.0	0.278	0.00	0.55	0.00
											Statewide Crash Rate:	0.13		
18804	0561000 - 0.13	Int of INDIA ST NEWBURY ST	2	1	0	0	0	0	1	0.0	1.696	0.20	0.49	0.00
											Statewide Crash Rate:	0.15		
Study Years: 3.00		**NODE TOTALS:**		69	0	2	11	10	46	33.3	43.348	0.53	0.68	0.78

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
18518	63225	3121455	0 - 0.16	0001A - 11.95	0.16	2	2	0	0	0	0	2	0.0	0.00339	196.92	530.00	0.00
Int of FRANKLIN ST MIDDLE ST				US 1A											Statewide Crash Rate: 209.37		
18517	18518	3118954	0 - 0.06	0001A - 11.89	0.06	2	1	0	0	0	0	1	0.0	0.00083	401.07	755.31	0.00
Int of FORE ST FRANKLIN ST				US 1A											Statewide Crash Rate: 209.37		
15397	18517	3123025	0 - 0.08	0001A - 11.81	0.08	2	0	0	0	0	0	0	0.0	0.00071	0.00	782.36	0.00
Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER				US 1A											Statewide Crash Rate: 209.37		
18518	18519	3106668	0 - 0.16	001AS - 1.94	0.16	2	1	0	0	0	0	1	0.0	0.00324	102.88	536.00	0.00
Int of FRANKLIN ST MIDDLE ST				US 1AS											Statewide Crash Rate: 209.37		
18517	18518	3118912	0 - 0.06	001AS - 2.10	0.06	2	1	0	0	0	0	1	0.0	0.00091	364.74	738.86	0.00
Int of FORE ST FRANKLIN ST				US 1AS											Statewide Crash Rate: 209.37		
15397	18517	3100256	0 - 0.08	001AS - 2.16	0.08	2	0	0	0	0	0	0	0.0	0.00082	0.00	758.20	0.00
Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER				US 1AS											Statewide Crash Rate: 209.37		
71558	18822	4047689	0 - 0.08	0560286 - 0.37	0.08	2	1	0	0	0	0	1	0.0	0.00103	323.75	589.16	0.00
Int of FORE ST HANCOCK ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
18517	18822	3106667	0 - 0.11	0560286 - 0.45	0.11	2	1	0	0	0	0	1	0.0	0.00157	212.22	532.74	0.00
Int of FORE ST FRANKLIN ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
18517	18762	3106666	0 - 0.10	0560286 - 0.56	0.10	2	4	0	0	0	1	2	33.3	0.00153	869.55	535.92	1.62
Int of FORE ST FRANKLIN ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
18762	18815	3106796	0 - 0.03	0560286 - 0.66	0.03	2	0	0	0	0	0	0	0.0	0.00032	0.00	698.04	0.00
Int of CUSTOM HOUSE ST FORE ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
15397	18821	3106035	0 - 0.11	0561001 - 0	0.11	2	1	0	0	0	0	1	0.0	0.00160	207.87	642.83	0.00
Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER				RD INV 05 61001											Statewide Crash Rate: 209.37		
18814	19413	3117964	0 - 0.04	0560505 - 0.16	0.04	2	2	0	0	0	0	1	0.0	0.00078	853.50	624.95	1.37
Int of MIDDLE ST PEARL ST				RD INV 05 60505											Statewide Crash Rate: 161.68		
18518	19413	3106669	0 - 0.07	0560505 - 0.20	0.07	2	2	0	0	0	0	2	0.0	0.00140	476.58	548.16	0.00
Int of FRANKLIN ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 161.68		
18518	18801	5095055	0 - 0.04	0560505 - 0.27	0.04	2	2	0	0	1	0	1	50.0	0.00049	1348.16	1321.60	1.02
Int of FRANKLIN ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 370.79		
18801	18817	5095056	0 - 0.07	0560505 - 0.31	0.07	2	5	0	0	0	0	5	0.0	0.00066	2544.13	1235.29	2.06
Int of HAMPSHIRE ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 370.79		
18817	18818	194423	0 - 0.08	0560505 - 0.38	0.08	2	1	0	0	0	0	1	0.0	0.00020	1708.91	1566.88	1.09
Int of INDIA ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 370.79		
18800	18801	194396	0 - 0.05	0560342 - 0	0.05	2	1	0	0	0	0	1	0.0	0.00010	3326.93	1568.42	2.12
Int of HAMPSHIRE ST NEWBURY ST				RD INV 05 60342											Statewide Crash Rate: 370.79		
18795	18800	194387	0 - 0.05	0560342 - 0.05	0.05	2	0	0	0	0	0	0	0.0	0.00010	0.00	1555.44	0.00
Int of FEDERAL ST E HAMPSHIRE ST				RD INV 05 60342											Statewide Crash Rate: 370.79		
18796	18804	3130049	0 - 0.05	0561000 - 0.08	0.05	2	4	0	0	0	0	4	0.0	0.00079	1681.07	763.36	2.20
Int of FEDERAL ST E INDIA ST				RD INV 05 61000											Statewide Crash Rate: 209.37		

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
18804	18817	3122291	0 - 0.05	0561000 - 0.13	0.05	2	4	0	0	0	0	4	0.0	0.00068	1963.43	789.75	2.49
Int of INDIA ST	NEWBURY ST			RD INV 05 61000											Statewide Crash Rate: 209.37		
18817	18822	3106813	0 - 0.05	0561000 - 0.18	0.05	2	1	0	0	0	0	1	0.0	0.00048	694.74	844.46	0.00
Int of INDIA ST	MIDDLE ST			RD INV 05 61000											Statewide Crash Rate: 209.37		
18821	18822	3106816	0 - 0.06	0561000 - 0.23	0.06	2	0	0	0	0	0	0	0.0	0.00054	0.00	827.16	0.00
Int of COMMERCIAL ST	INDIA ST	THAMES ST		RD INV 05 61000											Statewide Crash Rate: 209.37		
Study Years: 3.00				**Section Totals:**	1.64		34	0	0	1	1	30	5.9	0.02216	511.35	342.29	1.49
				Grand Totals:	1.64		103	0	2	12	11	76	24.3	0.02216	1549.08	480.30	3.23

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
18518	63225	3121455	0 - 0.16	0001A - 11.95	2	0	0	0	0	2	2022-17082	06/18/2022	11.98	PD
											2023-25652	09/03/2023	12.10	PD
18517	18518	3118954	0 - 0.06	0001A - 11.89	1	0	0	0	0	1	2023-38393	12/15/2023	11.94	PD
15397	18517	3123025	0 - 0.08	0001A - 11.81	0	0	0	0	0	0				
18518	18519	3106668	0 - 0.16	001AS - 1.94	1	0	0	0	0	1	2023-21756	07/27/2023	1.96	PD
18517	18518	3118912	0 - 0.06	001AS - 2.10	1	0	0	0	0	1	2023-17431	06/21/2023	2.13	PD
15397	18517	3100256	0 - 0.08	001AS - 2.16	0	0	0	0	0	0				
71558	18822	4047689	0 - 0.08	0560286 - 0.37	1	0	0	0	0	1	2023-24438	08/24/2023	0.40	PD
18517	18822	3106667	0 - 0.11	0560286 - 0.45	1	0	0	0	0	1	2021-13209	05/31/2021	0.54	PD
18517	18762	3106666	0 - 0.10	0560286 - 0.56	4	0	0	0	1	2	2022-25797	09/10/2022	0.59	C
											2023-3388	02/01/2023	0.60	
											2023-14989	05/25/2023	0.62	PD
											2023-20933	07/22/2023	0.64	PD
18762	18815	3106796	0 - 0.03	0560286 - 0.66	0	0	0	0	0	0				
15397	18821	3106035	0 - 0.11	0561001 - 0	1	0	0	0	0	1	2022-35685	12/02/2022	0.03	PD
18814	19413	3117964	0 - 0.04	0560505 - 0.16	2	0	0	0	0	1	2023-38654	12/16/2023	0.18	PD
											2022-36497	12/08/2022	0.19	
18518	19413	3106669	0 - 0.07	0560505 - 0.20	2	0	0	0	0	2	2023-5166	02/16/2023	0.23	PD
											2023-14532	03/29/2023	0.24	PD
18518	18801	5095055	0 - 0.04	0560505 - 0.27	2	0	0	1	0	1	2022-28415	09/22/2022	0.29	B
											2023-18914	07/05/2023	0.30	PD
18801	18817	5095056	0 - 0.07	0560505 - 0.31	5	0	0	0	0	5	2023-5617	02/21/2023	0.34	PD
											2021-17737	07/13/2021	0.35	PD
											2023-27254	09/20/2023	0.36	PD
											2023-3516	02/02/2023	0.37	PD
											2023-31926	11/02/2023	0.37	PD
18817	18818	194423	0 - 0.08	0560505 - 0.38	1	0	0	0	0	1	2021-16500	07/01/2021	0.44	PD
18800	18801	194396	0 - 0.05	0560342 - 0	1	0	0	0	0	1	2022-32244	11/07/2022	0.02	PD
18795	18800	194387	0 - 0.05	0560342 - 0.05	0	0	0	0	0	0				
18796	18804	3130049	0 - 0.05	0561000 - 0.08	4	0	0	0	0	4	2022-2030	01/21/2022	0.09	PD
											2022-3472	02/01/2022	0.10	PD
											2021-14244	06/09/2021	0.11	PD
											2023-32526	11/07/2023	0.11	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
18804	18817	3122291	0 - 0.05	0561000 - 0.13	4	0	0	0	0	4	2022-23348	08/18/2022	0.14	PD
											2022-14108	05/20/2022	0.15	PD
											2023-20660	07/20/2023	0.16	PD
											2023-22046	08/02/2023	0.17	PD
18817	18822	3106813	0 - 0.05	0561000 - 0.18	1	0	0	0	0	1	2022-13782	05/18/2022	0.21	PD
18821	18822	3106816	0 - 0.06	0561000 - 0.23	0	0	0	0	0	0				
				Totals:	34	0	0	1	1	30				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day PM												
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	2	1	0	0	11
MONDAY	2	0	0	0	0	0	0	0	2	0	0	2	0	2	0	1	0	0	1	0	1	0	1	0	0	12
TUESDAY	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1	1	1	0	0	1	0	0	1	0	0	9
WEDNESDAY	0	0	0	1	0	0	0	1	1	1	1	2	2	0	1	1	1	1	2	1	2	0	0	0	0	18
THURSDAY	0	0	1	0	0	0	0	1	0	2	0	1	1	3	0	2	1	1	2	3	1	1	0	0	0	20
FRIDAY	0	1	0	0	0	0	0	2	1	0	2	1	2	1	0	0	2	1	1	1	2	1	0	2	0	20
SATURDAY	0	0	0	0	0	0	0	1	0	2	1	1	0	0	0	2	2	1	2	0	0	0	1	0	0	13
Totals	3	1	2	1	0	0	0	5	5	6	4	8	8	6	2	9	8	4	8	6	7	4	4	2	0	**103**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	112
2-(Sport) Utility Vehicle	54
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	2
5-Pickup	15
6-Motor Home	0
7-School Bus	0
8-Transit Bus	1
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	1
12-Moped	1
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	1
17-Medium/Heavy Trucks (More than 10,000 lbs)	6
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	6
23-Bicyclist	3
24-Witness	16
25-Other	5
26-Construction	1
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	**225**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	23	67	2	0	0	0	92
Ran Off Roadway	2	0	0	0	0	0	2
Failed to Yield Right-of-Way	27	5	0	0	0	0	32
Ran Red Light	8	0	0	0	0	0	8
Ran Stop Sign	1	0	0	0	0	0	1
Disregarded Other Traffic Sign	0	1	0	0	0	0	1
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	7	0	0	0	0	0	7
Improper Backing	3	0	0	0	0	0	3
Improper Passing	0	0	0	0	0	0	0
Wrong Way	1	0	0	0	0	0	1
Followed Too Closely	6	3	0	0	0	0	9
Failed to Keep in Proper Lane	8	0	0	0	0	0	8
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	2	0	0	0	0	0	2
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	1	0	0	0	0	1
Other Contributing Action	5	0	0	0	0	0	5
Unknown	3	3	0	0	0	0	6
Total	**97**	**80**	**2**	**0**	**0**	**0**	**179**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	88	80	2	0	0	9	179
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	7	0	0	0	0	0	7
Other	2	0	0	0	0	0	2
Total	**97**	**80**	**2**	**0**	**0**	**9**	**188**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	1	0	0	0	0	1
10-14	0	0	0	0	0	0
15-19	9	0	0	0	0	9
20-24	24	0	0	0	0	24
25-29	23	0	0	0	0	23
30-39	38	0	0	0	0	38
40-49	23	0	0	0	0	23
50-59	29	0	0	0	0	29
60-69	23	0	0	0	0	23
70-79	10	0	0	0	0	10
80-Over	3	0	0	0	0	3
Unknown	17	3	0	6	0	26
Total	**200**	**3**	**0**	**6**	**0**	**209**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	3	2	1	6
FEBRUARY	2	4	5	11
MARCH	0	1	2	3
APRIL	2	2	4	8
MAY	2	4	5	11
JUNE	5	5	4	14
JULY	6	1	6	13
AUGUST	1	5	2	8
SEPTEMBER	1	2	4	7
OCTOBER	1	3	0	4
NOVEMBER	1	4	6	11
DECEMBER	1	4	2	7
Total	25	37	41	103

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	25	2	0	24	0	1	0	0	0	0	0	0	0	0	52
Head-on - Sideswipe	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Intersection Movement	0	0	0	36	0	3	0	0	0	0	0	0	0	0	39
Pedestrians	1	0	0	4	0	0	0	0	0	0	0	0	0	0	5
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	28	2	0	69	0	4	0	0	0	0	0	0	0	0	103

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	24	0	0	0	0	0	0	0	0	0	2	26
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	41	0	0	0	0	0	1	0	0	0	2	44
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	11	0	0	0	0	0	0	0	0	0	1	12
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	3	3
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	1	1
Daylight	0	0	0	0	0	0	0	0	0	0	10	10
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

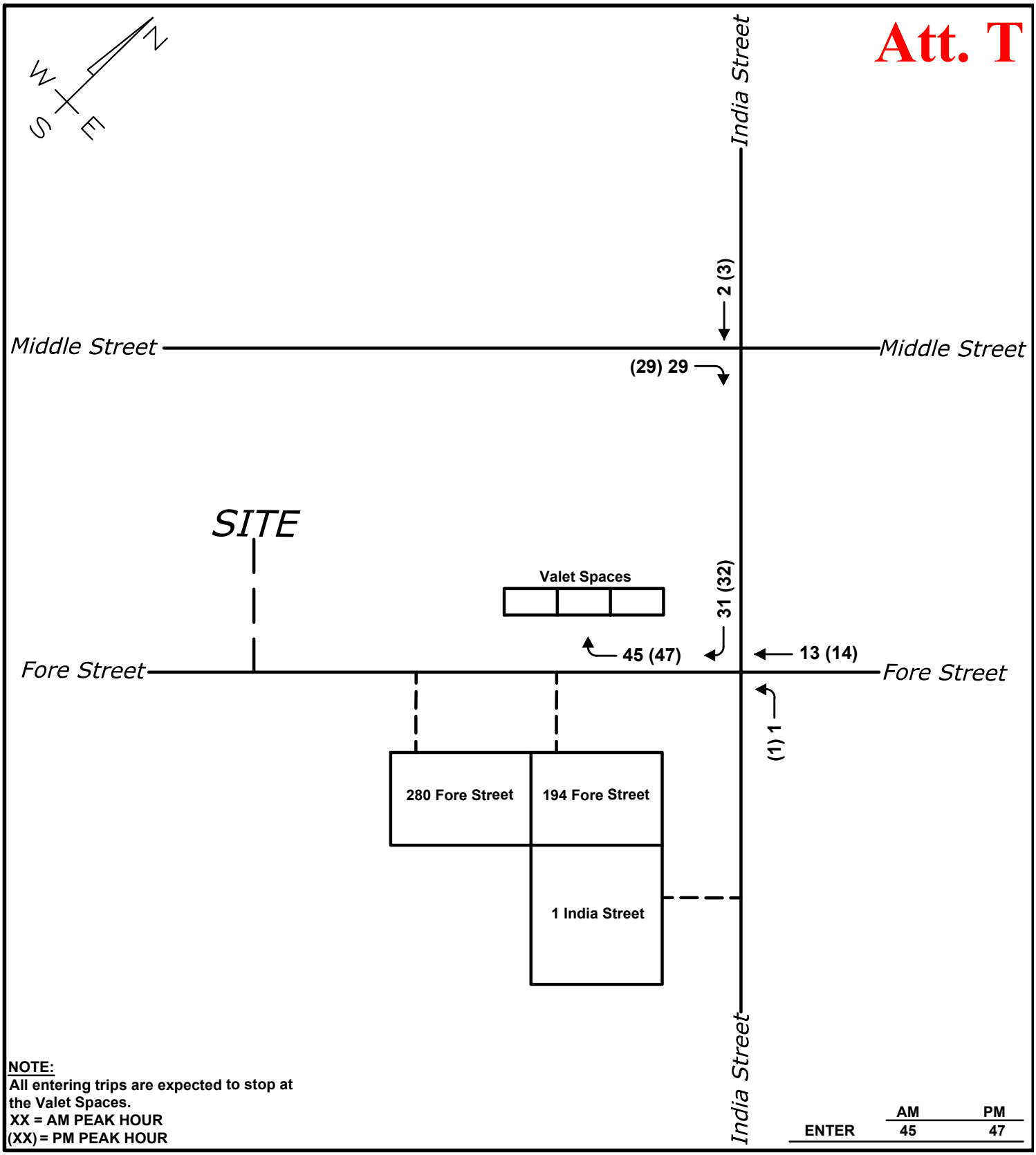
Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	1	0	0	1	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	79	0	0	0	0	0	1	2	0	0	21	103

GUEST ARRIVAL

Figure No. 11A

Att. T



HOMES 2
PORTLAND, MAINE

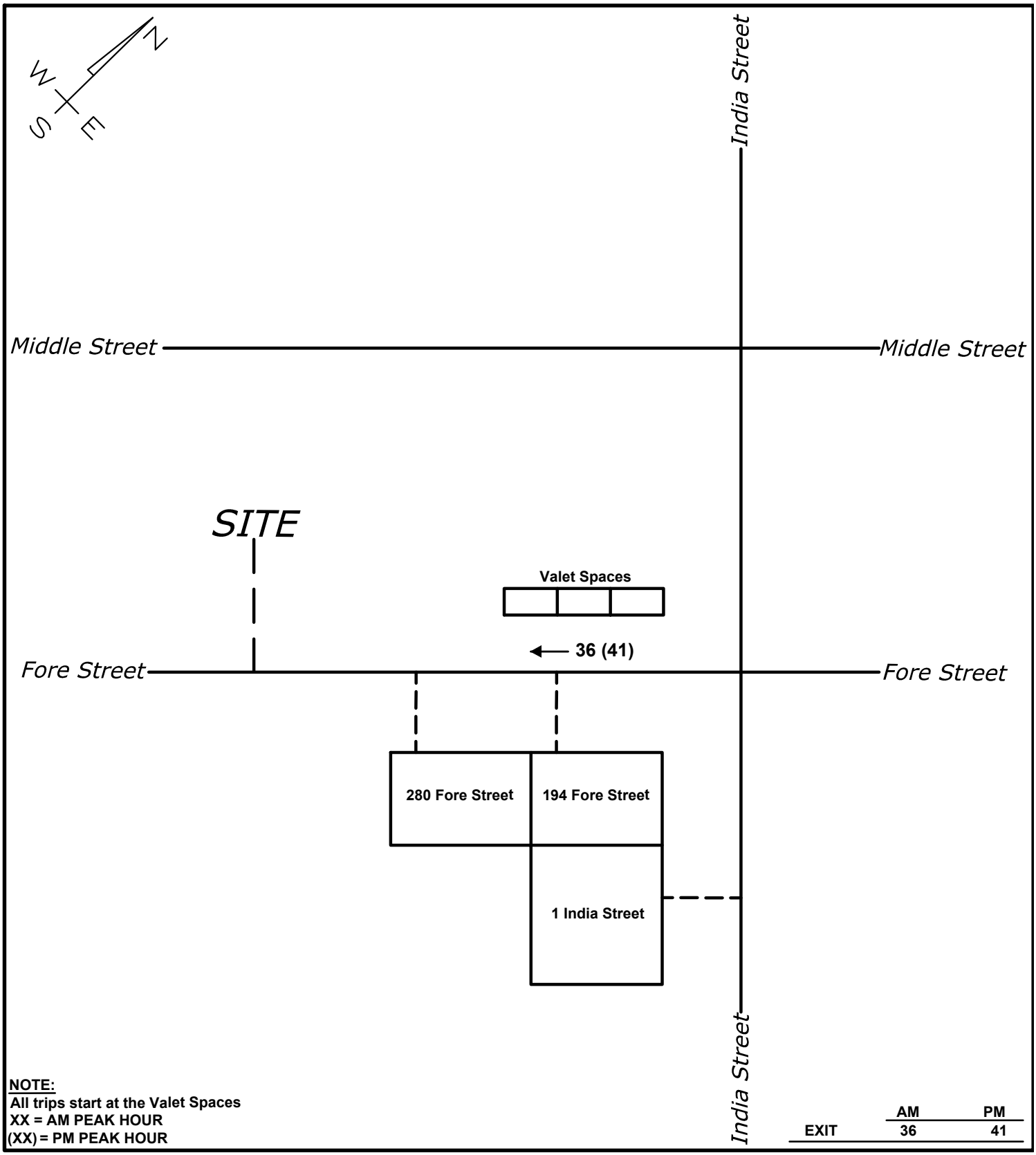
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GUEST DEPARTURE

Figure No. 11B



HOMES 2
PORTLAND, MAINE

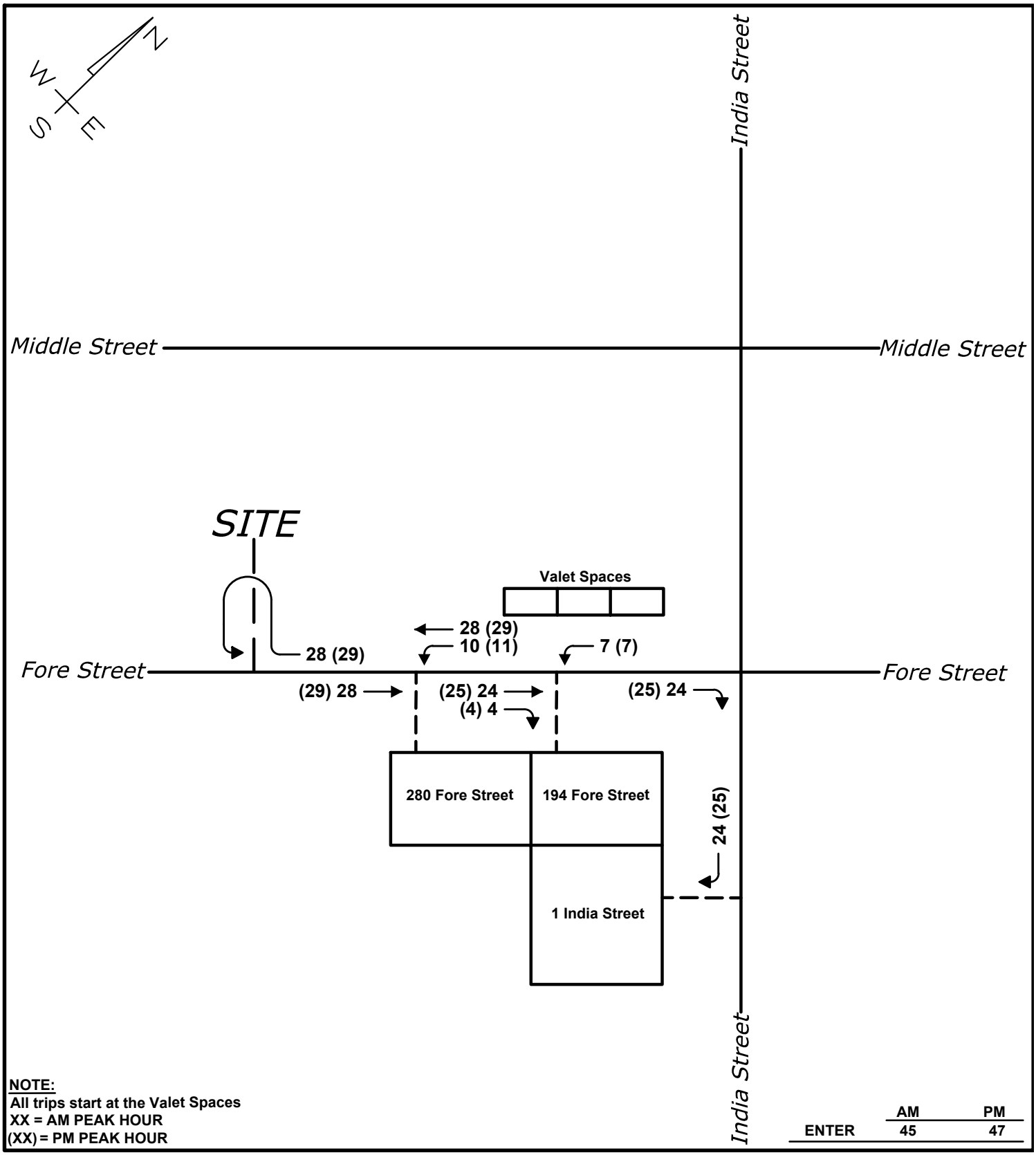
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Draft:	KJB	Date:	5/28/25
Checked:	RED	File Name:	Figure Set.dwg

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VALET ARRIVAL

Figure No. 12A



HOMES 2
PORTLAND, MAINE

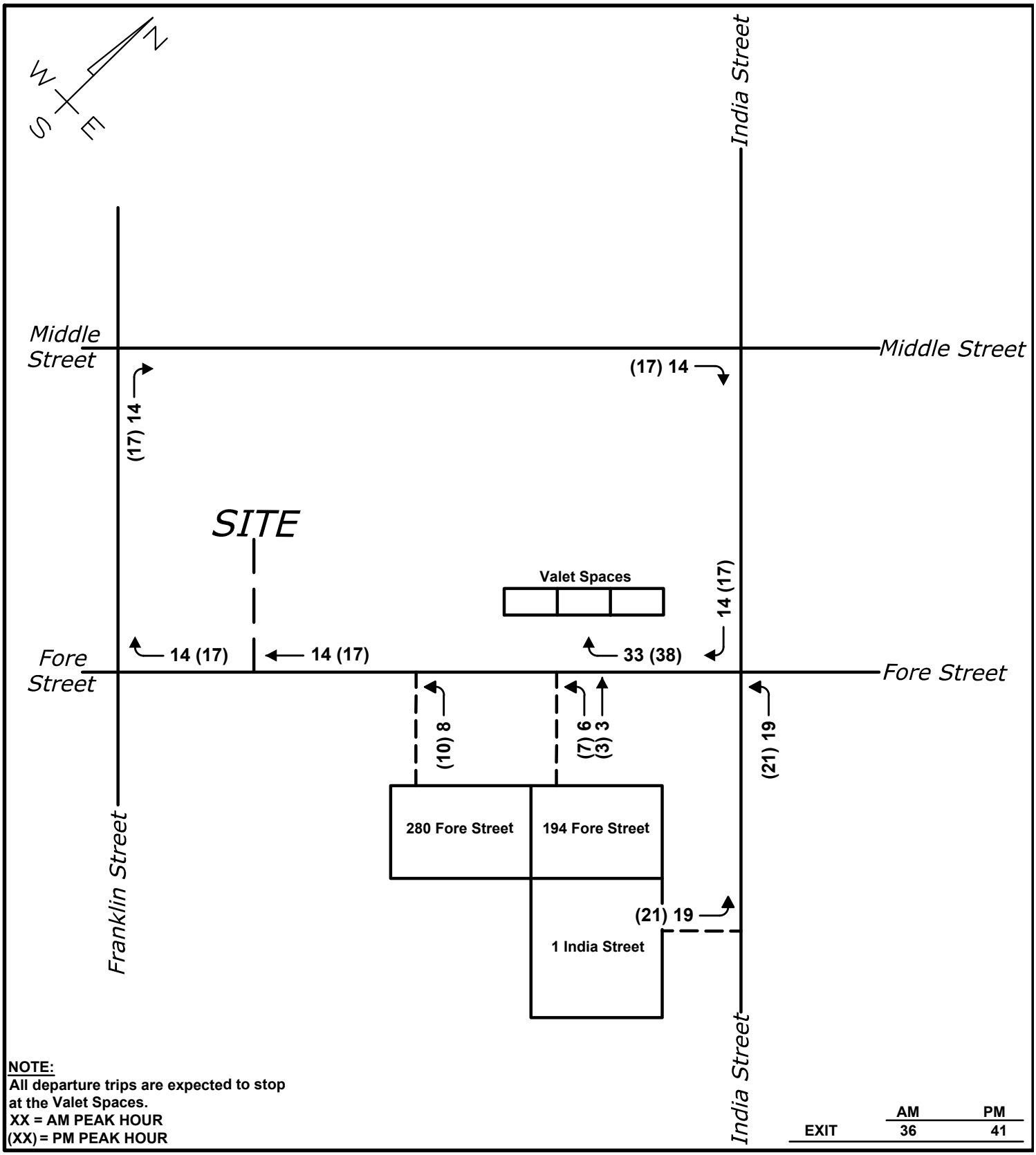
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Draft: KJB Date: 5/28/25
Checked: RED File Name: Figure Set.dwg

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VALET DEPARTURE

Figure No. 12B



HOMES 2
PORTLAND, MAINE

Design: KJB Scale: NONE
Draft: KJB Date: 5/28/25
Checked: RED File Name: Figure Set.dwg

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Att. U

Traffic Movement Permit Application
Homes 2, Portland

Chatham Lodging Trust
222 Lakeview Avenue, Suite 200
West Palm Beach, FL 33401









Submitted By:
Gorrill Palmer
300 Southborough Dr., Suite 200
South Portland, Maine 04106
207.772.2515

February 2025

GORRILL PALMER
An LJB Engineering Company

GORRILL PALMER
An LJB Engineering Company

300 Southborough Dr Suite 200
South Portland, Maine 04106
207.772.2515

February 21, 2025

Mr. Eric Freeman
Assistant City Planner
Portland Planning & Urban Development
389 Congress Street
Portland, ME 04101

Subject: Application for Traffic Movement Permit
Hotel/Condominium
203 Fore Street – Portland, ME

Dear Eric,

On behalf of **Chatham Lodging Trust** (applicant), **Gorrill Palmer** (GP) is pleased to submit this Traffic Movement Permit (TMP) Application for a proposed Hotel, two restaurants, and retail area located at 203 Fore Street, Portland, ME 04101. The application is being submitted to the city per their delegated review authority to administer the MaineDOT TMP process.

We have attached the following information in support of this application:

- Sections 1-6
- Signed Application Form
- Notice of Intent to File
- List of Abutters

With the filing of this application, we are pleased to start this permit review process and would like to schedule a Scoping Meeting in the near future.

Sincerely,
Gorrill Palmer

Randy Dunton, PE, PTOE, IMSA II
Project Manager
rdunton@gorrillpalmer.com

Copy: Tom Errico, P.E. TY LIN
Dennis Craven, EVP & Chief Operating Officer Chatham Lodging Trust

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-624-3600

FOR MDOT USE
ID #

Total Fees:
Date: Received

****

PERMIT APPLICATION - TRAFFIC
TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A. § 704 - A

Please type or print:

This application is for:

Traffic 100-200 PCE's	_X_
Traffic 100-200 PCE's (Expedited)	____
Traffic 200+ PCE's	____

Name of Applicant: Chatham Lodging Trust
Address: 222 Lakeview Avenue, Suite 200, West Palm Beach, Florida 33401 Telephone: (561)-802-4477

Name of local contact or agent: Randy Dunton – Gorrill Palmer

Address: 300 Southborough Drive, Suite 200, South Portland, ME 04106 Telephone: (207) 772-2515

Name and type of development: Hotel, Restaurants, and Retail Area

Location of development including road, street, or nearest route number: 203 Fore Street, Portland, ME 04101

Town: **Portland**, County: **Cumberland**, Tax Map #029, Lot #L003001

Do you want a consolidated review with DEP pursuant to 23 M.R.S.A. § 704-A (7)? Yes ____ No __X__

Was this development started prior to obtaining a traffic permit? Yes, currently valet parking

Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30 - A, chapter 187)? Yes __X__ No____(According to Town Staff)

Is this project located within a compact area of an urban compact municipality? Yes __X___ No _____

Is this development or any portion of the site currently subject to state or municipal enforcement action? ____None Known__

Existing DEP or MDOT permit number (if applicable): _____None Known_____

Name(s) of DOT staff person(s) contacted concerning this application: __None_____
_____

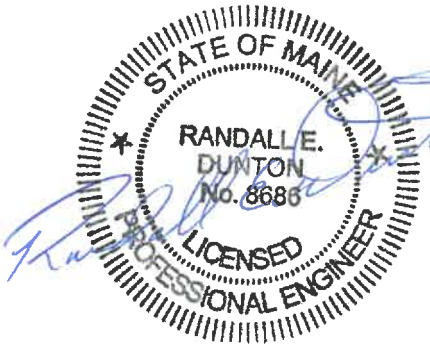
Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applications: __TBD_____
_____

CERTIFICATION

The traffic engineer responsible for preparing this application and/or attaching pertinent site and traffic information hereto, by signing below, certifies that the application for traffic approval is complete and accurate to the best of his/her knowledge.

Signature: Randall E. Dunton Re/Cert/Lic No.: 8686

Name (print): Randall E. Dunton Date: 2-21-25



If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

VC Bm - Agent — Signature of applicant

2/21/2025 — Date

CHATHAM
LODGING TRUST

February 12, 2025

Subject: **Local or State Permitting**
203 Fore Street, Portland, ME
Agent Authorization Letter

To Whom it May Concern:

Chatham Lodging Trust has retained Gorrill Palmer to prepare State/Local Permit Applications for a commercial development located at 203 Fore Street in Portland, Maine. Gorrill Palmer and their subconsultants are authorized to act as an agent for matters related to these permits.

Sincerely,

Dennis Craven
Executive Vice President and Chief Operating Officer

222 Lakeview Avenue, Suite 200, West Palm Beach, Florida 33401
Phone (561) 802-4477, Fax (561) 835-4125

NOTICE OF INTENT TO FILE
Traffic Movement Permit

Please take notice that

Chatham Lodging Trust
222 Lakeview Avenue, Suite 200, West Palm Beach, Florida 33401
(561)-802-4477

is intending to file a Traffic Movement Permit application with the City of Portland who has delegated authority to administer the MaineDOT's TMP process pursuant to the provisions of 23 M.R.S.A. § 704 - A on or about

February 21, 2025

The application is for

A proposed Hotel, Restaurants, and Retail Area and is forecast to generate the following trip ends: 1061 weekday, 81 AM Peak Hour Adjacent Street, 86 PM Peak Hour Adjacent Street, 106 AM Peak Hour of the Generator, 113 PM Peak Hour of the Generator.

at the following location:

The site is located at 203 Fore Street, Portland, ME 04101 and bounded by Hampton Inn to the west, India Street to the east, Fore Street to the south, and Middle Street to the north. The parcel is identified in Portland, Maine's Tax Map #029 as Lot #L003001. The site is proposed to be accessed via an existing shared driveway onto Fore Street.

Any interested party may request in writing to participate in the City's scoping meeting for the subject project no later than 20 days after the application is found by the City to be complete and is accepted for processing. Requests shall be sent to the City of Portland, Attn: Eric Freeman, 389 Congress Street, Portland, ME 04101. Public comments on the application pertaining to either congestion or safety will be accepted throughout the processing of the application.

The application will be filed for public inspection at City Hall (Planning Dept.) during normal working hours. A copy of the application may also be seen at the MaineDOT region office on Pleasant Hill Road in Scarborough.

Written public comments concerning congestion or safety only, may be sent to the Department of Transportation, State Traffic Engineer, 16 State House Station, Augusta, Maine 04333.

Abutters

COMPANY	FIRST NAME	LAST NAME	ADDRESS	CITY	STATE	ZIP
211 FORE ST LLC			4 CENTER ST	BRENTWOOD	NH	03833
50 INDIA LLC			50 RIVERSIDE INDUSTRIAL PKWY	PORTLAND	ME	04103
61-65 MIDDLE LLC			PO BOX 66749	FALMOUTH	ME	04105
AENGUS PROPERTIES LLC			36 INGALLS RD	GREAT DIAMOND ISLAND	ME	04109
BANGOR SAVINGS BANK			PO BOX 930	BANGOR	ME	04402
	MICHAEL K	BROWN	207 FORE ST # 7	PORTLAND	ME	04101
	MATTHEW	BUTLER	207 FORE ST # 8	PORTLAND	ME	04101
CHATHAM PORTLAND DT LLC			222 LAKEVIEW AVE # 200	WEST PALM BEACH	FL	33401
	WILLIAM	DROST	22007 SAGE MOUNTAIN LN	KATY	TX	77450
	DANIEL	ELDER	207 FORE ST # 2	PORTLAND	ME	04101
FLAGG INDIA PARTNERS LLC			208 FORE ST	PORTLAND	ME	04101
FLAGG LLC			515 EAST 79TH ST # 30E	NEW YORK	NY	10075
	ROBERT ERCOLE	GOVERNALE	593 NORTH ELM ST	WALLINGFORD	CT	06492
INDIA MIDDLE JUNCTION LLC			340 FORE ST	PORTLAND	ME	04101
	THIERRY R	KRIER	20 FAIRWAY MEADOWS CT	OREGON	WI	53575
MICUCCI BROTHERS INC			45 INDIA ST	PORTLAND	ME	04101
PORTLAND WATER DISTRICT			225 DOUGLASS ST	PORTLAND	ME	04102
PORTSIDE CONDO			207 FORE ST	PORTLAND	ME	04101
RICK AND ANNA MICUCCI INC			45 INDIA ST	PORTLAND	ME	04101
RIVERSIDE VENTURES LLC			5 MOULTON ST	PORTLAND	ME	04101
SCARCROW HOLDINGS LLC			30 HIGHLAND ST	PORTLAND	ME	04103
SIMBA INC			446 COMMERCIAL ST	PORTLAND	ME	04101
	MARK	STELMACK	207 FORE ST # 1	PORTLAND	ME	04101
	GREGORY	THAYER	207 FORE ST # 6	PORTLAND	ME	04101
	ANDREW	TURNER	95 WORTH ST # 10E	NEW YORK	NY	10013
	STUART K	WEBER	210 E FLAMINGO RD # 117	LAS VEGAS	NV	89169
	STEPHANIE L	WOODS	49 BRADBURY AVE	MEDFORD	MA	02155
	FUSAYO	YAMAMOTO	23294 COSO	MISSION VIEJO	CA	92692


City of Portland
29
Tax Map
1" = 50 feet
28
444
31
MIDDLE ST
MARKET ST
SILVER ST
MILK ST
PEARL ST
FORE ST
FRANKLIN ST
HAMPSHIRE ST
INDIA ST
THAMES ST
COMMERCIAL ST
GOLD ST
CUSTOM HOUSE ST
MOULTON ST
PORTLAND PIER
MAINE WHARF
MAINE STATE PIER
CHURCH ST
GARDEN LN
39522 sq.ft
11870 sq.ft
33789 sq.ft

Section 1

Site and Traffic Information

Section 1
Site and Traffic Information

1.A. Site Plan

This application is for a proposed Hotel, Restaurants, and Retail Area to be located at 203 Fore Street, Portland, ME 04101. The site is currently occupied by an existing parking lot and is bounded by Hampton Inn to the west, India Street to the east, Fore Street to the south, and Middle Street to the north. The overall site is shown on Portland's Tax Map 029 as Lot L003001. The site is proposed to be accessed via one full movement entrance that is shared with the existing Hampton Inn on Fore Street; and approximately three valet spaces along the site frontage on Fore Street. The site plan is included in Attachment 1A.

Pedestrian Accommodations:

- On-site
  - Sidewalks are currently existing around the proposed property and will not be altered.
- Off-site
  - Sidewalks are provided on both sides of Fore Street, both sides of India Street, and both sides of Middle Street.

Bicycle Accommodations:

- On-site
  - It is our understanding that there will be bicycle racks on site.
- Off-site
  - No dedicated bike lanes exist on Fore Street, India Street, or Middle Street. On site observations show that bicycles regularly use India Street, Middle Street, and Fore Street in shared use fashion.

Transit Accommodations

- On-site
  - No public transit is proposed on-site.
- Off-site
  - The City of Portland provides several transportation services. There is a metro bus line that has three routes that passengers can use to reach the site, route 1, route 8, and route 9A/9B. There is also a husky bus line that passengers can use to reach the site as well.

1.B. Description of Existing and Proposed Site Uses

The existing site is approximately 1.09 acres and includes an existing parking lot. As described in the previous section and shown on the attached site plan, the proposed Hotel will be accessed via a shared existing full movement driveway on Fore Street; and approximately three valet spaces along the site frontage on Fore Street. The Restaurant and Retail Area will be accessed via public parking.

The applicant is proposing a new Hotel, Restaurants, and Retail Area where the existing parking lot is located. Parking is proposed to be valet for the Hotel; valet spaces will be provided on site and agreed upon off-site locations if needed. Parking for the proposed Homes2 Suites and existing Hampton Inn will be shared. The applicant contracted Unified Parking Partners (UPP) as their parking valet operator. UPP intends to primarily use four available lots within one block of the site for off-site parking (Attachment 1B figure 4); the lots are as follows:

- 280 Fore Street – 20 Available Spaces
- 194 Fore Street – 20 Available Spaces
- 1 India Street – 44 Available Spaces
- 100 Middle Street – 245 Available Spaces (only used for heavy weekend and overnight stays)

There are approximately 105 proposed valet spaces on-site, but the final design is still being refined. The restaurant and retail area will not have any dedicated parking spaces, visitors will use public parking to access these locations.

1.C. Regional Mapping

The site is bounded by Hampton Inn to the west, India Street to the east, Fore Street to the south, and Middle Street to the north. The overall site is shown on Portland's Tax Map 029 as Lot L003001. A location map is included with the figure set, Attachment 1B.

1.D. Information Concerning Proposed Uses

Based on discussions with the City of Portland's assistant city planner Eric Freeman and the City of Portland's delegated reviewer Tom Errico of TY LIN, there are two other developments that provide additional traffic in our study area. WEX phase 3 and 58 Fore street ("Portland Foreside") will provide additional traffic in the study area. Other development figures are located in Attachment B on figures 7 & 8.

I.E Information Concerning Vehicle Trip Generation

Trip generation for the project has been calculated using a combination of the Institute of Transportation Engineers' (ITE) publication, *Trip Generation,* Eleventh Edition, the most recent edition accepted by MaineDOT. The applicant is proposing a Hotel, Two Restaurants, and a Retail Area. The exact use of the retail space is unknown at this time but is expected to be a low traffic generator. For the purposes of this evaluation assumes apparel store. After careful review of the Land Use Code (LUC) provided in the 11th Edition of the *Trip Generation,* trip generation calculations are located in Attachment 1C, the following was selected to calculate the trip generation for the proposed project:

Proposed Trip Generation Variables

- LUC 311 – All Suites Hotel – 132 Keys
- LUC 876 – Apparel Store – 1,777 SF
- LUC 932 – High Turnover (Sit-Down) Restaurant – 1,843 SF & 1,651SF

In calculating trip generation, MaineDOT methodology requires review of both the average rate and the fitted curve equation. If $r^2 \geq 0.80$ then the fitted curve equation is typically used, and if $r^2 < 0.80$ then the average rate is typically used. Trip generation calculations are provided in Attachment 1C.

The following Table 2 summarizes the trip generation for the proposed hotel.

Table 2 – Trip Generation Hotel (LUC 311 – 132 Keys**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday*	4.31	569
AM Peak Hour of Adjacent Street	0.34	45
PM Peak Hour of Adjacent Street*	0.36	48
AM Peak Hour Generator	0.37	49
PM Peak Hour Generator*	0.37	49
Saturday Peak Hour Generator**	N/A	N/A

* Trip gen rates based on fitted curve equation

**No available trip gen in ITE 11th edition

The following Table 3 summarizes the trip generation for the proposed retail.

Table 3 – Trip Generation Apparel Store (LUC 876 – 1,777 SF**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday*	66.40	118
AM Peak Hour of Adjacent Street*	1.00	2
PM Peak Hour of Adjacent Street	4.12	8
AM Peak Hour Generator*	4.80	9
PM Peak Hour Generator	4.20	8
Saturday Peak Hour Generator	5.32	10

* One study available

The following Table 4 summarizes the trip generation for one of the proposed High Turnover (Sit-Down) Restaurants.

Table 4 – Trip Generator High Turnover (Sit-Down) Restaurant (LUC 932 – 1,843 SF**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday	107.20	197
AM Peak Hour of Adjacent Street	9.57	18
PM Peak Hour of Adjacent Street	9.05	17
AM Peak Hour Generator	13.68	25
PM Peak Hour Generator	16.35	30
Saturday Peak Hour Generator	11.19	21

The following Table 5 summarizes the trip generation for one of the proposed High Turnover (Sit-Down) Restaurants.

Table 5 – Trip Generator High Turnover (Sit-Down) Restaurant (LUC 932 – 1,651 SF**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday	107.20	177
AM Peak Hour of Adjacent Street	9.57	16
PM Peak Hour of Adjacent Street	9.05	15
AM Peak Hour Generator	13.68	23
PM Peak Hour Generator	16.35	27
Saturday Peak Hour Generator	11.19	18

The following Table 6 summarizes the combined trip generation for the proposed site.

Table 6 – Combined Trip Generation

Time Period	Trip Generation (Trip Ends)
Weekday	1061
AM Peak Hour of Adjacent Street	81
PM Peak Hour of Adjacent Street	88
AM Peak Hour Generator	106
PM Peak Hour Generator	114

As shown in Table 6, the AM & PM Peak Hour of Generator is 106 and 114 trips respectively. Based on this, the project requires a 100-200 trip end MaineDOT Traffic Movement Permit (TMP). The City of Portland has delegated review authority to administer this application for the MaineDOT.

1.F. Information about Trip Distribution

Based on ITE's Trip Generation Manual, the following trip distribution is forecast for the combined Land Use Codes:

Table 7 – Trip Distribution

Time Period	Trip Ends		
	Enter	Exit	Total
Weekday	531	530	1061
AM Peak Hour of Adjacent Street	45	36	81
PM Peak Hour of Adjacent Street	47	41	88
AM Peak Hour Generator	57	49	106
PM Peak Hour Generator	57	57	114

1.G. Information about Trip Assignment

Trip Composition:

Primary trips are made for the sole purpose of going to or from the site. These primary drivers go back in the direction where they came from when exiting the site. Diverted trips are made a short distance out of the way while on route to somewhere else. Pass-By trips are made by people who would otherwise already be driving past the site and

decide to stop at the site. For the initial purposes of this section and the figures, all the trips were considered primary.

Trip Assignment:

Trip assignment for the hotel is based on traffic counts completed in the area, information from the City of Portland, and the location of the valet. The valet will be located on the northern side of Fore Street. It is anticipated that the hotel will advise guests to use the route of Middle Street to India Street to Fore Street.

1.H. Study Area

Using MaineDOT methodology, the study area appears to be limited to the site driveway and streets within the immediate surrounding area. This would include Middle Street, Fore Street, and India Street as they all border the potential site.

1.I. Traffic Volumes

Based on conversations with the City of Portland, it was determined that traffic counts would be completed in only the PM at the following locations:

- India Street / Middle Street
- India Street / Fore Street
- Fore Street / Site Drive

The counts were completed by Gorrill Palmer on Tuesday, September 10 from 3:00 PM – 6:00 PM for Middle Street / India Street, Wednesday, September 11 from 3:00 PM – 6:00 PM for Fore Street / India Street, and Fore Street / Site Drive on Friday, September 27 from 3:00 PM – 6:00 PM. Based on data provided from the MaineDOT, traffic volumes along the site frontage have decreased from 2016 to 2022. In order to be conservative, the yearly growth was decided to be 0.5%.

1.J. Attachments

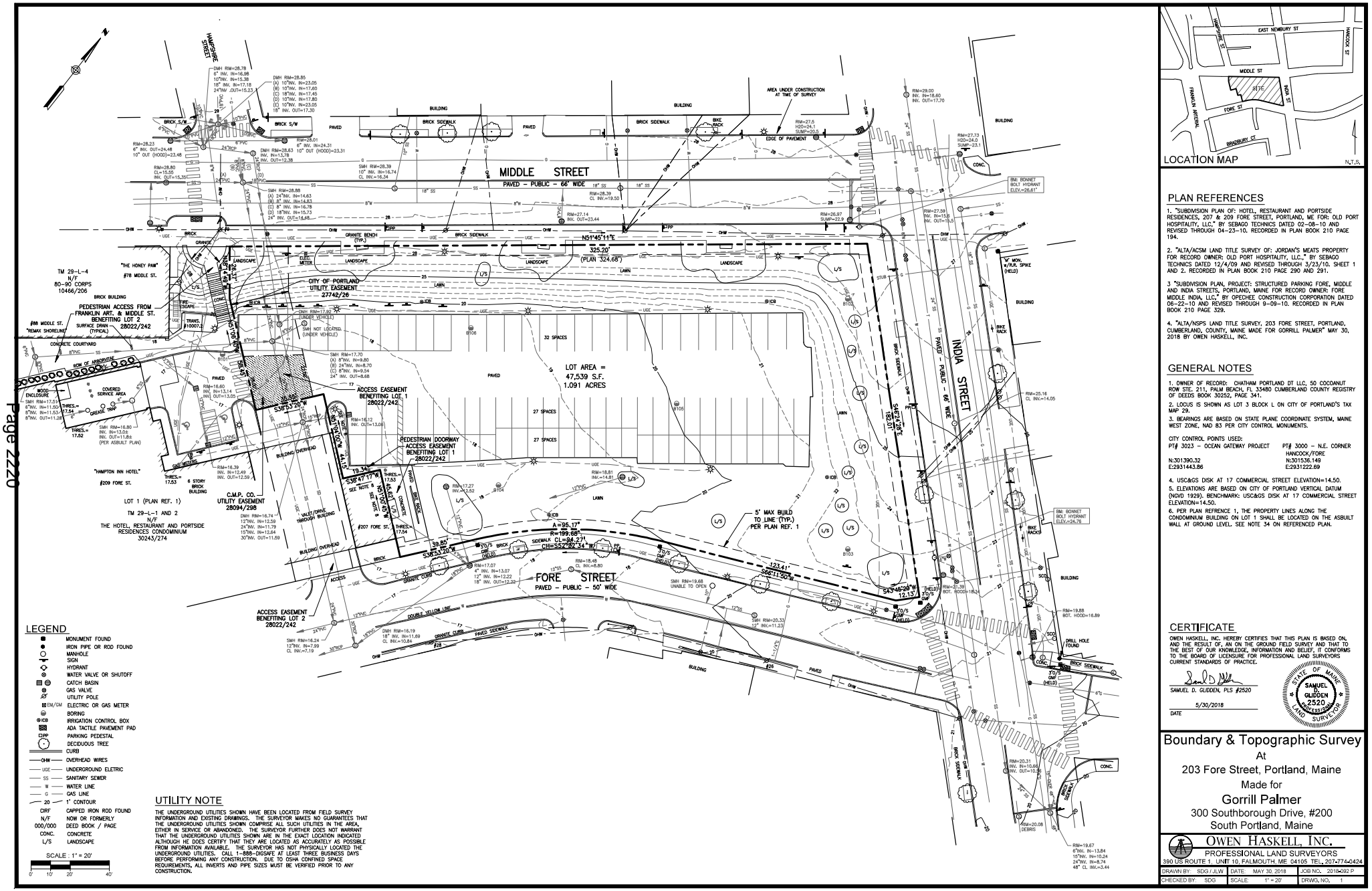
Attachment 1A – Site Survey, Proposed Site Plan
Attachment 1B – Site Location Map, Trip Assignment Diagrams
Attachment 1C – Trip Generation Calculations, ITE Supporting Documents
Attachment 1D – Traffic Counts

Attachment 1A

Site Survey
Proposed Site Plan

JN 3904.01
February 2025

Chatham Lodging Trust
West Palm Beach, Florida



PLAN REFERENCES

1. "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.

2. "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC.," BY SEBAGO TECHNICS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.

3 "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06-22-10 AND REVISED THROUGH 9-09-10. RECORDED IN PLAN BOOK 210 PAGE 329.

4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND, COUNTY, MAINE MADE FOR GORRILL PALMER" MAY 30, 2018 BY OWEN HASKELL, INC.

GENERAL NOTES

1. OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.

2. LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.

3. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
N:301390.32	N:301536.149
E:2931443.86	E:2931222.69

4. USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

6. PER PLAN REFRENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

SAMUEL D. GLIDDEN, PLS #2520

5/30/2018
DATE

STATE OF MAINE · SAMUEL D. GLIDDEN · 2520 · PROFESSIONAL · LAND SURVEYOR

LEGEND

- MONUMENT FOUND
- IRON PIPE OR ROD FOUND
- MANHOLE
- SIGN
- HYDRANT
- WATER VALVE OR SHUTOFF
- CATCH BASIN
- GAS VALVE
- UTILITY POLE
- ELECTRIC OR GAS METER
- BORING
- IRRIGATION CONTROL BOX
- ADA TACTILE PAVEMENT PAD
- PARKING PEDESTAL
- DECIDUOUS TREE
- CURB
- OHW — OVERHEAD WIRES
- UGE — UNDERGROUND ELETRIC
- SS — SANITARY SEWER
- W — WATER LINE
- G — GAS LINE
- 20 — 1' CONTOUR
- CIRF — CAPPED IRON ROD FOUND
- N/F — NOW OR FORMERLY
- 000/000 — DEED BOOK / PAGE
- CONC. — CONCRETE
- L/S — LANDSCAPE

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

Boundary & Topographic Survey

At

203 Fore Street, Portland, Maine

Made for

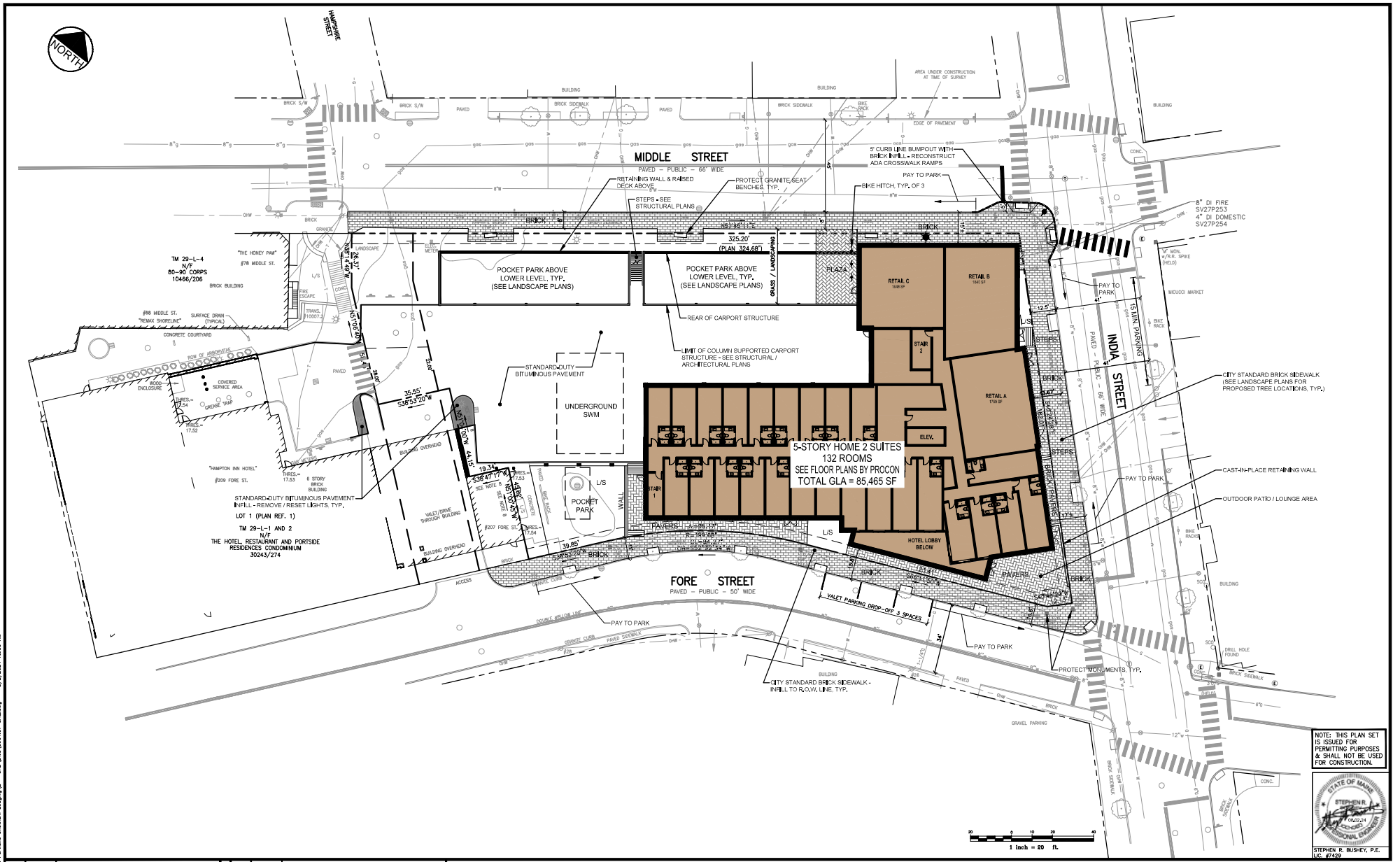
Gorrill Palmer

300 Southborough Drive, #200

South Portland, Maine

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: SDG / JLW	DATE: MAY 30, 2018	JOB NO. 2018-092 P
CHECKED BY: SDG	SCALE: 1" = 20'	DRWG. NO. 1



NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE STEPHEN R. BUSHEY 08/02/24 REGISTERED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E. LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: JUNE 2024
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-SITE.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: SITE LAYOUT PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. **C-3.0**

I:\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-SITE.dwg 8/2/2024 10:00 AM

Attachment 1B

Site Location Map
Trip Assignment Diagram

JN 3904.01
February 2025

Chatham Lodging Trust
West Palm Beach, Florida

SITE LOCATION WITHIN TOWN LIMITS

Figure No. 1



HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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207.772.2515

TWO MILE RADIUS

Figure No. 2



HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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¼ MILE RADIUS

Figure No. 3



HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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OFF-SITE VALET PARKING

Figure No. 4



HOMES 2
PORTLAND, MAINE

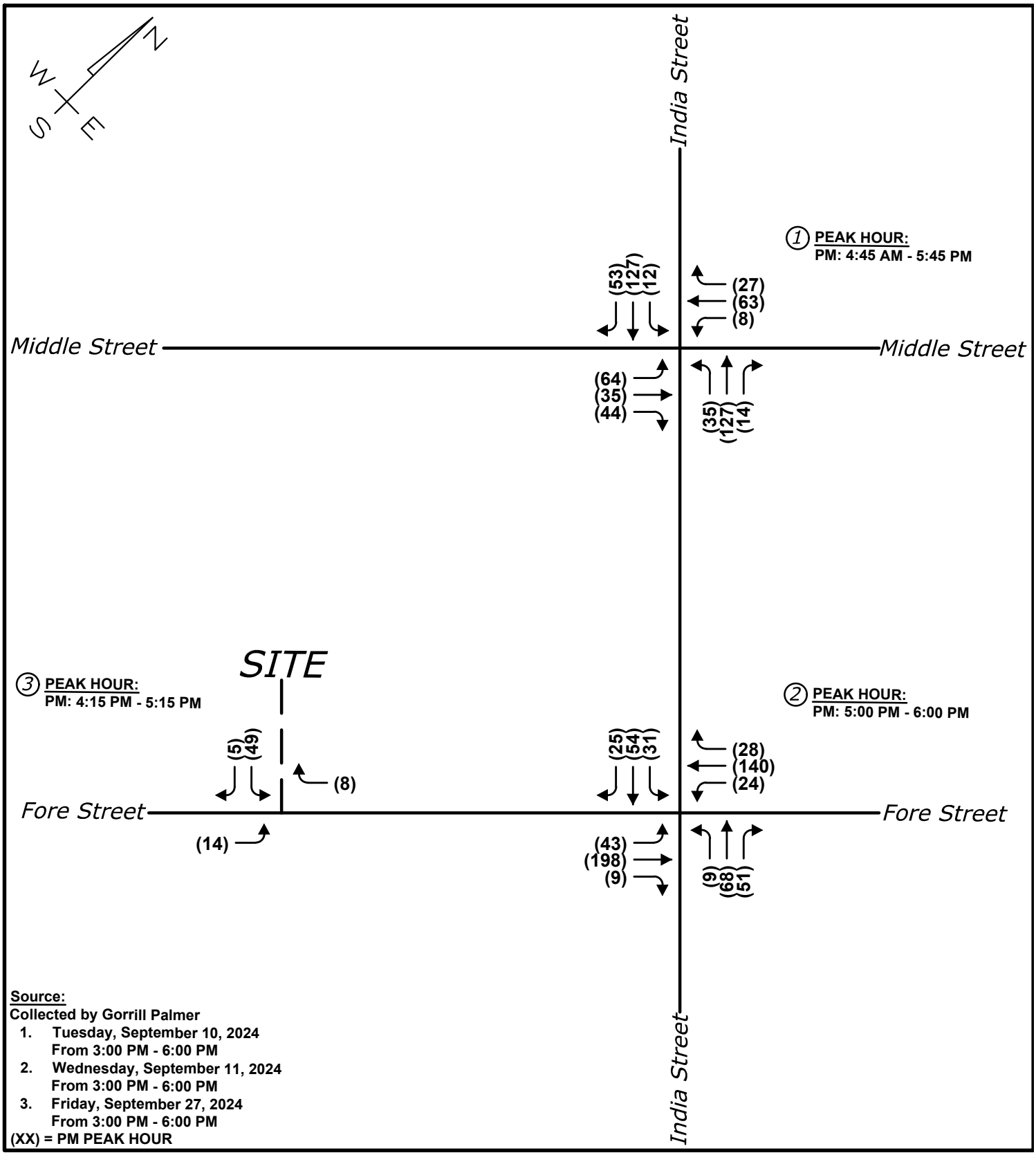
Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Location Map.dwg

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2024 RAW VEHICLE VOLUMES

Figure No. 5



Source:
Collected by Gorrill Palmer

1. **Tuesday, September 10, 2024**
   From 3:00 PM - 6:00 PM
2. **Wednesday, September 11, 2024**
   From 3:00 PM - 6:00 PM
3. **Friday, September 27, 2024**
   From 3:00 PM - 6:00 PM

(XX) = PM PEAK HOUR

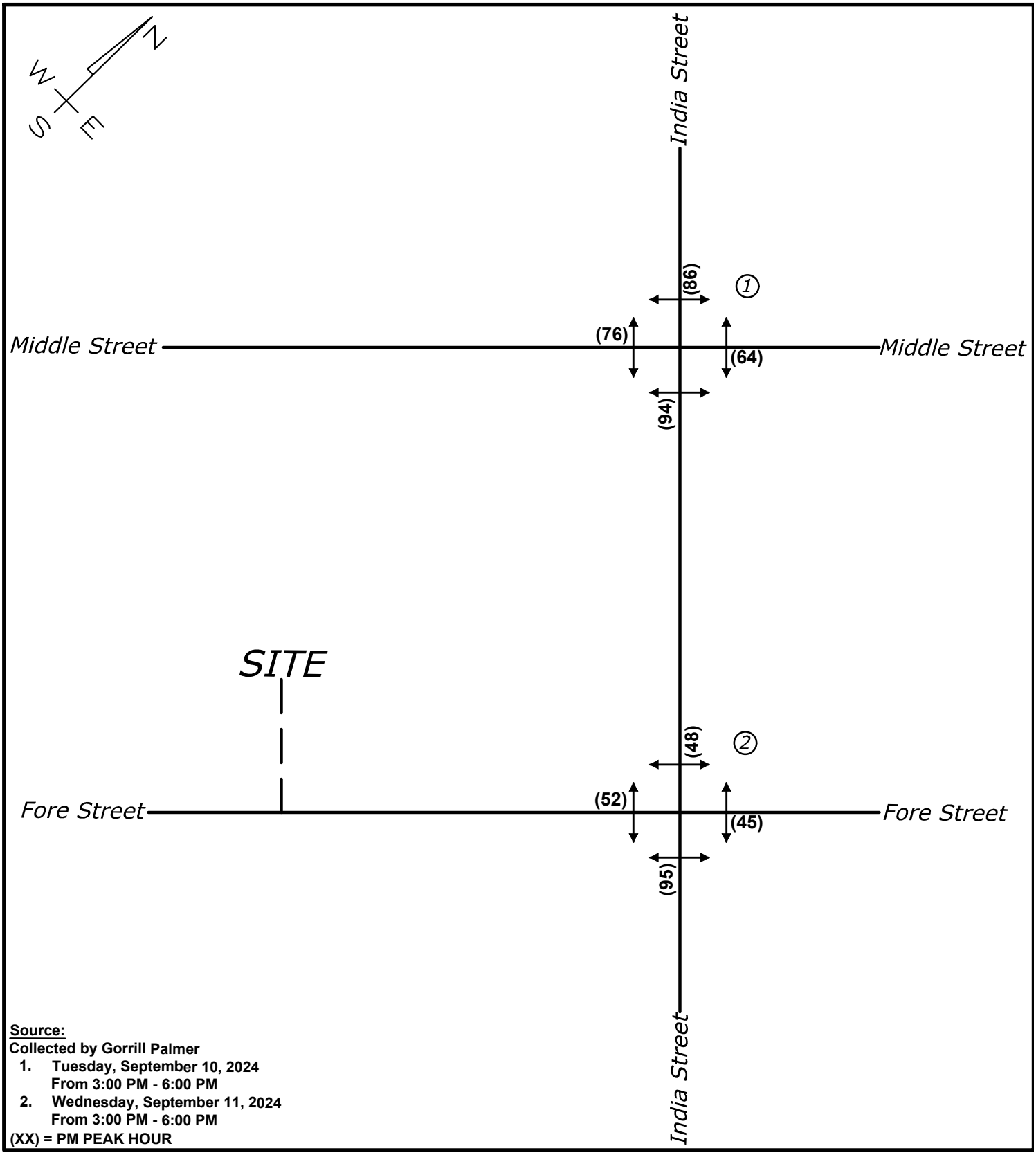
HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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2024 RAW PEDESTRIAN VOLUMES

Figure No. 6



Source:
Collected by Gorrill Palmer

1. **Tuesday, September 10, 2024**
   From 3:00 PM - 6:00 PM
2. **Wednesday, September 11, 2024**
   From 3:00 PM - 6:00 PM

(XX) = PM PEAK HOUR

HOMES 2
PORTLAND, MAINE

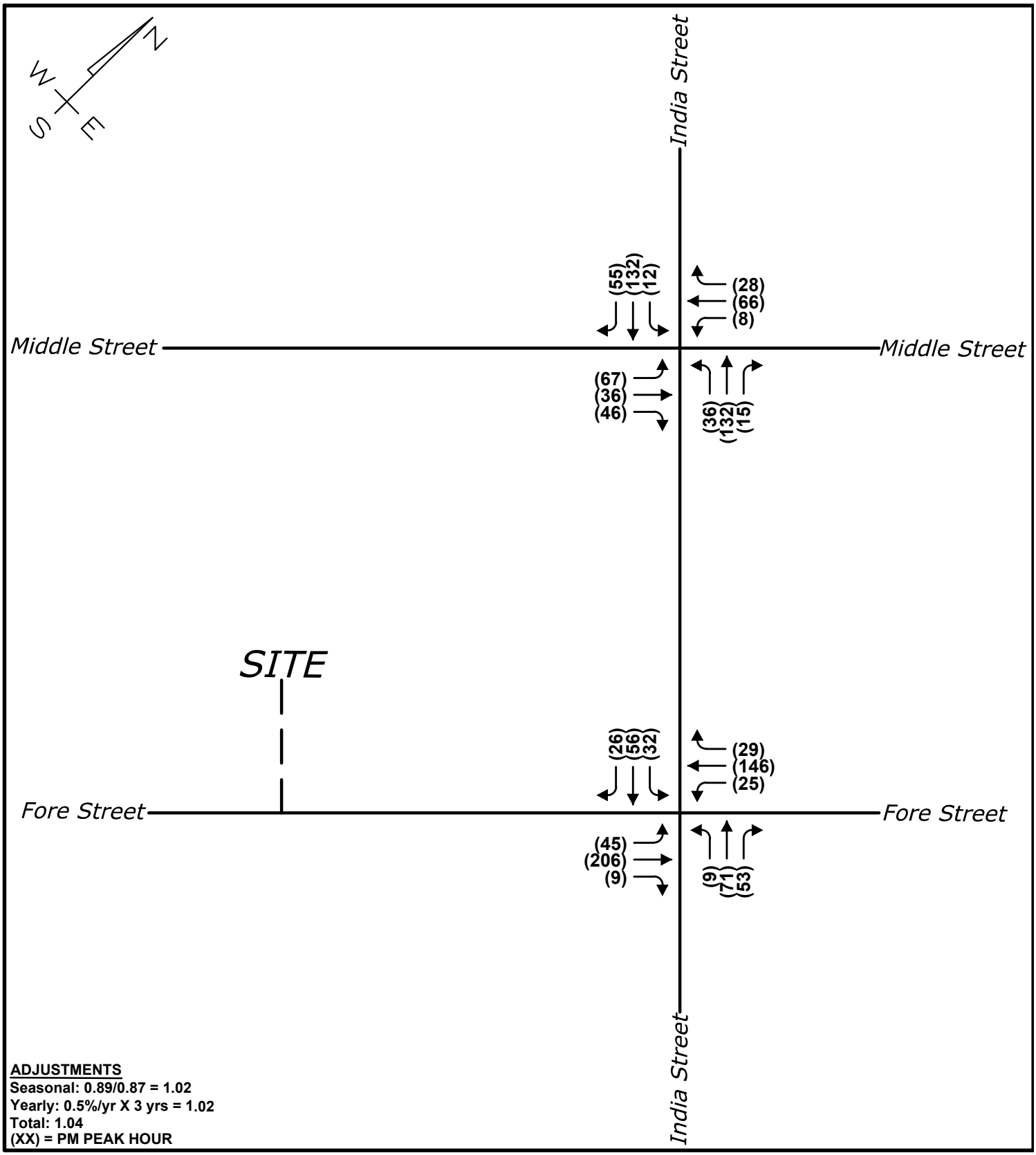
Design: KJB Scale: NONE
Draft: KJB Date: 12/30/2024
Checked: RED File Name: Figure Set.dwg

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2027 ADJUSTED VEHICLE VOLUMES

Figure No. 7



HOMES 2
PORTLAND, MAINE

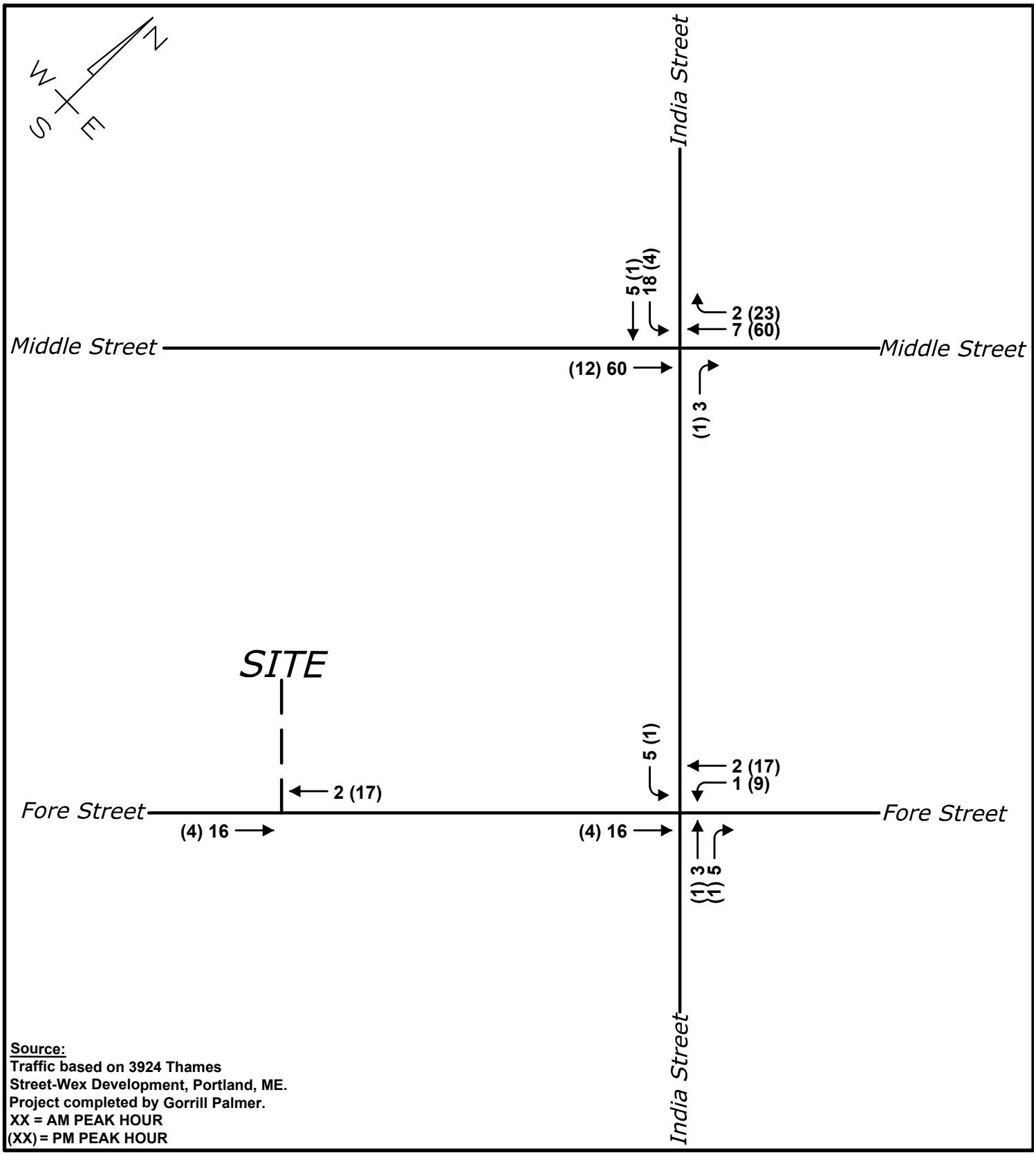
Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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WEX OTHER DEVELOPMENT

Figure No. 8



Source:
Traffic based on 3924 Thames Street-Wex Development, Portland, ME. Project completed by Gorrill Palmer.
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

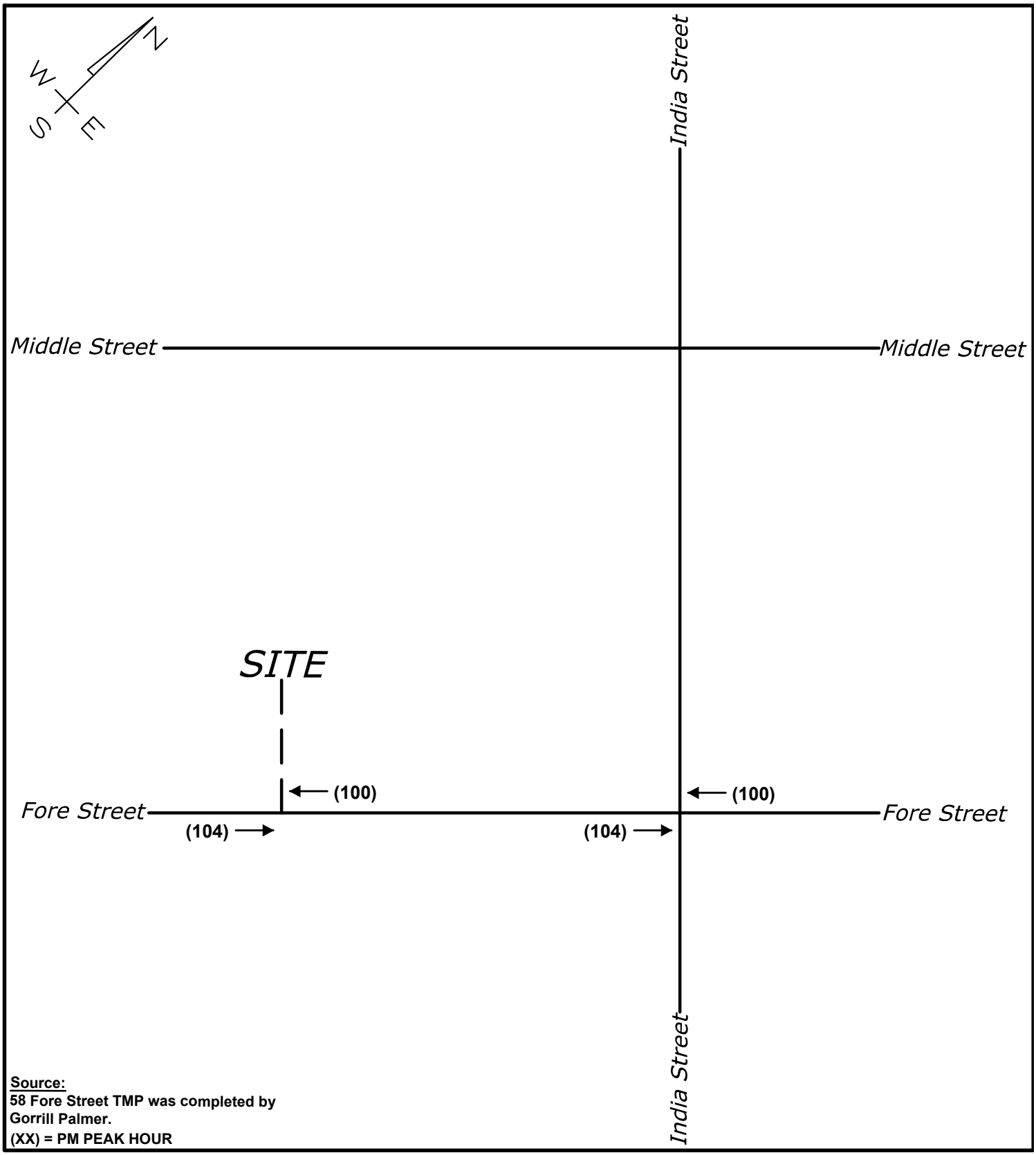
HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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58 FORE STREET ("PORTLAND FORESIDE") Figure No. 9



Source:
58 Fore Street TMP was completed by Gorrill Palmer.
(XX) = PM PEAK HOUR

HOMES 2
PORTLAND, MAINE

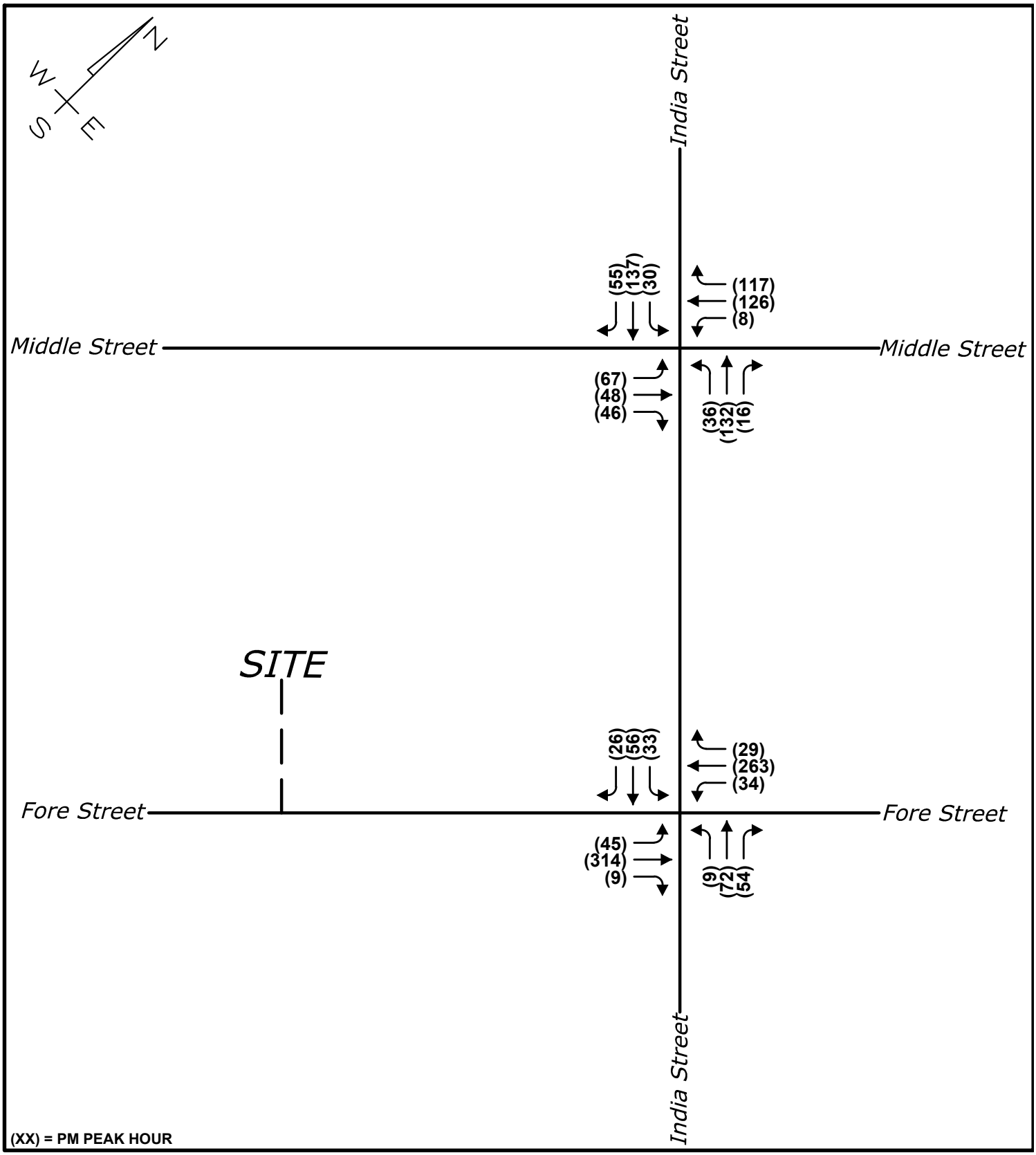
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Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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2027 PREDEVELOPMENT

Figure No. 10



HOMES 2
PORTLAND, MAINE

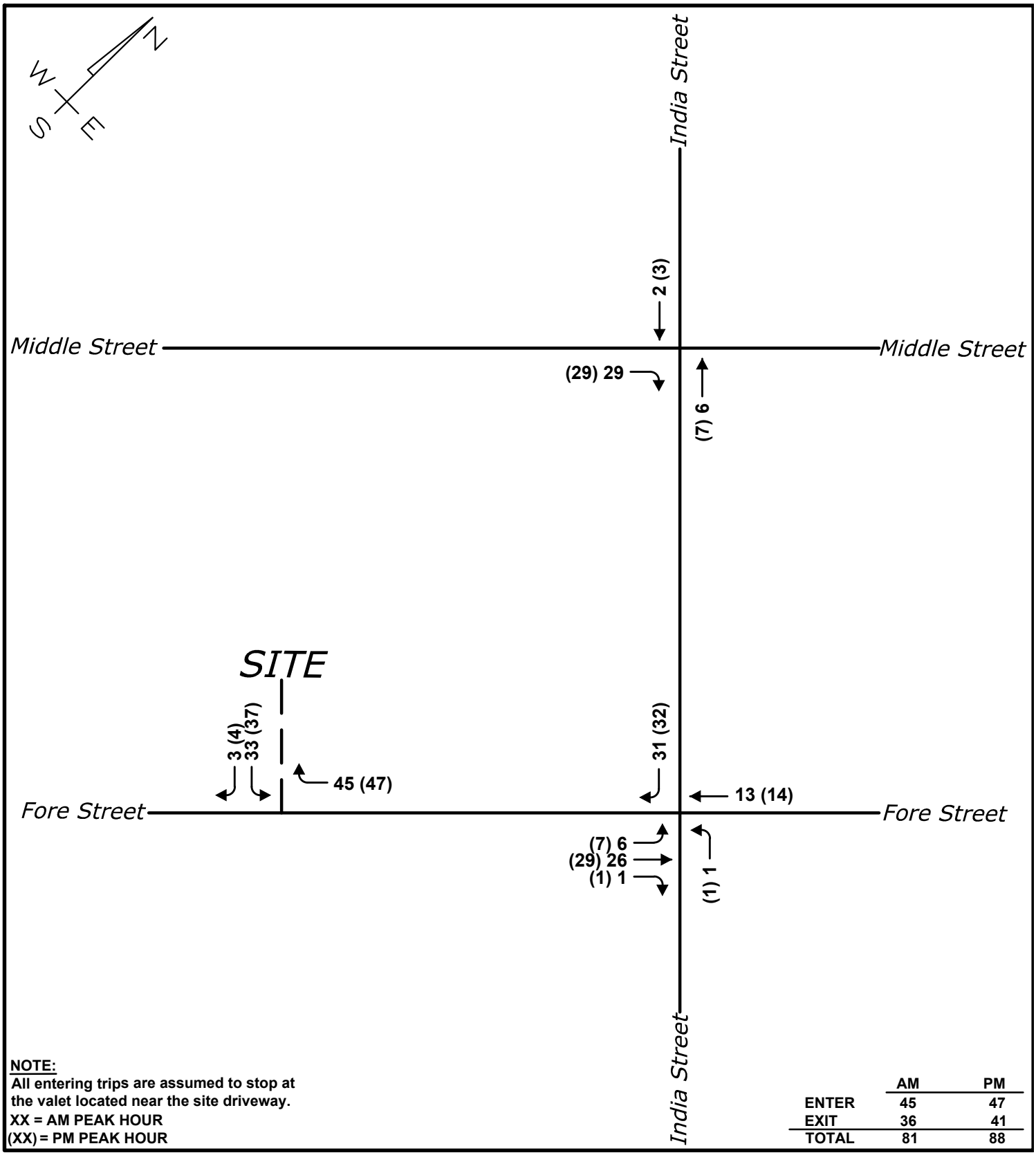
Design: KJB Scale: NONE
Draft: KJB Date: 12/30/2024
Checked: RED File Name: Figure Set.dwg

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FORECAST SITE TRIP DISTRIBUTION

Figure No. 11



NOTE:
All entering trips are assumed to stop at the valet located near the site driveway.
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

	AM	PM
ENTER	45	47
EXIT	36	41
TOTAL	81	88

HOMES 2
PORTLAND, MAINE

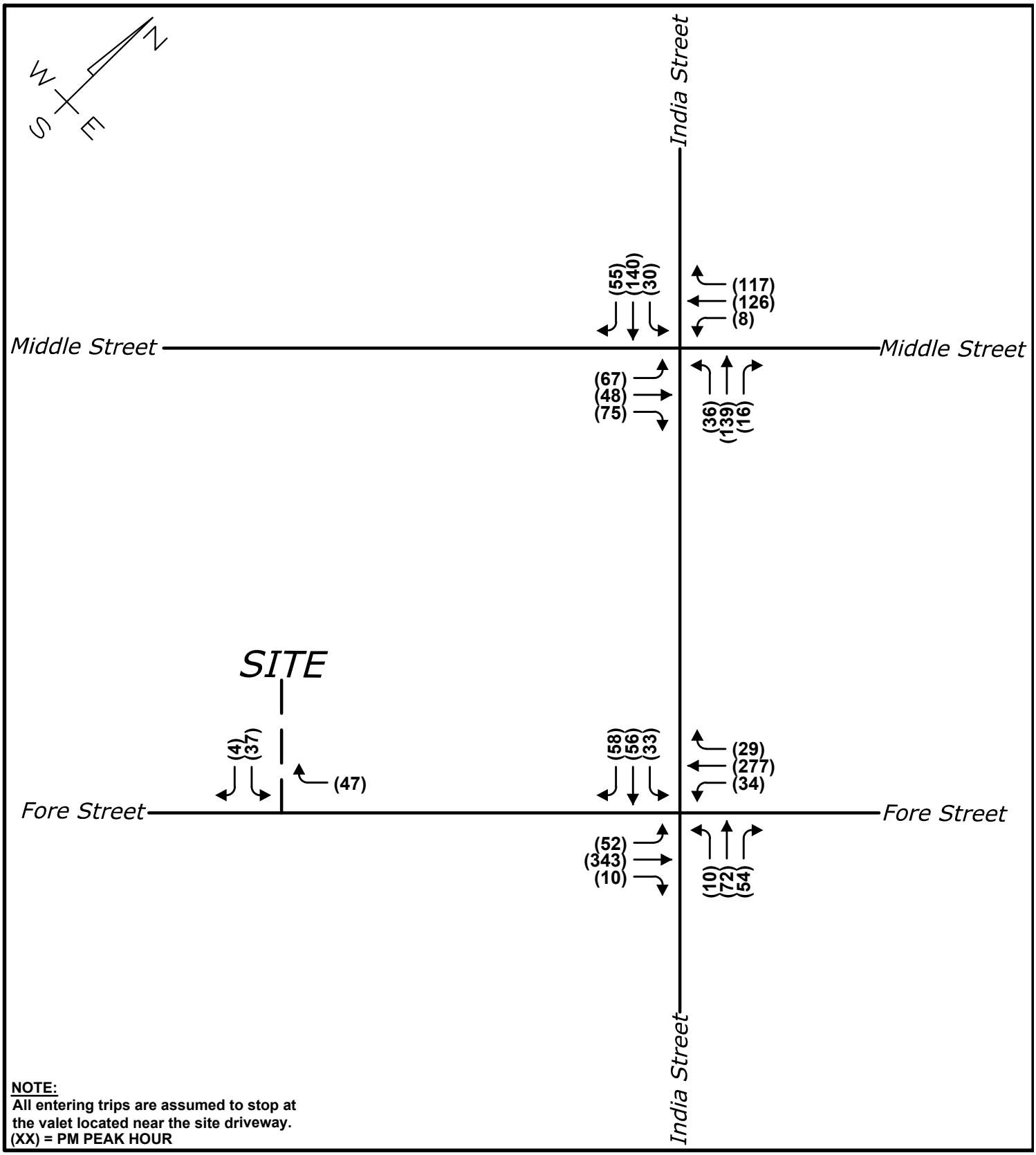
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Draft: KJB Date: 12/30/2024
Checked: RED File Name: Figure Set.dwg

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2027 POSTDEVELOPMENT

Figure No. 12



NOTE:
All entering trips are assumed to stop at the valet located near the site driveway.
(XX) = PM PEAK HOUR

HOMES 2
PORTLAND, MAINE

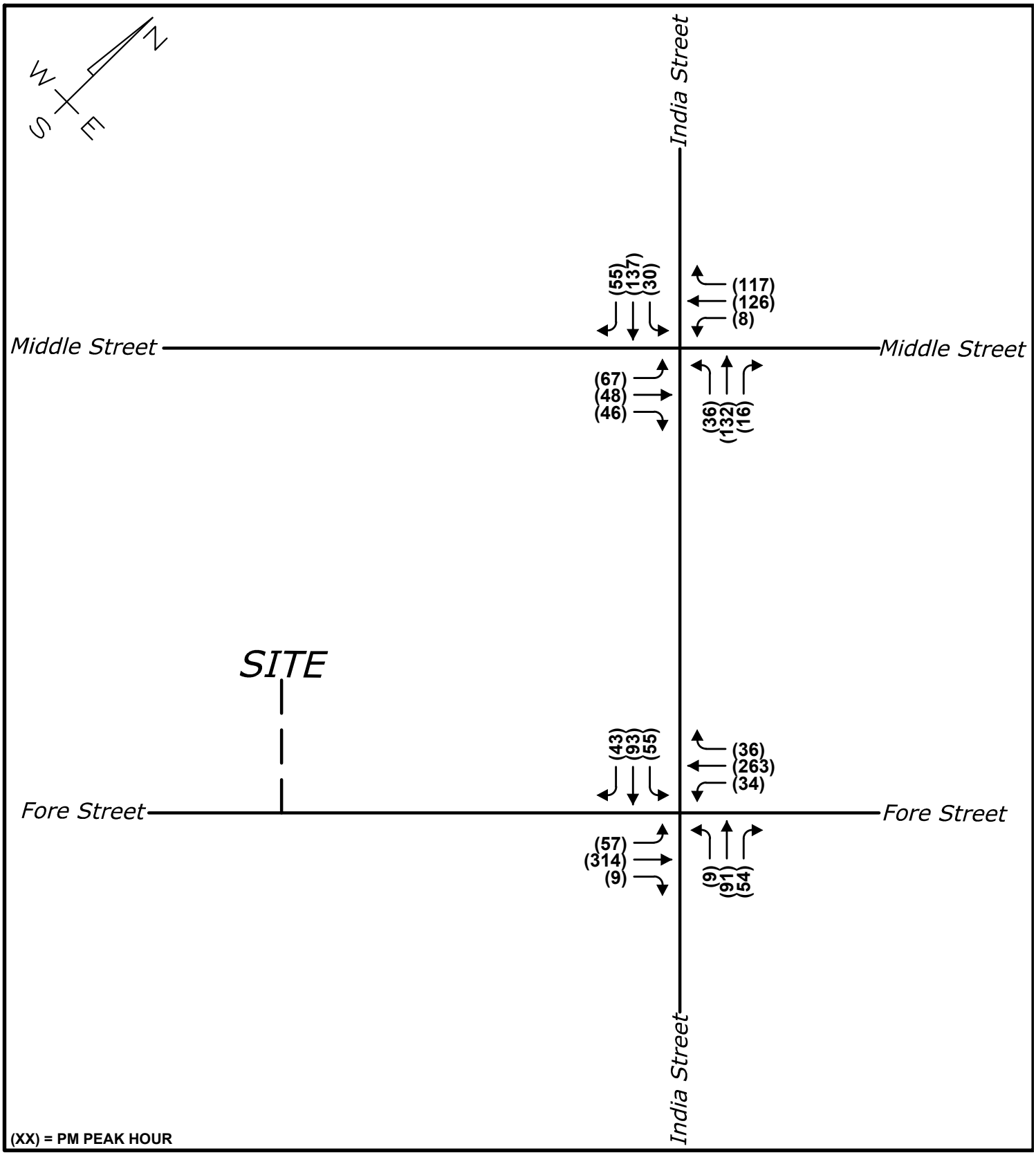
Design: KJB Scale: NONE
Draft: KJB Date: 12/30/2024
Checked: RED File Name: Figure Set.dwg

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BALANCED PREDEVELOPMENT CAPACITY ANALYSIS

Figure No. 13



HOMES 2
PORTLAND, MAINE

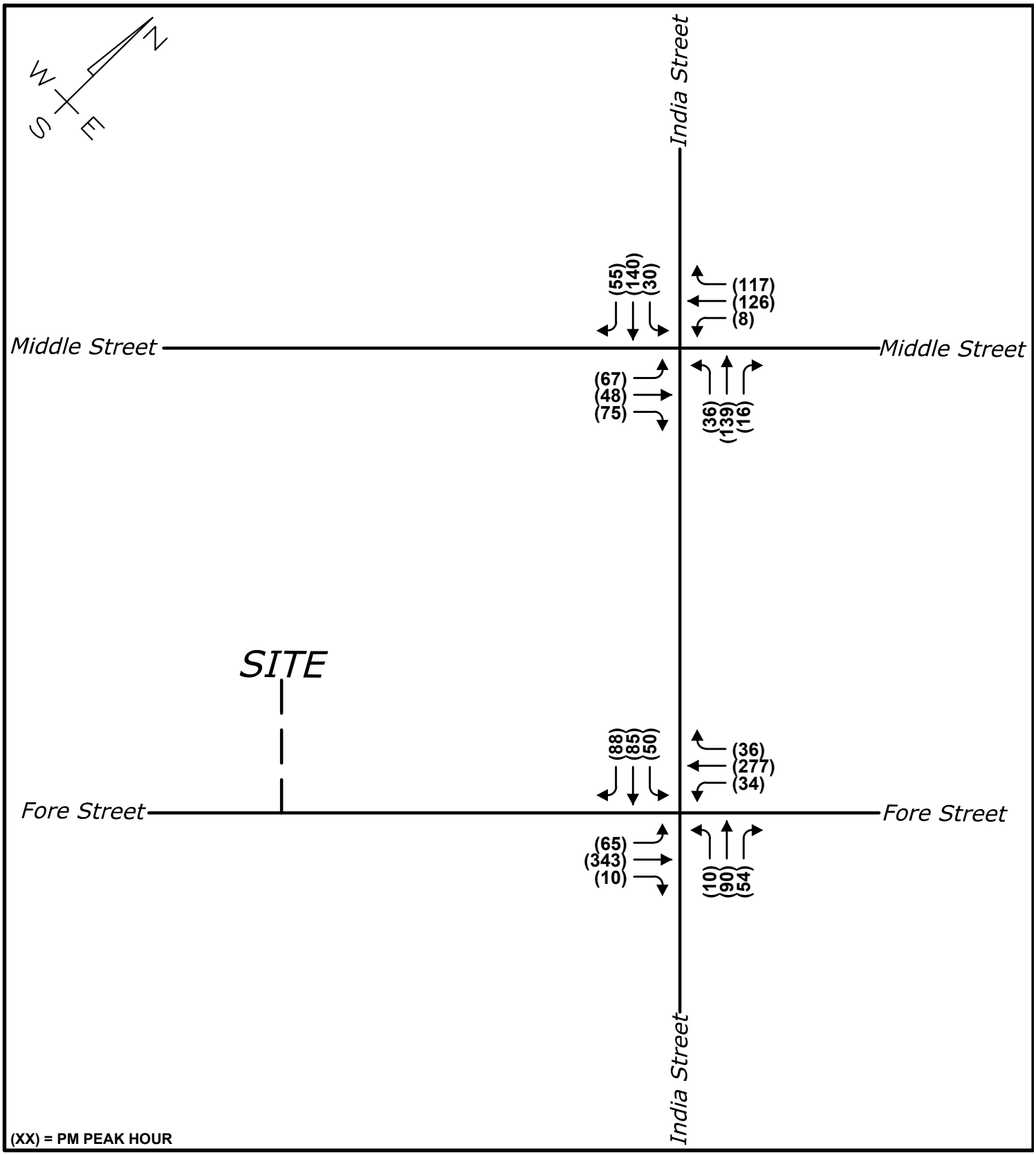
Design:	KJB	Scale:	NONE
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Checked:	RED	File Name:	Figure Set.dwg

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BALANCED POSTDEVELOPMENT CAPACITY ANALYSIS

Figure No. 14



HOMES 2
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	12/30/2024
Checked:	RED	File Name:	Figure Set.dwg

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Attachment 1C

Trip Generation Calculations
ITE Supporting Documents

JN 3904.01
February 2025

Chatham Lodging Trust
West Palm Beach, Florida

Land Use: 311
All Suites Hotel

Description

An all suites hotel is a place of lodging that provides sleeping accommodations, a small restaurant and lounge, and small amounts of meeting space. Each suite includes a sitting room and separate bedroom. An in-room kitchen is often provided. Hotel (Land Use 310), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses.

Additional Data

Six studies provided information on occupancy rates at the time the studies were conducted. The average occupancy rate for these studies was approximately 74 percent.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, and the 2010s in Florida, Georgia, Minnesota, Montana, Virginia, and Washington.

For all lodging uses, it is important to collect data on occupied rooms as well as total rooms in order to accurately predict trip generation characteristics for the site.

Source Numbers

216, 436, 818, 870, 872, 1048

All Suites Hotel
(311)

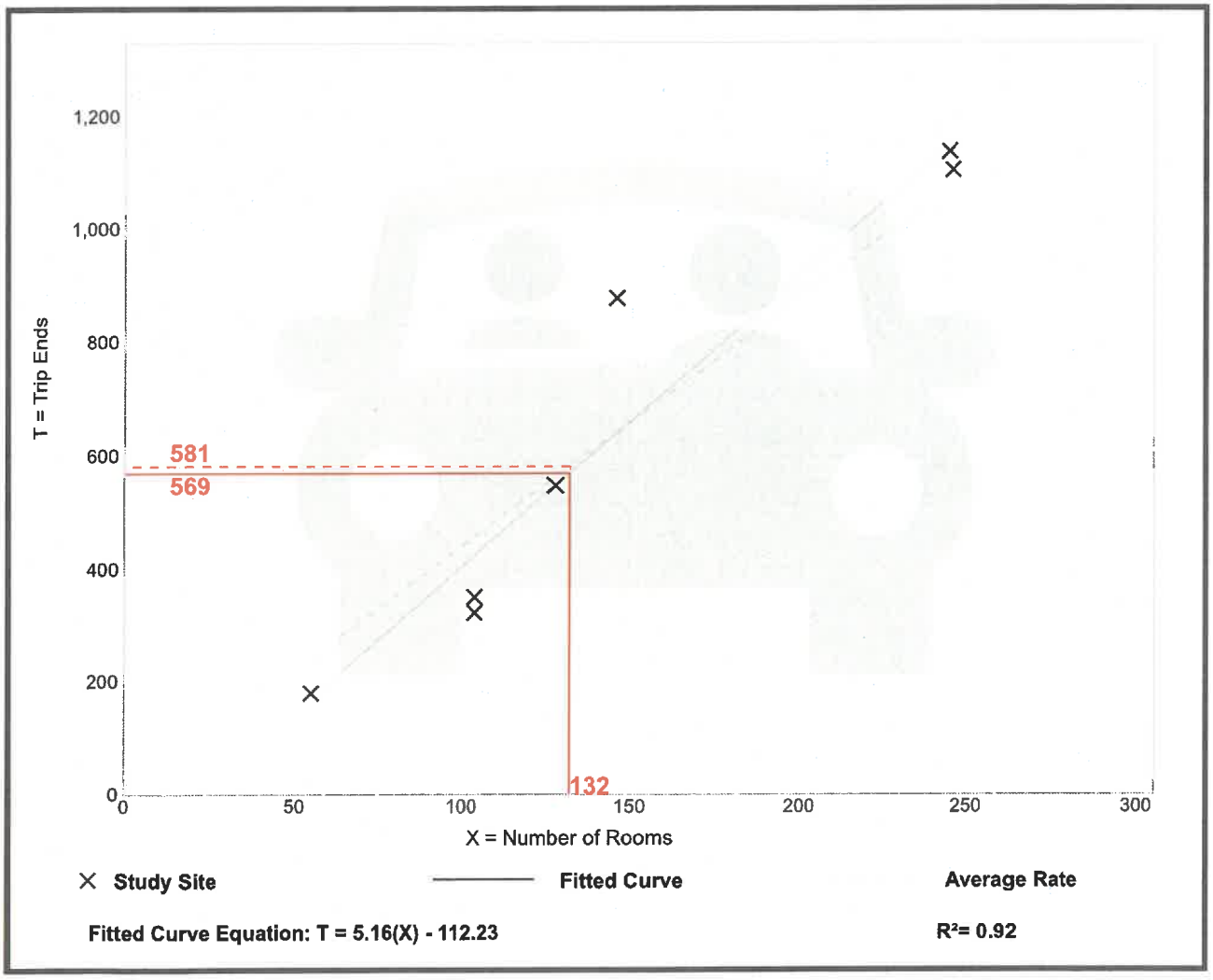
Vehicle Trip Ends vs: **Rooms**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. Num. of Rooms: 147
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
4.40	3.11 - 6.02	0.93

Data Plot and Equation



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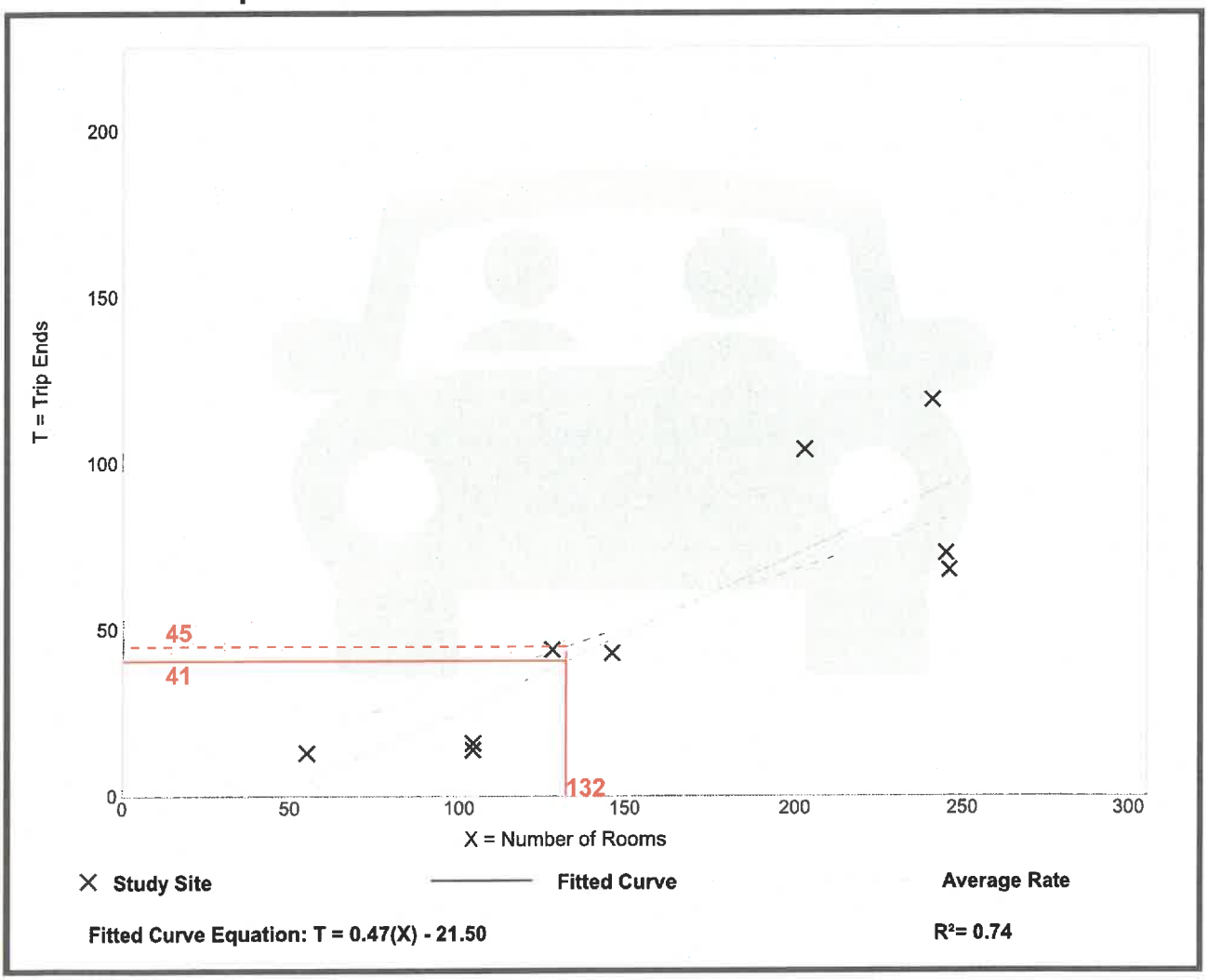
All Suites Hotel
(311)

Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Rooms: 164
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.34	0.13 - 0.51	0.13

Data Plot and Equation



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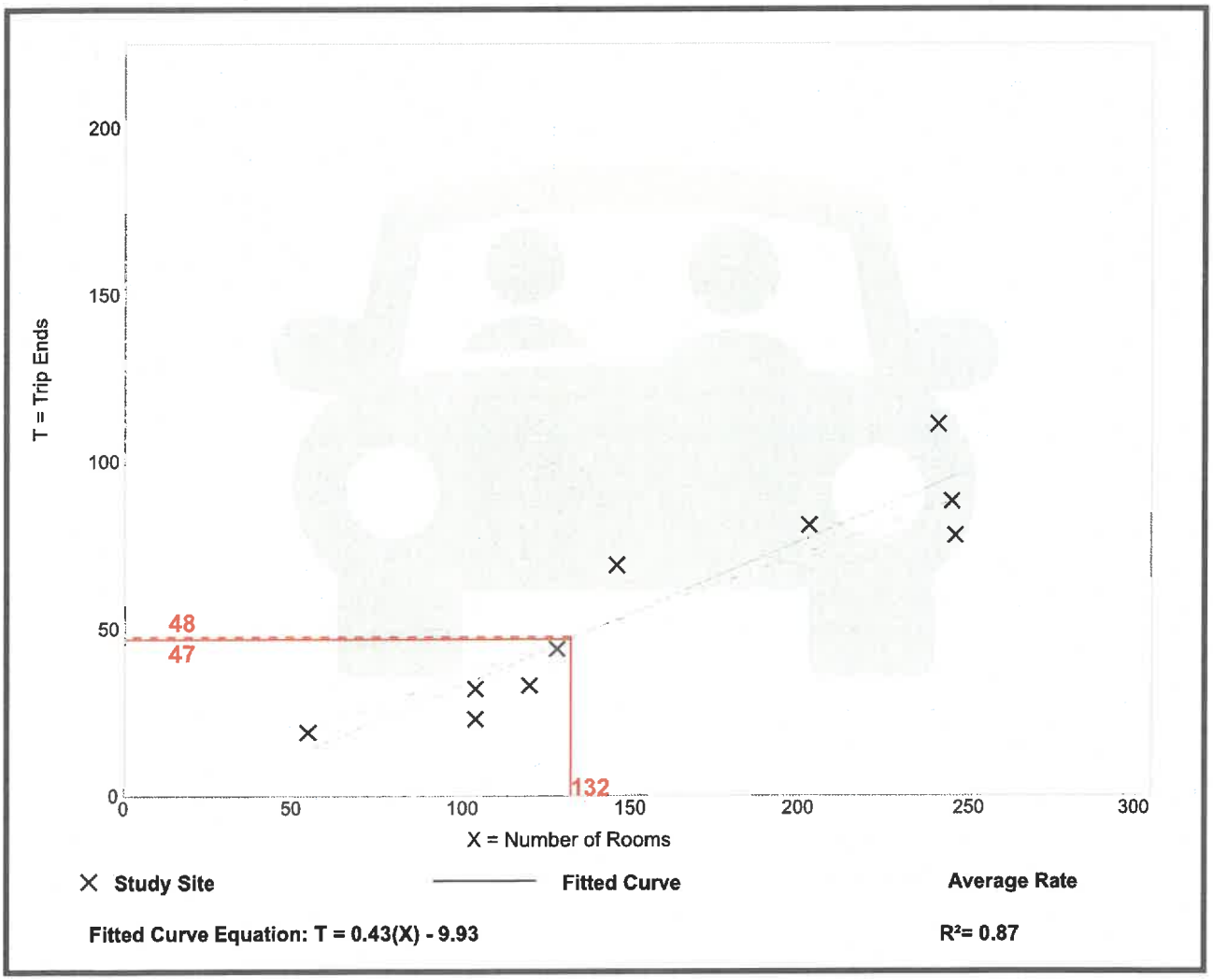
All Suites Hotel
(311)

Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 10
Avg. Num. of Rooms: 159
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.36	0.22 - 0.47	0.08

Data Plot and Equation



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All Suites Hotel
(311)

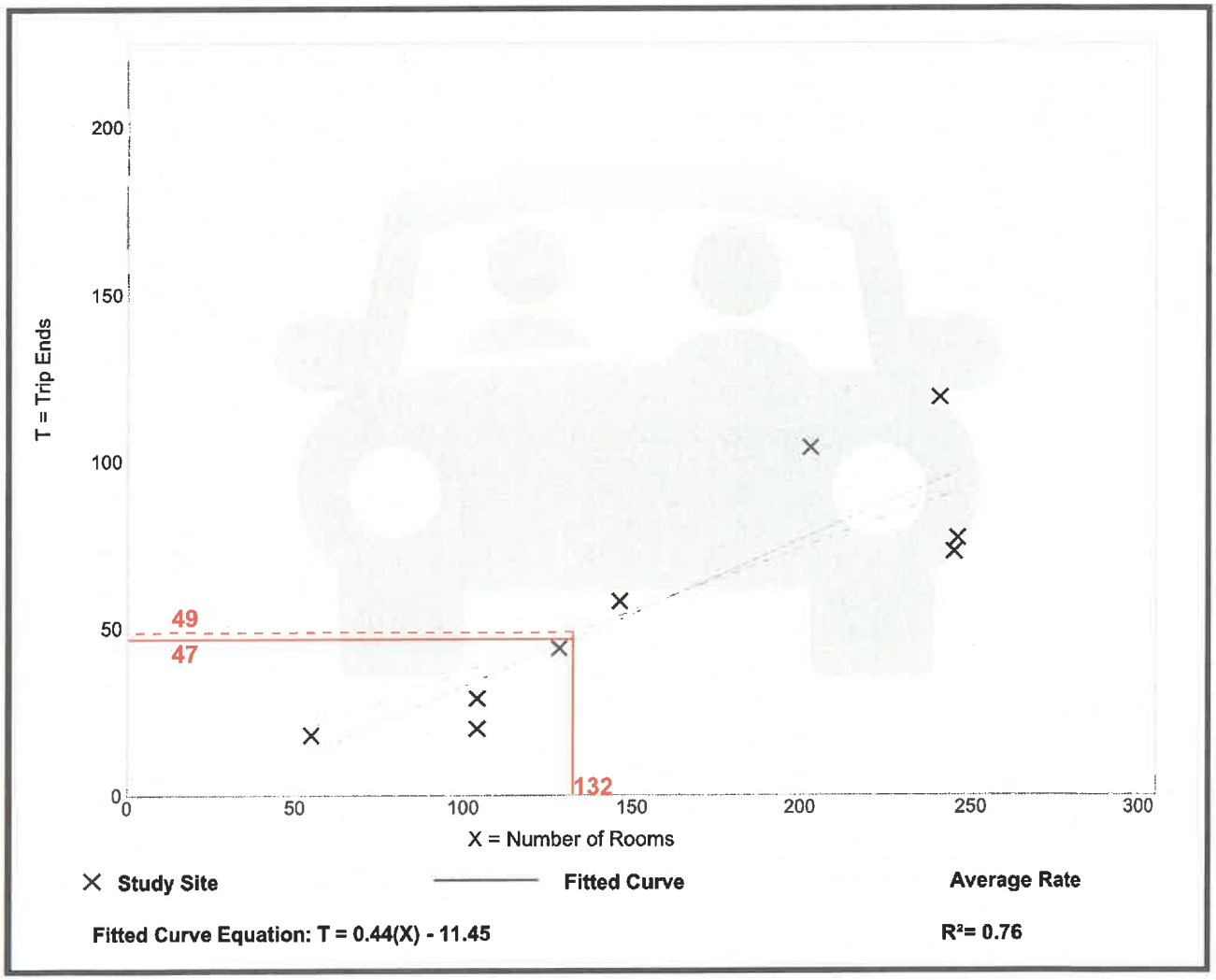
Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Rooms: 164
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.37	0.19 - 0.51	0.10

Data Plot and Equation



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All Suites Hotel
(311)

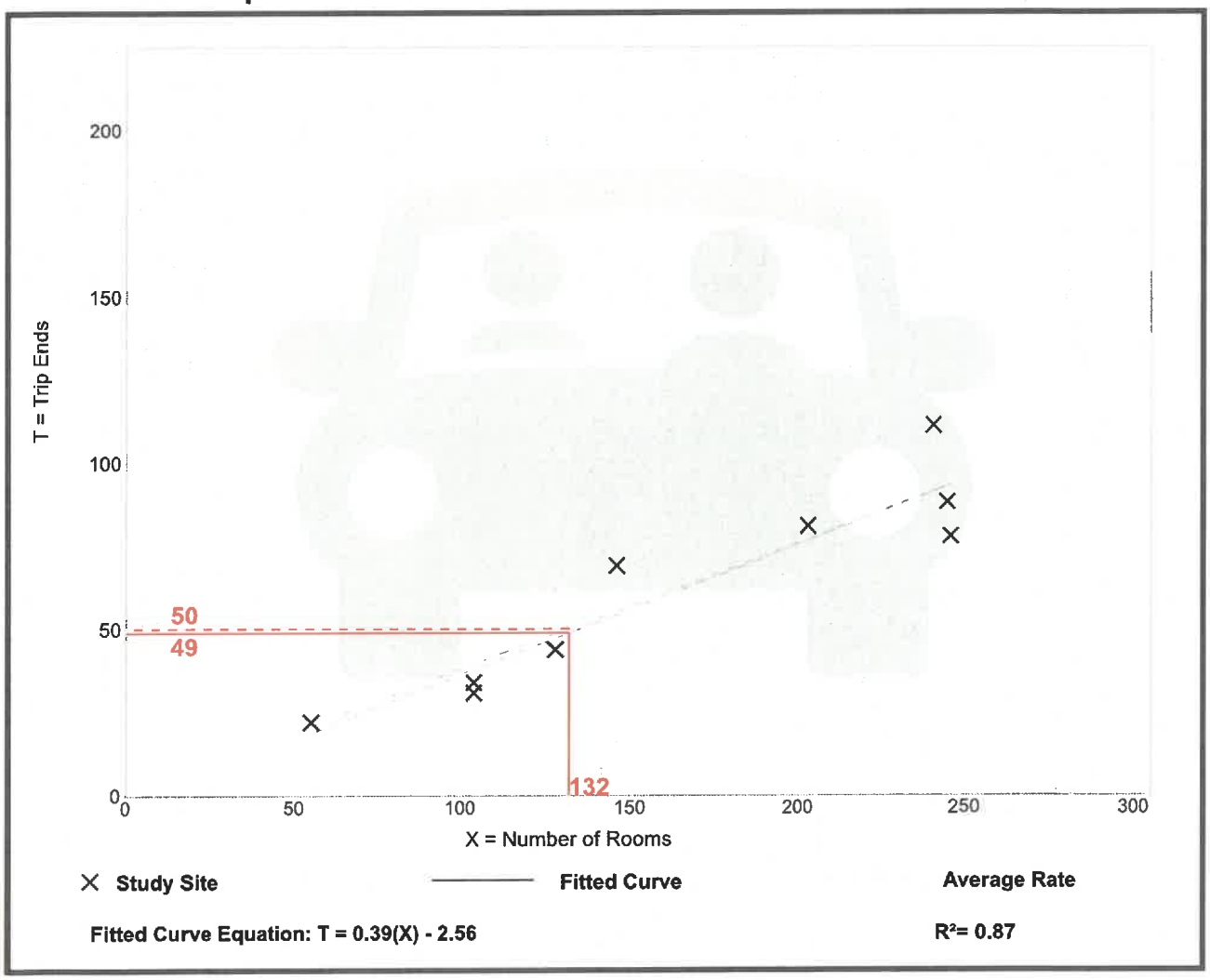
Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Rooms: 164
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.38	0.30 - 0.47	0.06

Data Plot and Equation



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Land Use: 876
Apparel Store

Description

An apparel store is an individual store specializing in the sale of clothing. Department store (Land Use 875) is a related use.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, and the 2010s in California, Florida, New York, Vermont, and Wisconsin.

Source Numbers

210, 439, 862, 944, 959

Apparel Store
(876)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

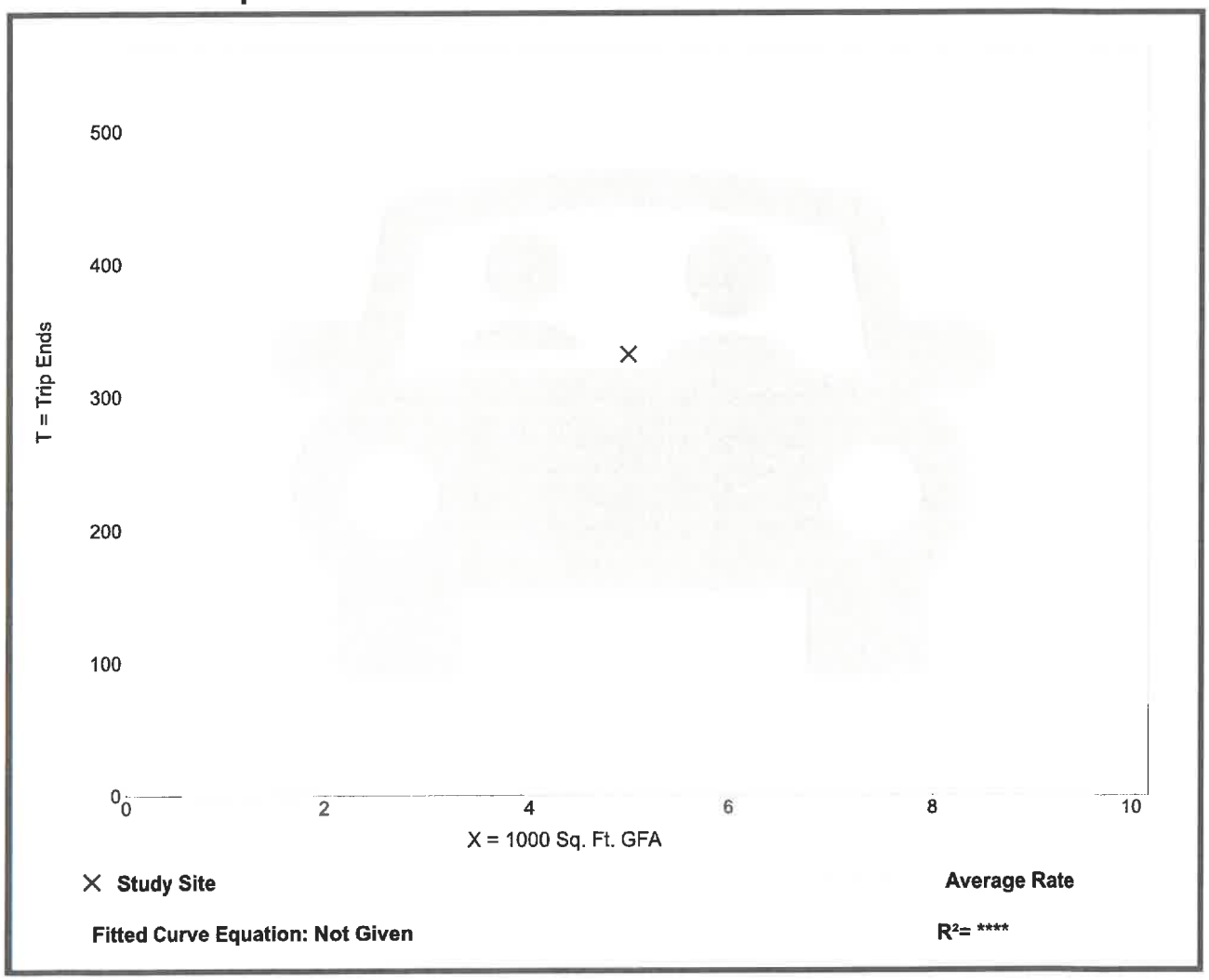
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
66.40	66.40 - 66.40	*

Data Plot and Equation

Caution – Small Sample Size



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Apparel Store
(876)

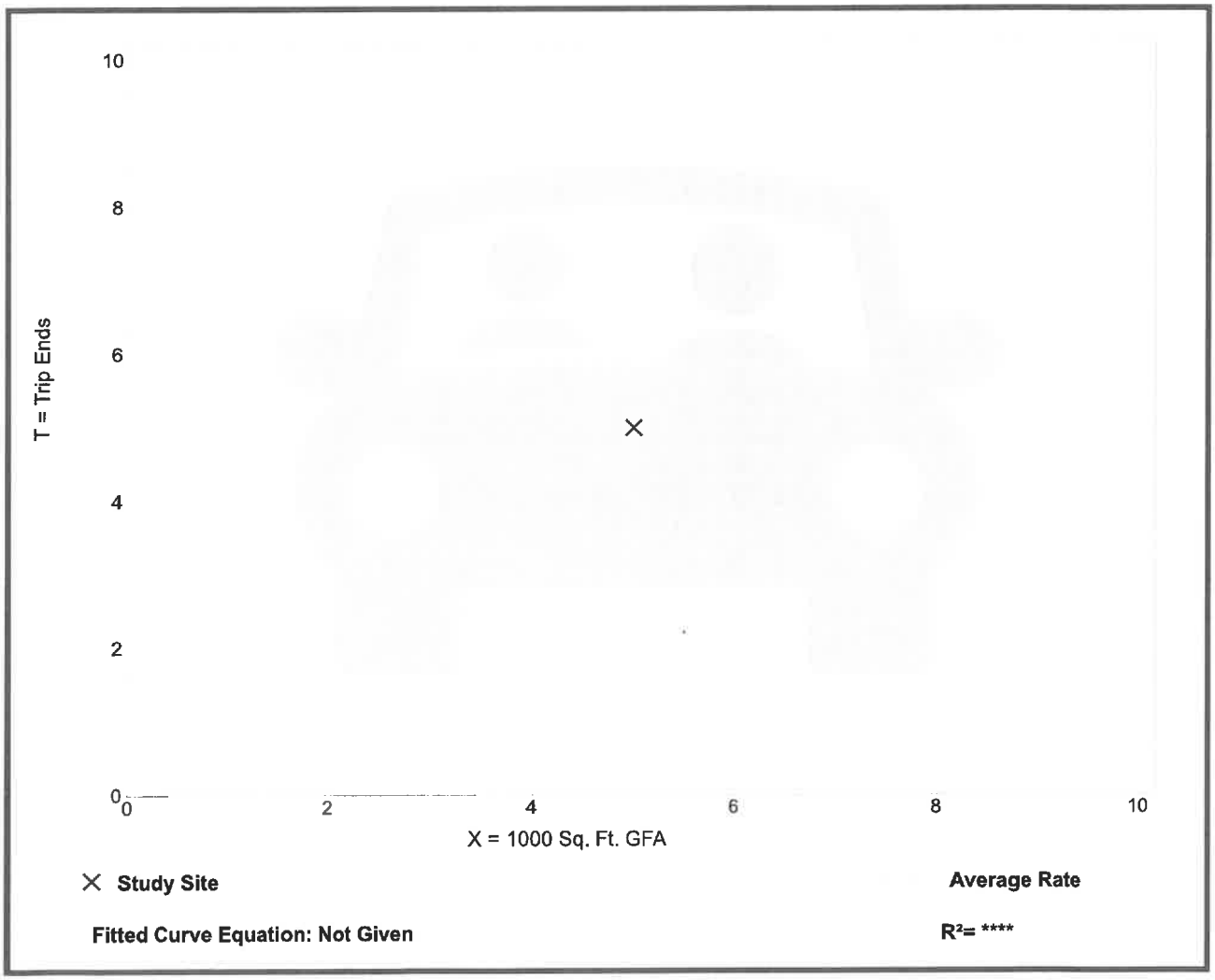
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 80% entering, 20% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.00	1.00 - 1.00	*

Data Plot and Equation

Caution – Small Sample Size



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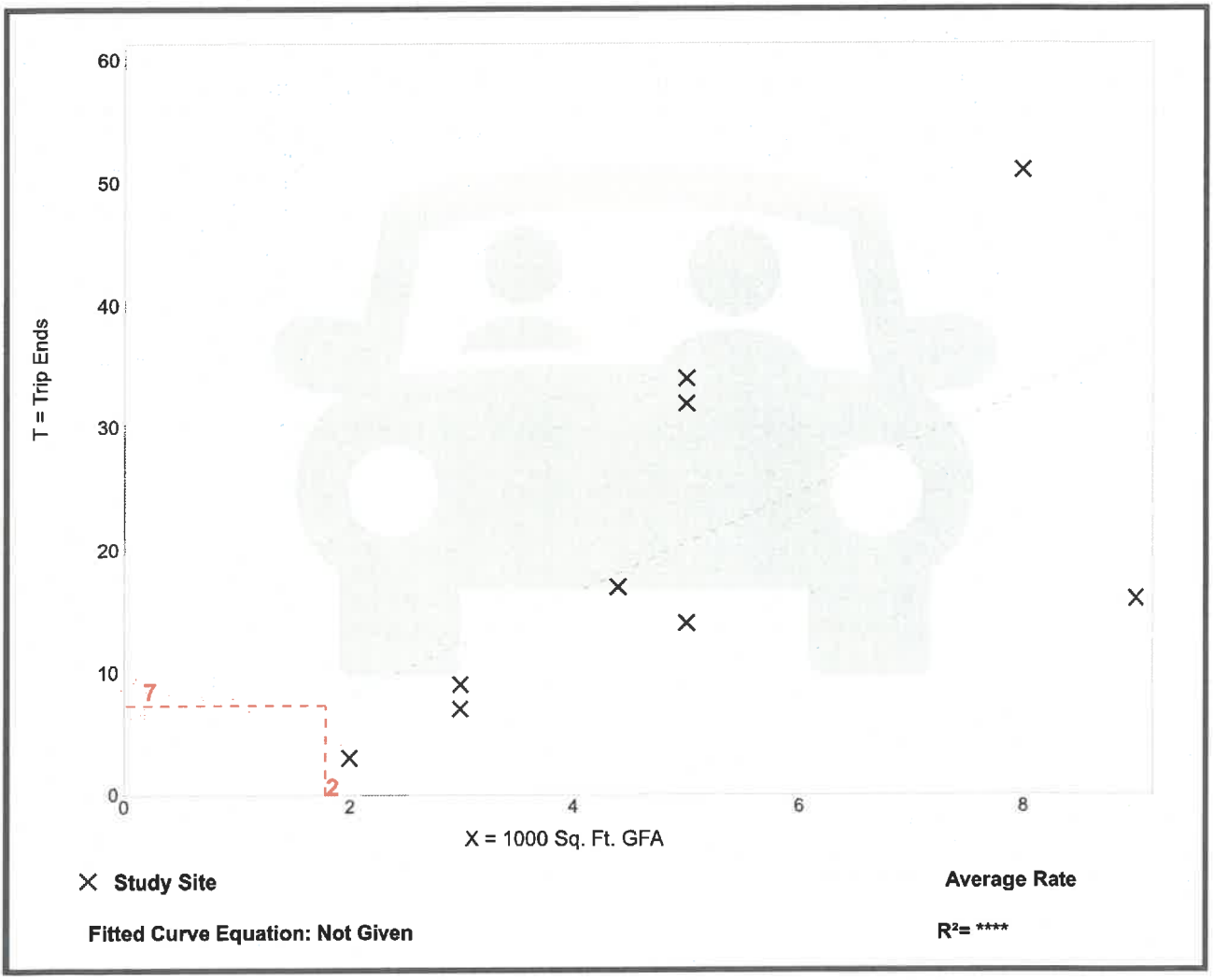
Apparel Store
(876)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.12	1.50 - 6.80	2.18

Data Plot and Equation



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Apparel Store
(876)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

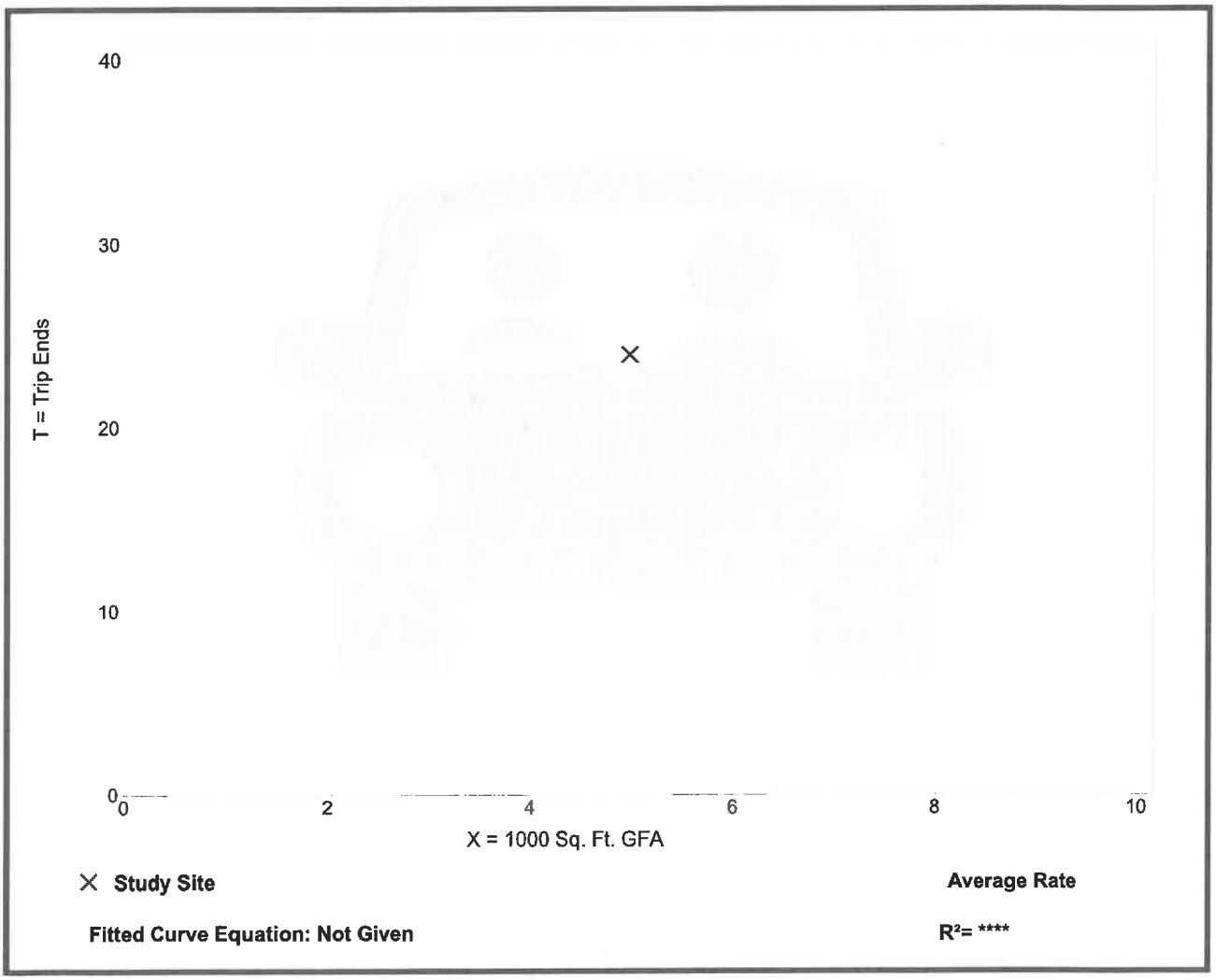
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.80	4.80 - 4.80	*

Data Plot and Equation

Caution – Small Sample Size



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Apparel Store
(876)

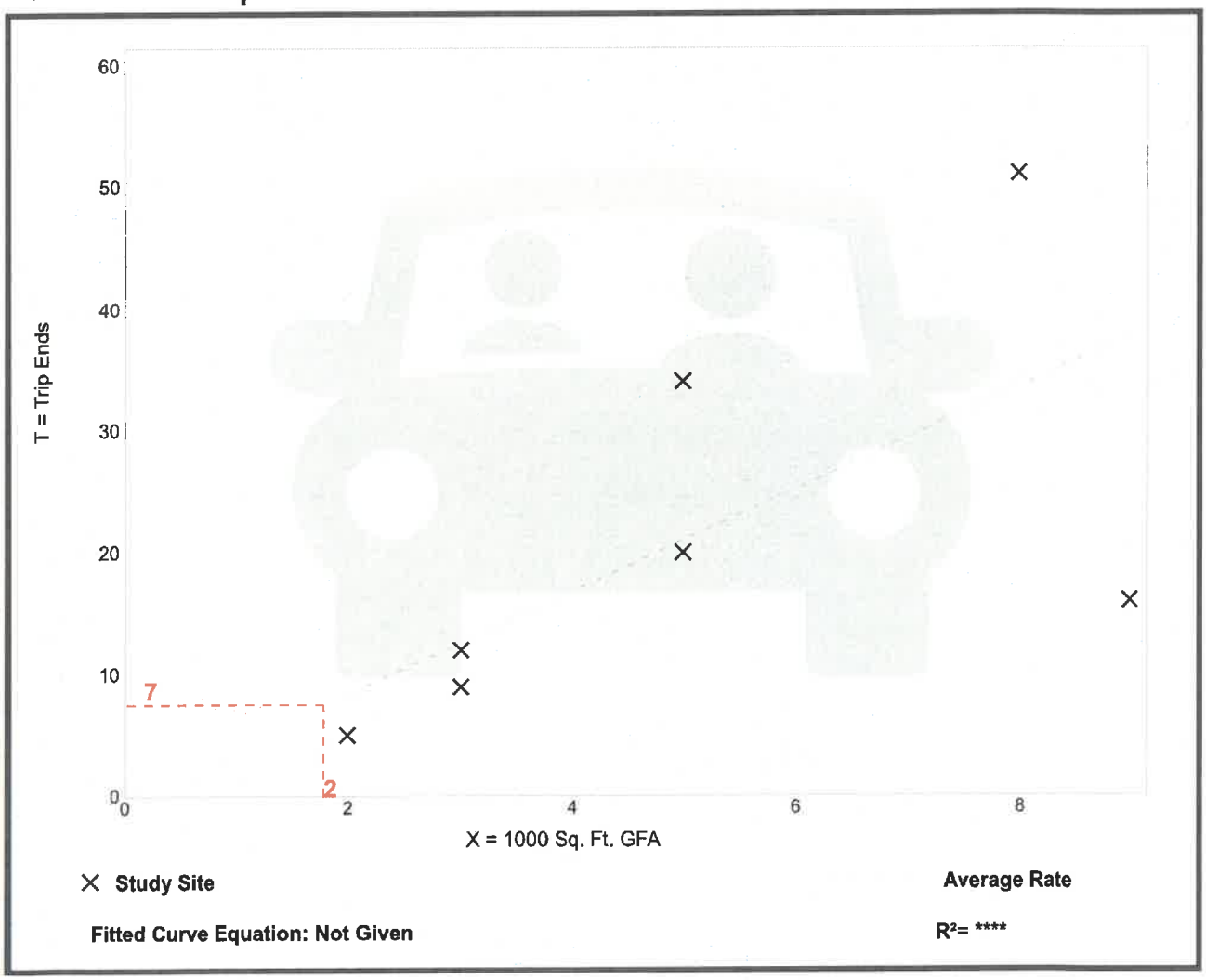
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.20	1.78 - 6.80	2.12

Data Plot and Equation



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Apparel Store
(876)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

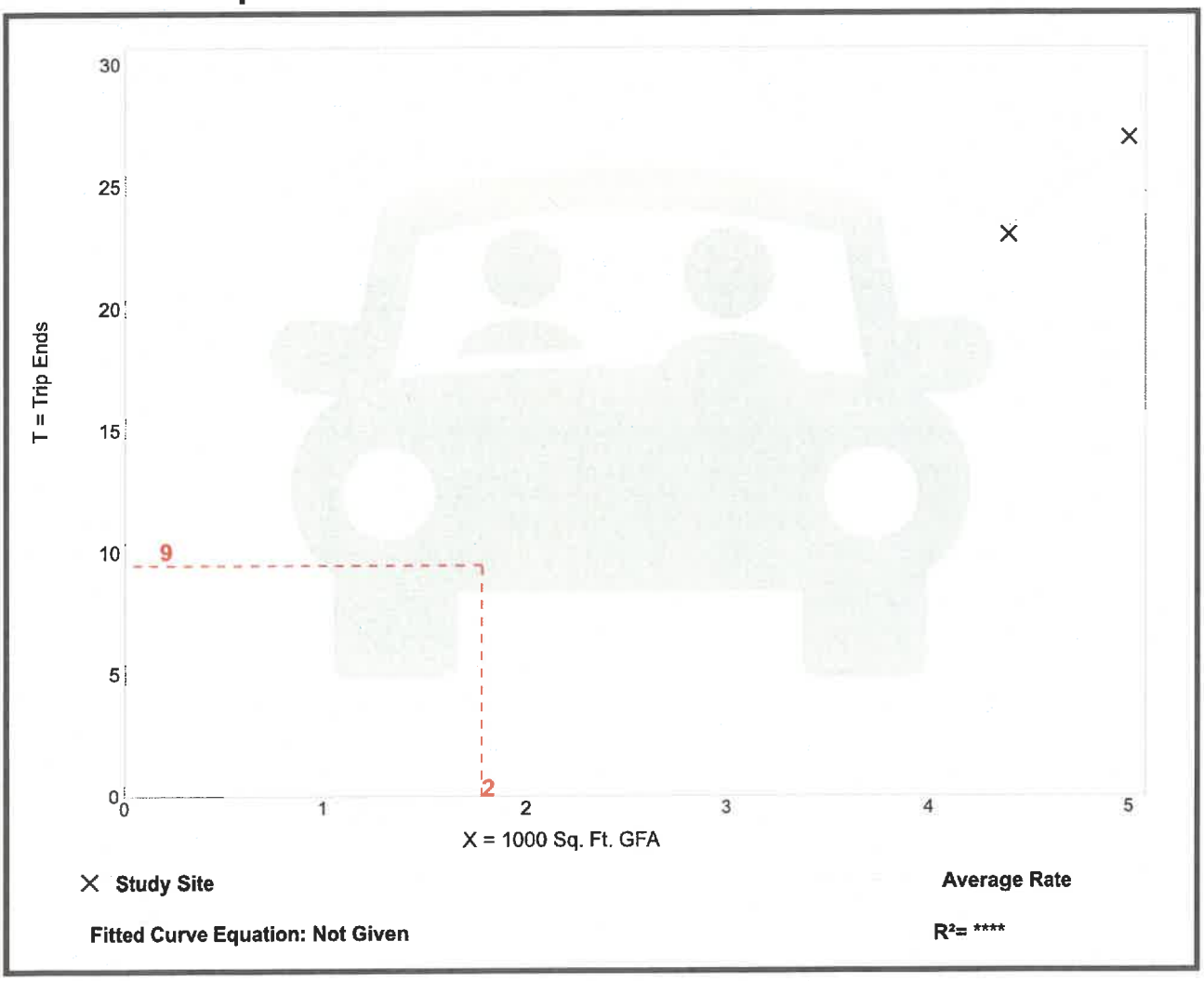
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
5.32	5.24 - 5.40	*

Data Plot and Equation

Caution – Small Sample Size



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Land Use: 932
High-Turnover (Sit-Down) Restaurant

Description

This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day. These restaurants typically do not accept reservations. A patron commonly waits to be seated, is served by wait staff, orders from a menu, and pays after the meal.

Some facilities offer carry-out for a small proportion of its customers. Some facilities within this land use may also contain a bar area for serving food and alcoholic drinks.

Fast casual restaurant (Land Use 930), fine dining restaurant (Land Use 931), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window (Land Use 934) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Florida, Georgia, Indiana, Kentucky, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, and Wisconsin.

Source Numbers

126, 269, 275, 280, 300, 301, 305, 338, 340, 341, 358, 384, 424, 432, 437, 438, 444, 507, 555, 577, 589, 617, 618, 728, 868, 884, 885, 903, 927, 939, 944, 961, 962, 977, 1048

High-Turnover (Sit-Down) Restaurant
(932)

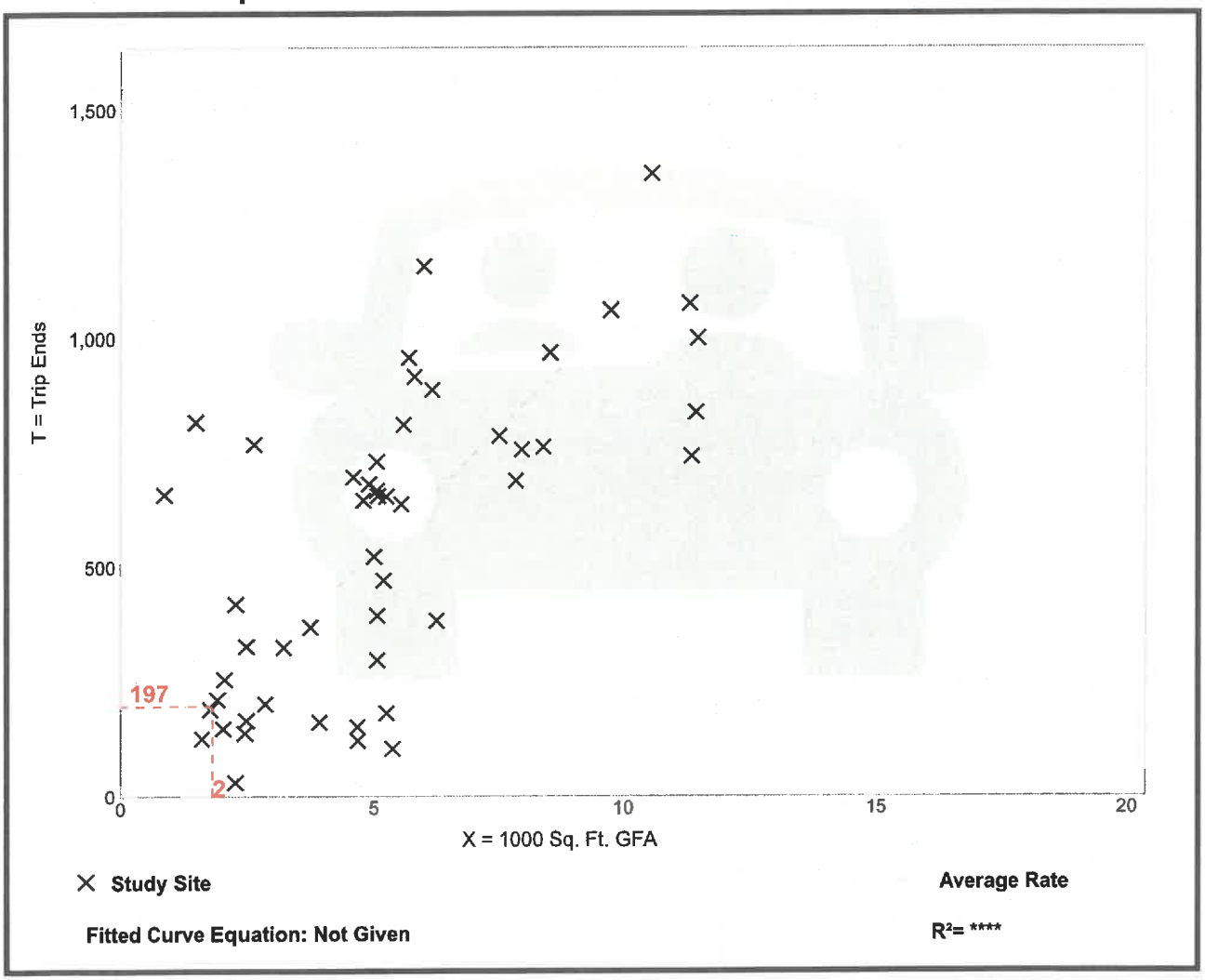
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 50
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
107.20	13.04 - 742.41	66.72

Data Plot and Equation



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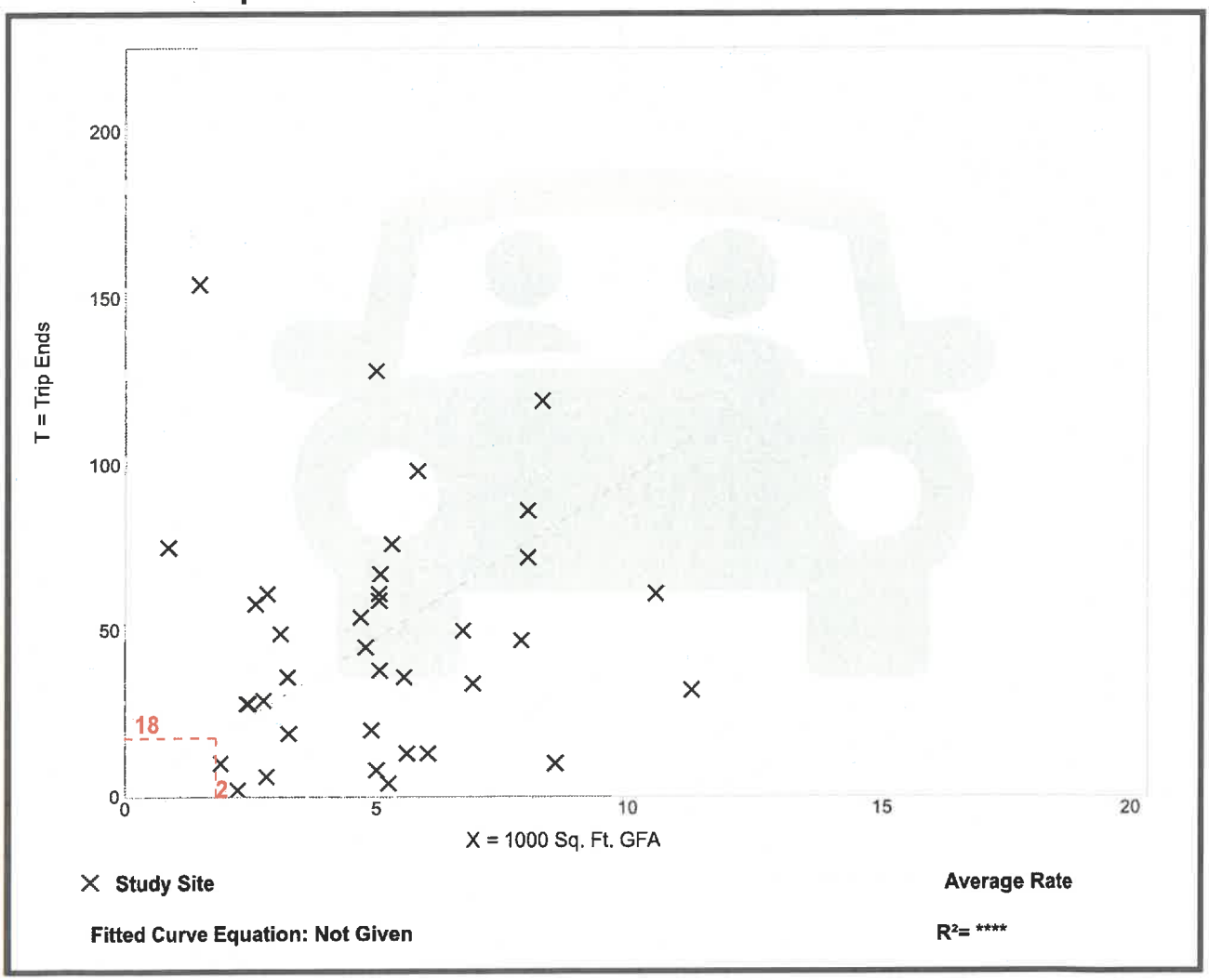
High-Turnover (Sit-Down) Restaurant
(932)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 37
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.57	0.76 - 102.39	11.61

Data Plot and Equation



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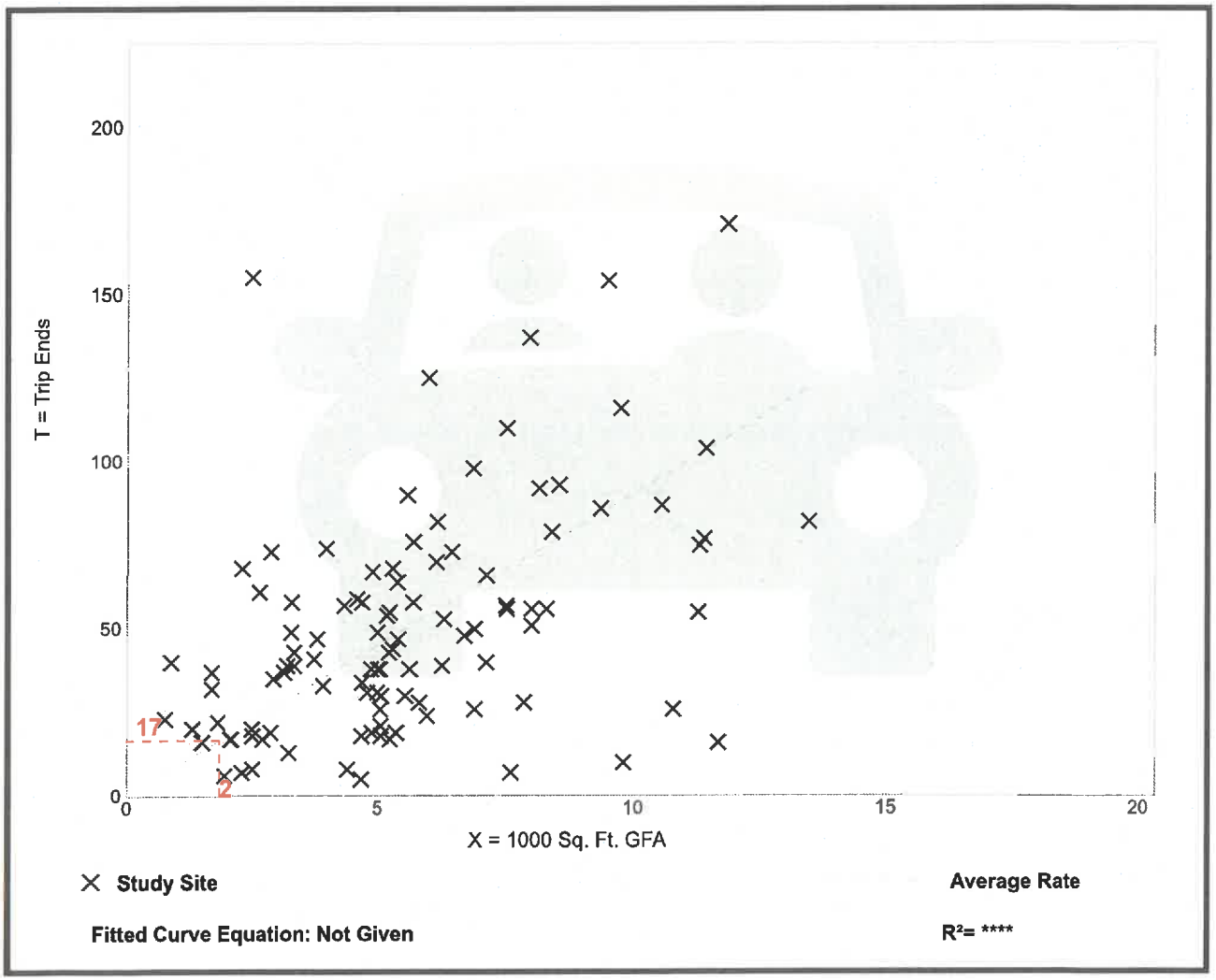
High-Turnover (Sit-Down) Restaurant
(932)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 104
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

Data Plot and Equation



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High-Turnover (Sit-Down) Restaurant
(932)

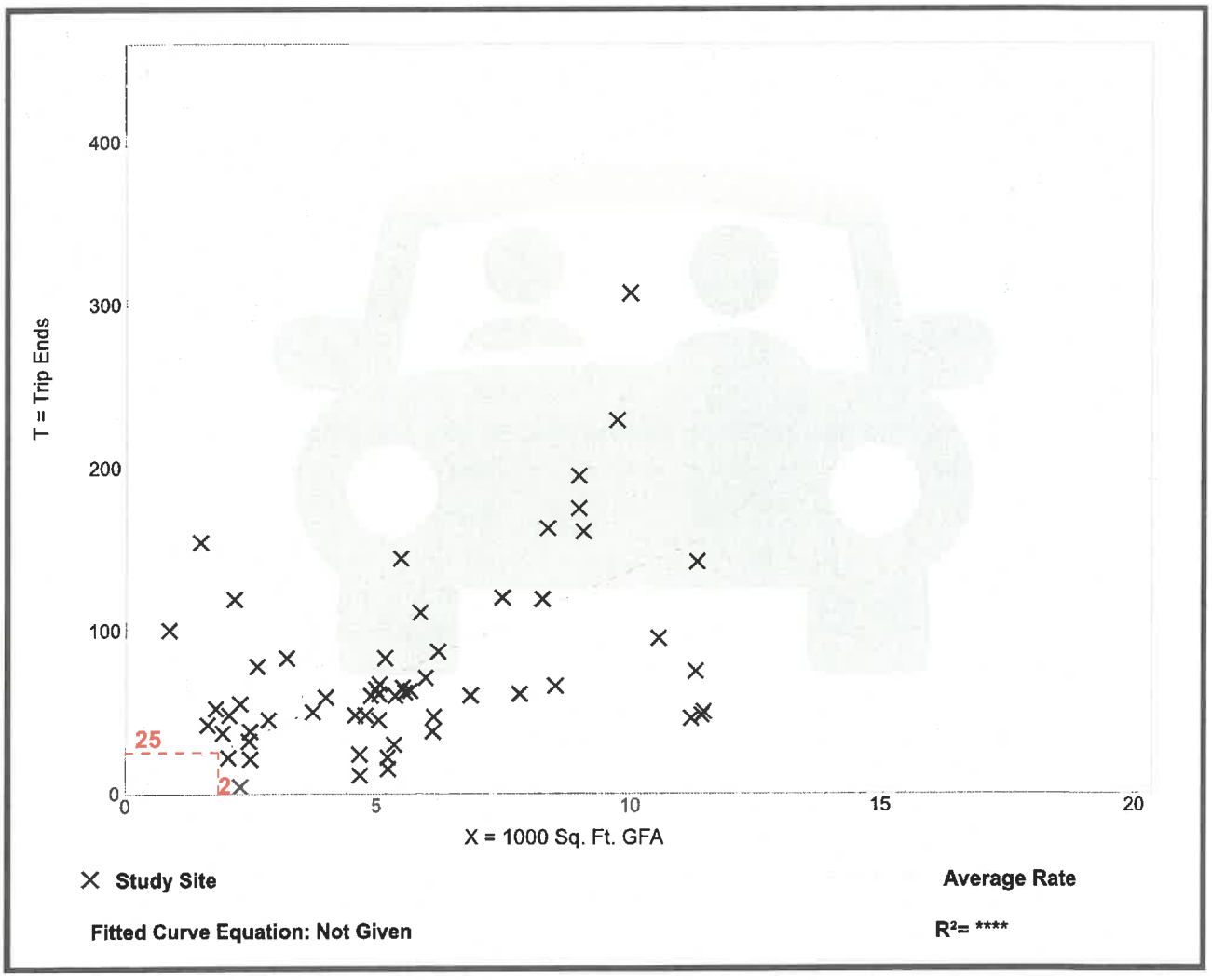
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 58
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
13.68	1.74 - 112.49	11.29

Data Plot and Equation



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High-Turnover (Sit-Down) Restaurant
(932)

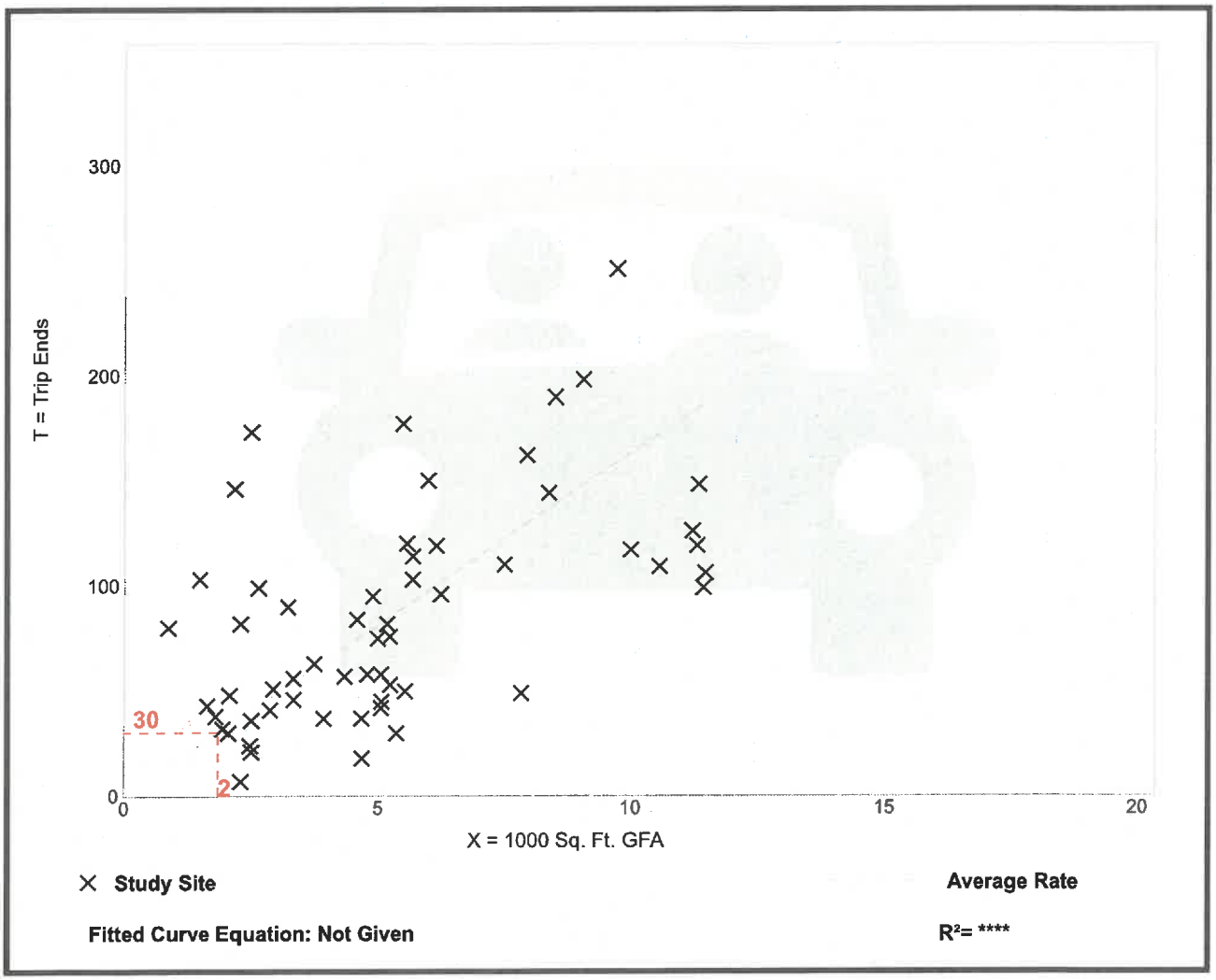
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 58
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
16.35	3.04 - 89.99	10.84

Data Plot and Equation



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High-Turnover (Sit-Down) Restaurant
(932)

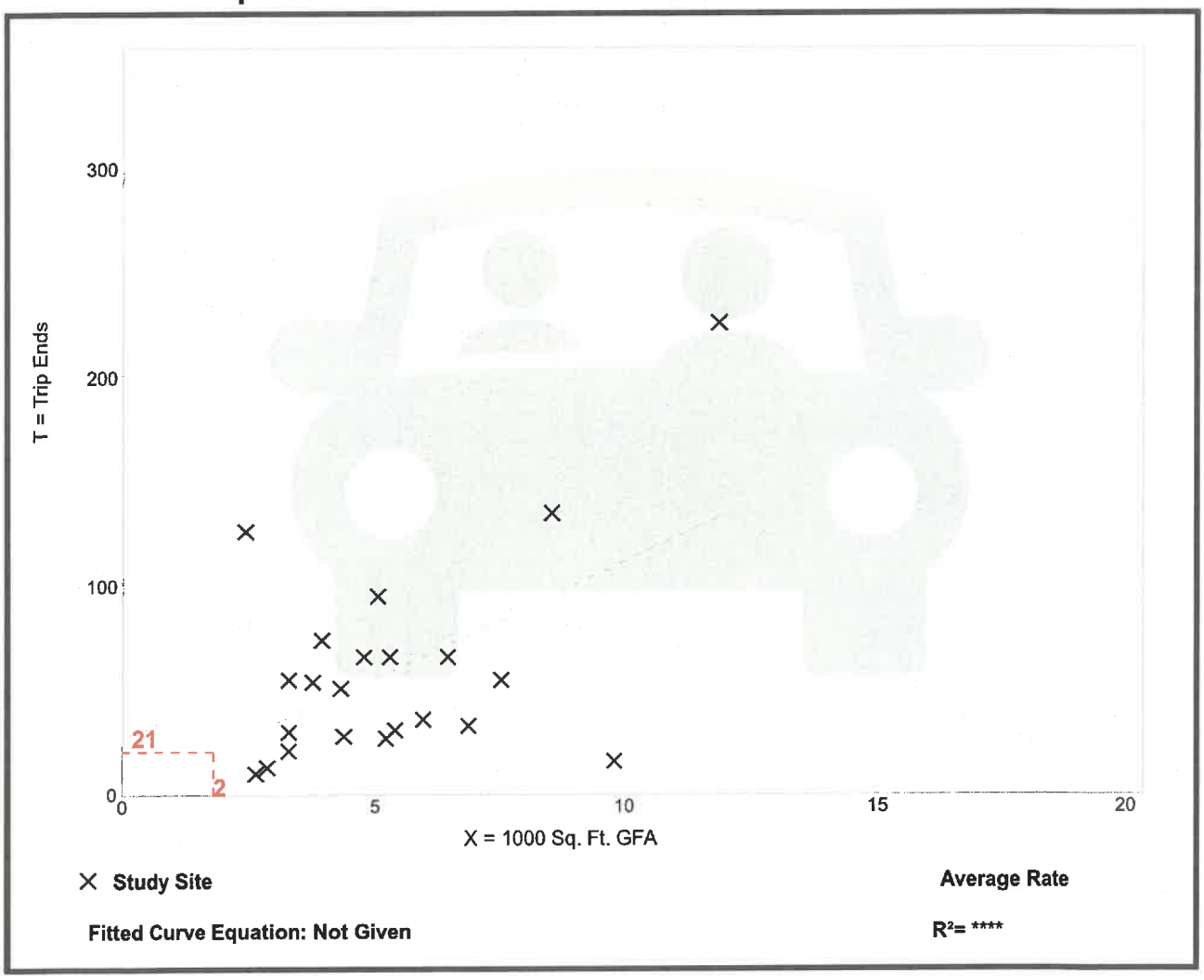
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.19	1.63 - 50.40	8.30

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

Land Use: 932
High-Turnover (Sit-Down) Restaurant

Description

This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day. These restaurants typically do not accept reservations. A patron commonly waits to be seated, is served by wait staff, orders from a menu, and pays after the meal.

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The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

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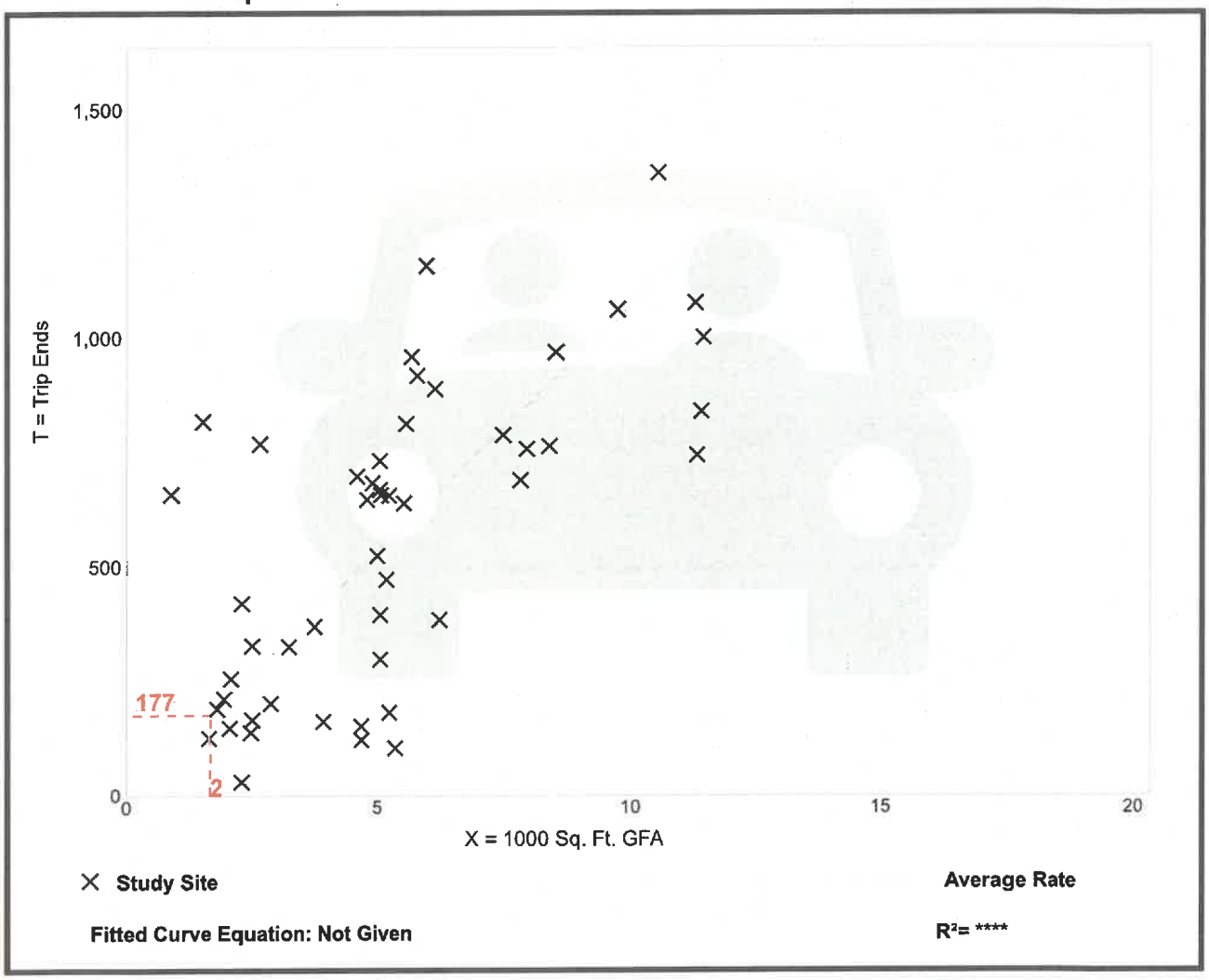
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 50
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

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Data Plot and Equation



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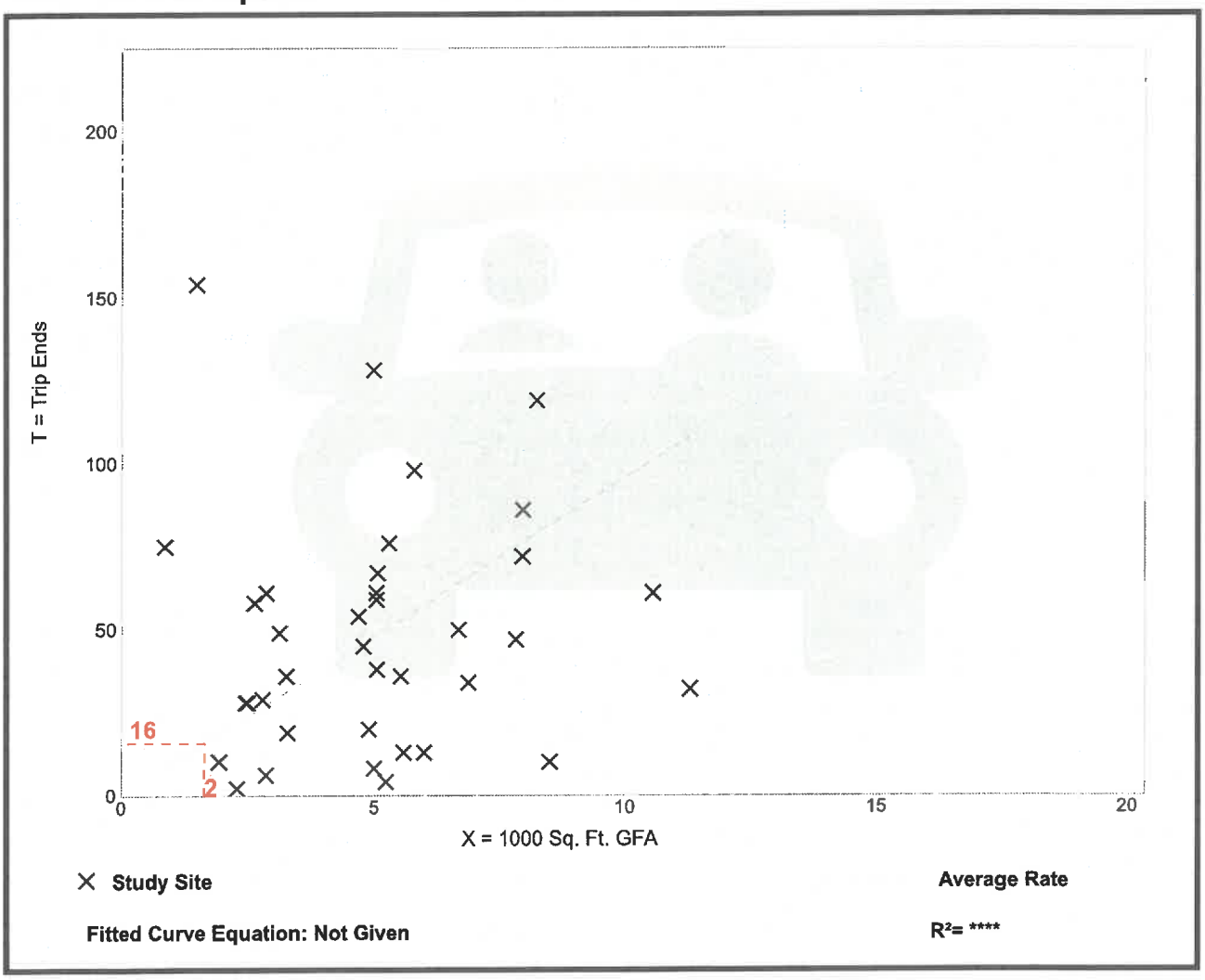
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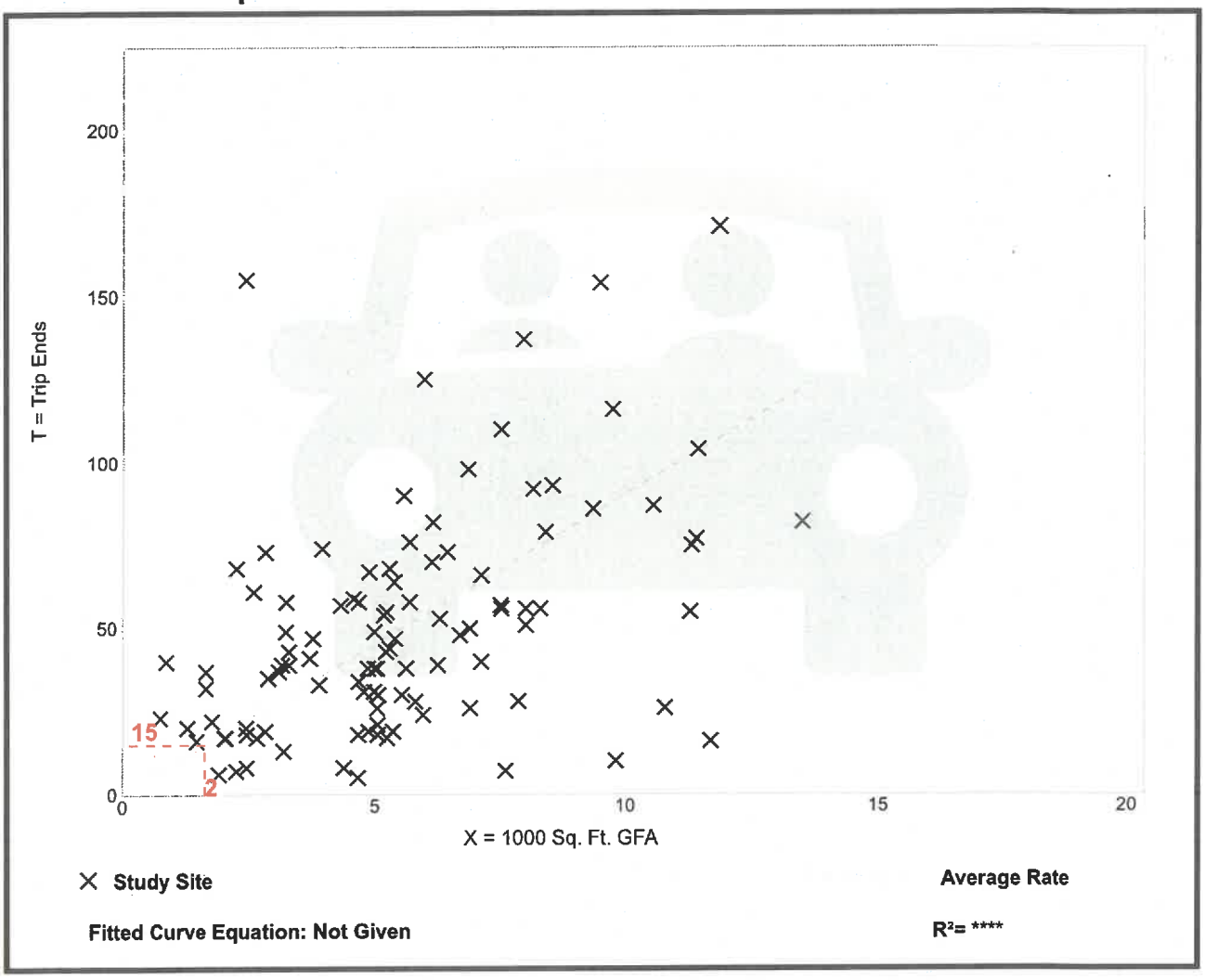
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Avg. 1000 Sq. Ft. GFA: 6
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Data Plot and Equation



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High-Turnover (Sit-Down) Restaurant
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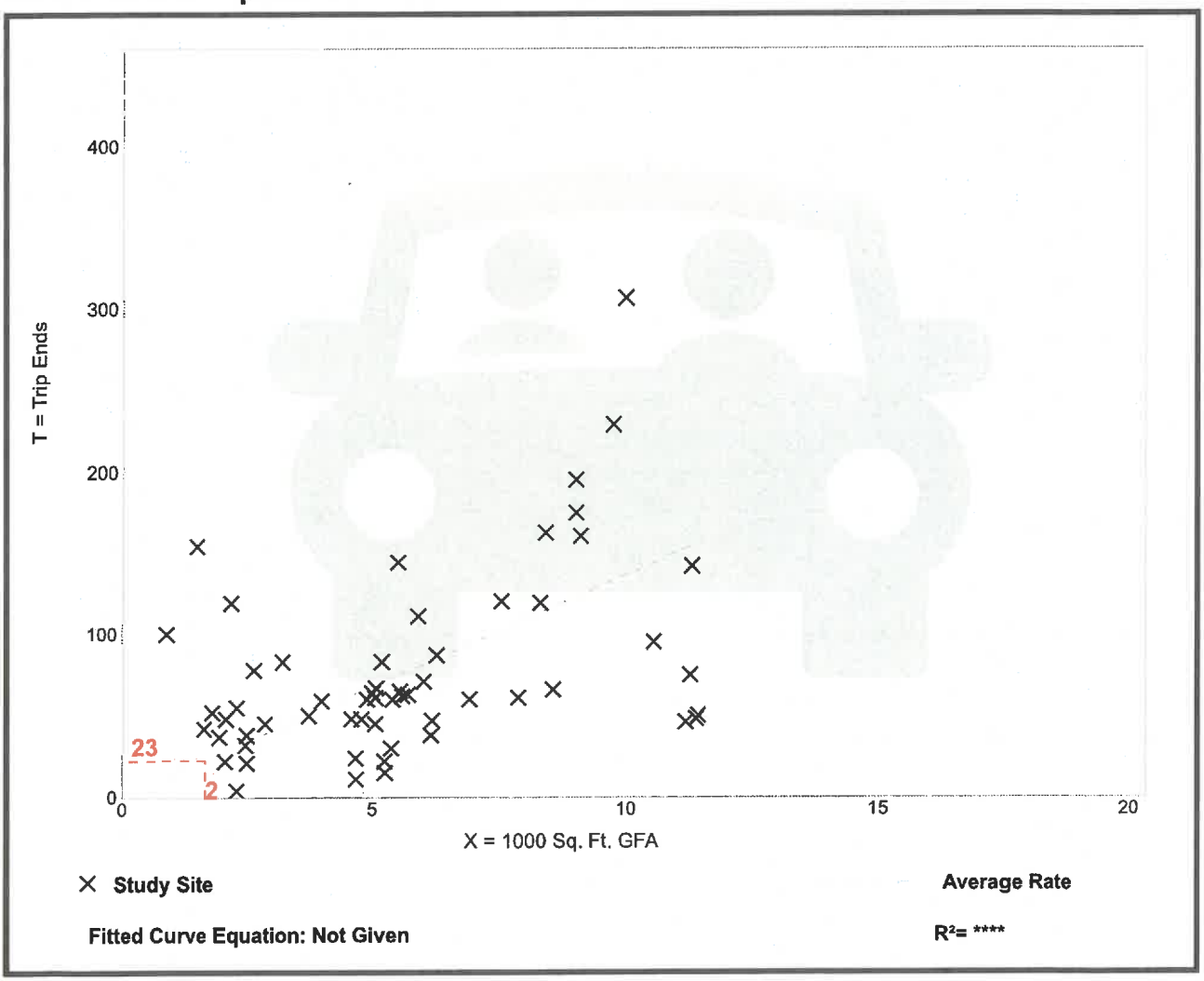
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On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 58
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 57% entering, 43% exiting

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Average Rate	Range of Rates	Standard Deviation
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Data Plot and Equation



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High-Turnover (Sit-Down) Restaurant
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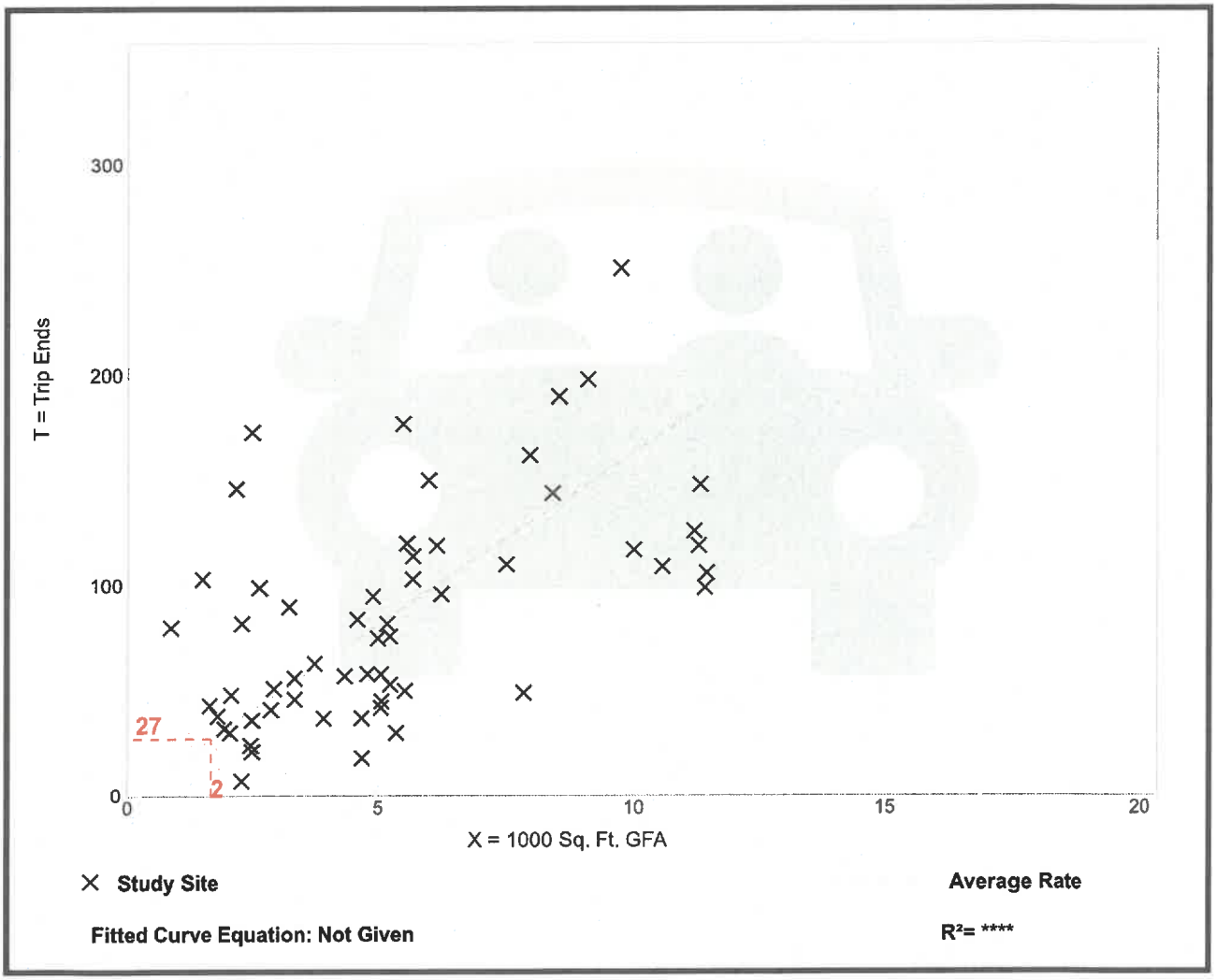
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 58
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
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Data Plot and Equation



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High-Turnover (Sit-Down) Restaurant
(932)

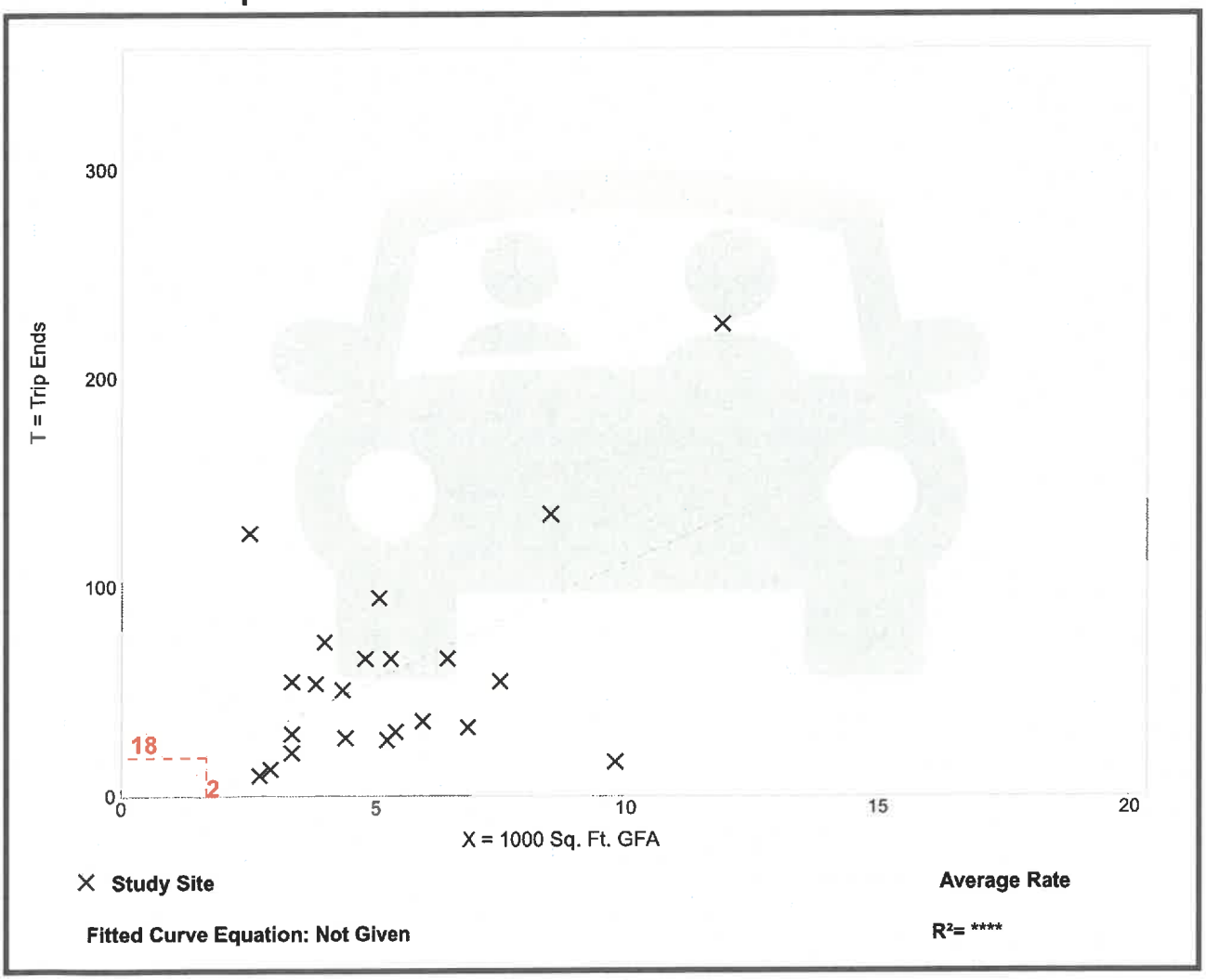
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.19	1.63 - 50.40	8.30

Data Plot and Equation



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Attachment 1D

Traffic Counts

Gorrill Palmer

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

LOCATION: FORE STREET-SITE
COUNTER: KJB
BOARD: 1
WEATHER: CLEAR

File Name : Fore Street & Site
Site Code : 3904.01
Start Date : 9/27/2024
Page No : 1

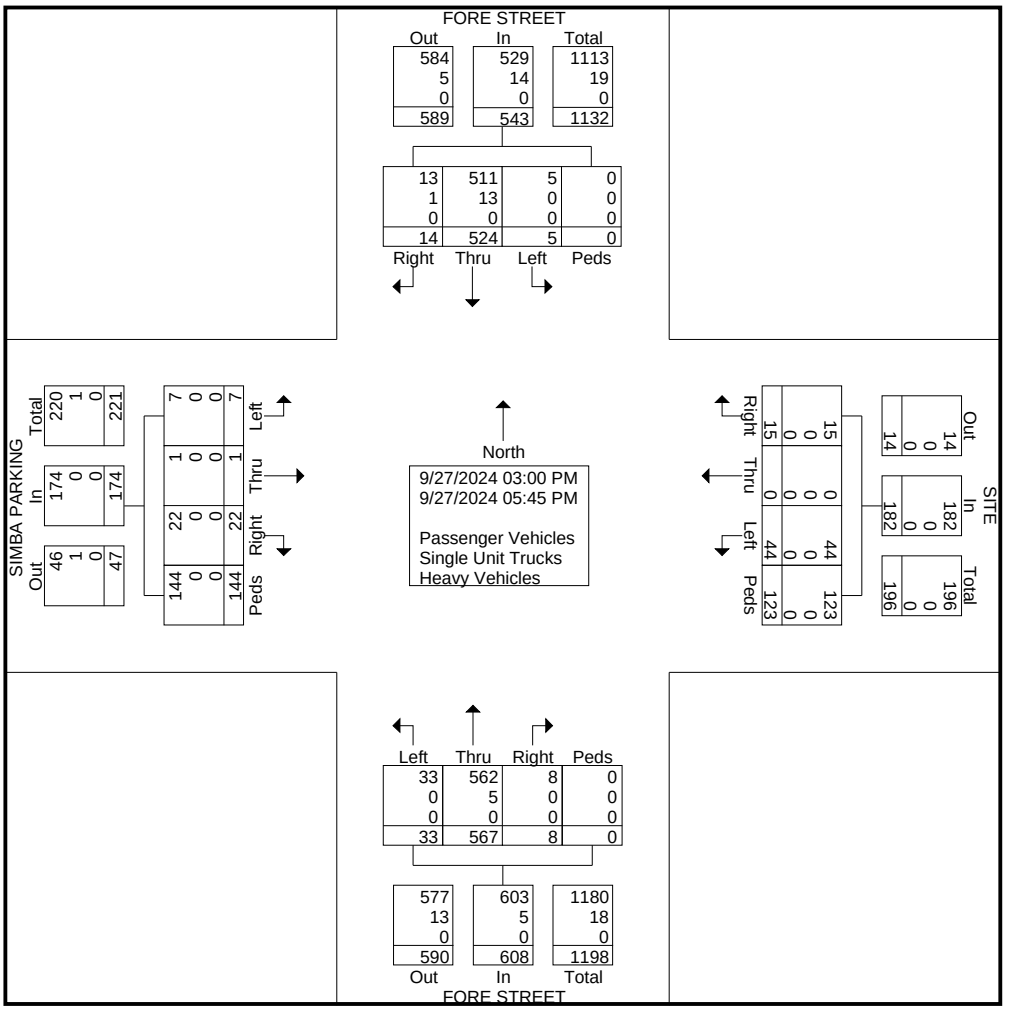
Groups Printed- Passenger Vehicles - Single Unit Trucks - Heavy Vehicles

	FORE STREET From North					SITE From East					FORE STREET From South					SIMBA PARKING From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	0	38	0	0	38	2	0	1	15	18	0	65	3	0	68	5	1	0	19	25	149
03:15 PM	2	49	0	0	51	0	0	5	11	16	0	38	2	0	40	1	0	0	13	14	121
03:30 PM	0	46	1	0	47	1	0	3	12	16	0	36	4	0	40	4	0	1	20	25	128
03:45 PM	1	33	0	0	34	2	0	1	8	11	1	49	3	0	53	1	0	1	7	9	107
Total	3	166	1	0	170	5	0	10	46	61	1	188	12	0	201	11	1	2	59	73	505
04:00 PM	0	58	2	0	60	1	0	4	13	18	2	47	1	0	50	1	0	1	6	8	136
04:15 PM	1	46	1	0	48	0	0	8	17	25	0	45	4	0	49	0	0	0	17	17	139
04:30 PM	2	42	0	0	44	1	0	5	11	17	3	48	2	0	53	2	0	1	7	10	124
04:45 PM	4	45	0	0	49	1	0	5	7	13	0	49	5	0	54	1	0	0	16	17	133
Total	7	191	3	0	201	3	0	22	48	73	5	189	12	0	206	4	0	2	46	52	532
05:00 PM	1	36	1	0	38	3	0	4	14	21	0	61	3	0	64	2	0	0	10	12	135
05:15 PM	0	47	0	0	47	1	0	4	8	13	0	43	0	0	43	3	0	0	10	13	116
05:30 PM	1	39	0	0	40	3	0	3	0	6	1	45	2	0	48	1	0	1	17	19	113
05:45 PM	2	45	0	0	47	0	0	1	7	8	1	41	4	0	46	1	0	2	2	5	106
Total	4	167	1	0	172	7	0	12	29	48	2	190	9	0	201	7	0	3	39	49	470
Grand Total	14	524	5	0	543	15	0	44	123	182	8	567	33	0	608	22	1	7	144	174	1507
Apprch %	2.6	96.5	0.9	0		8.2	0	24.2	67.6		1.3	93.3	5.4	0		12.6	0.6	4	82.8		
Total %	0.9	34.8	0.3	0	36	1	0	2.9	8.2	12.1	0.5	37.6	2.2	0	40.3	1.5	0.1	0.5	9.6	11.5	
Passenger Vehicles	13	511	5	0	529	15	0	44	123	182	8	562	33	0	603	22	1	7	144	174	1488
% Passenger Vehicles	92.9	97.5	100	0	97.4	100	0	100	100	100	100	99.1	100	0	99.2	100	100	100	100	100	98.7
Single Unit Trucks	1	13	0	0	14	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	19
% Single Unit Trucks	7.1	2.5	0	0	2.6	0	0	0	0	0	0	0.9	0	0	0.8	0	0	0	0	0	1.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Gorrill Palmer

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : Fore Street & Site
Site Code : 3904.01
Start Date : 9/27/2024
Page No : 2

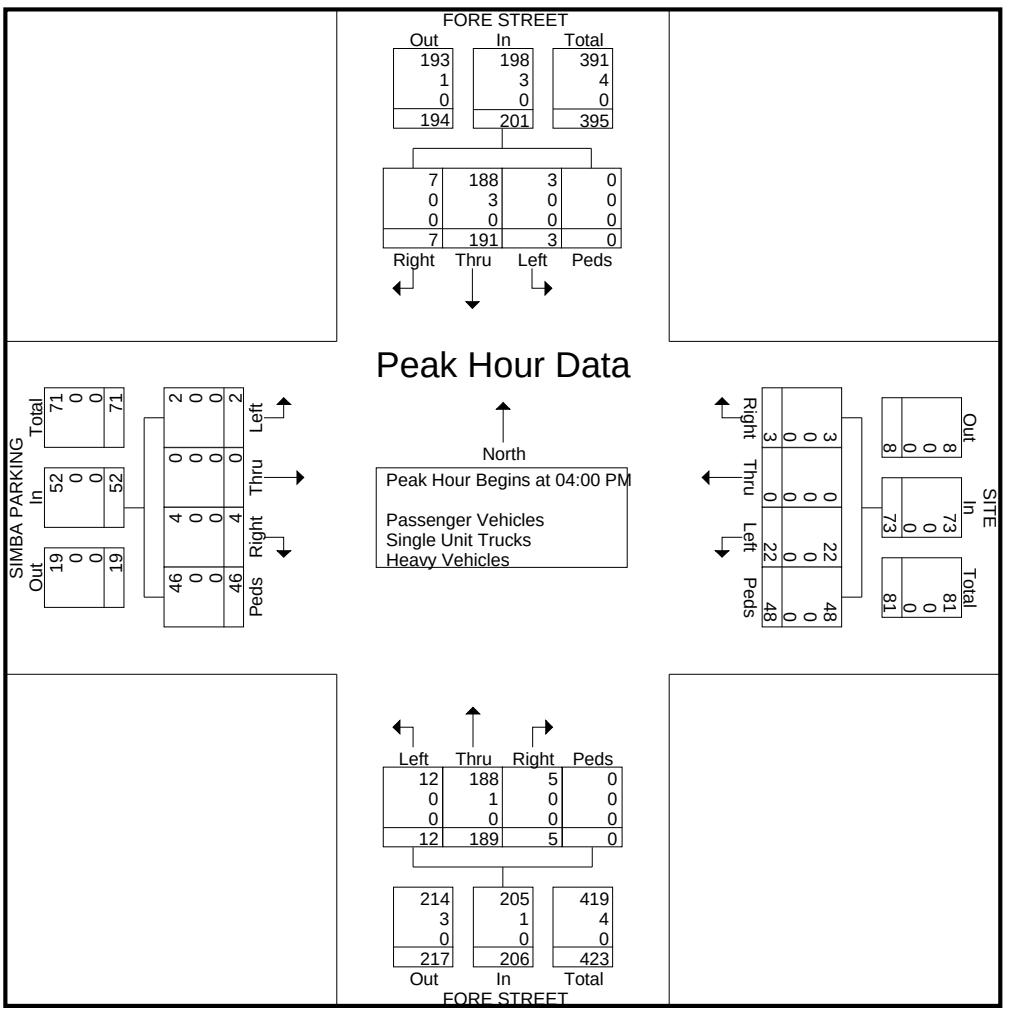


Gorrill Palmer

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : Fore Street & Site
Site Code : 3904.01
Start Date : 9/27/2024
Page No : 3

	FORE STREET From North					SITE From East					FORE STREET From South					SIMBA PARKING From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	**58**	**2**	0	**60**	**1**	0	4	13	18	2	47	1	0	50	1	0	**1**	6	8	136
04:15 PM	1	46	1	0	48	0	0	**8**	**17**	**25**	0	45	4	0	49	0	0	0	**17**	**17**	**139**
04:30 PM	2	42	0	0	44	1	0	5	11	17	**3**	48	2	0	53	**2**	0	1	7	10	124
04:45 PM	**4**	45	0	0	49	1	0	5	7	13	0	**49**	**5**	0	**54**	1	0	0	16	17	133
Total Volume	7	191	3	0	201	3	0	22	48	73	5	189	12	0	206	4	0	2	46	52	532
% App. Total	3.5	95	1.5	0		4.1	0	30.1	65.8		2.4	91.7	5.8	0		7.7	0	3.8	88.5		
PHF	.438	.823	.375	.000	.838	.750	.000	.688	.706	.730	.417	.964	.600	.000	.954	.500	.000	.500	.676	.765	.957
Passenger Vehicles	7	188	3	0	198	3	0	22	48	73	5	188	12	0	205	4	0	2	46	52	528
% Passenger Vehicles	100	98.4	100	0	98.5	100	0	100	100	100	100	99.5	100	0	99.5	100	0	100	100	100	99.2
Single Unit Trucks	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
% Single Unit Trucks	0	1.6	0	0	1.5	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.8
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

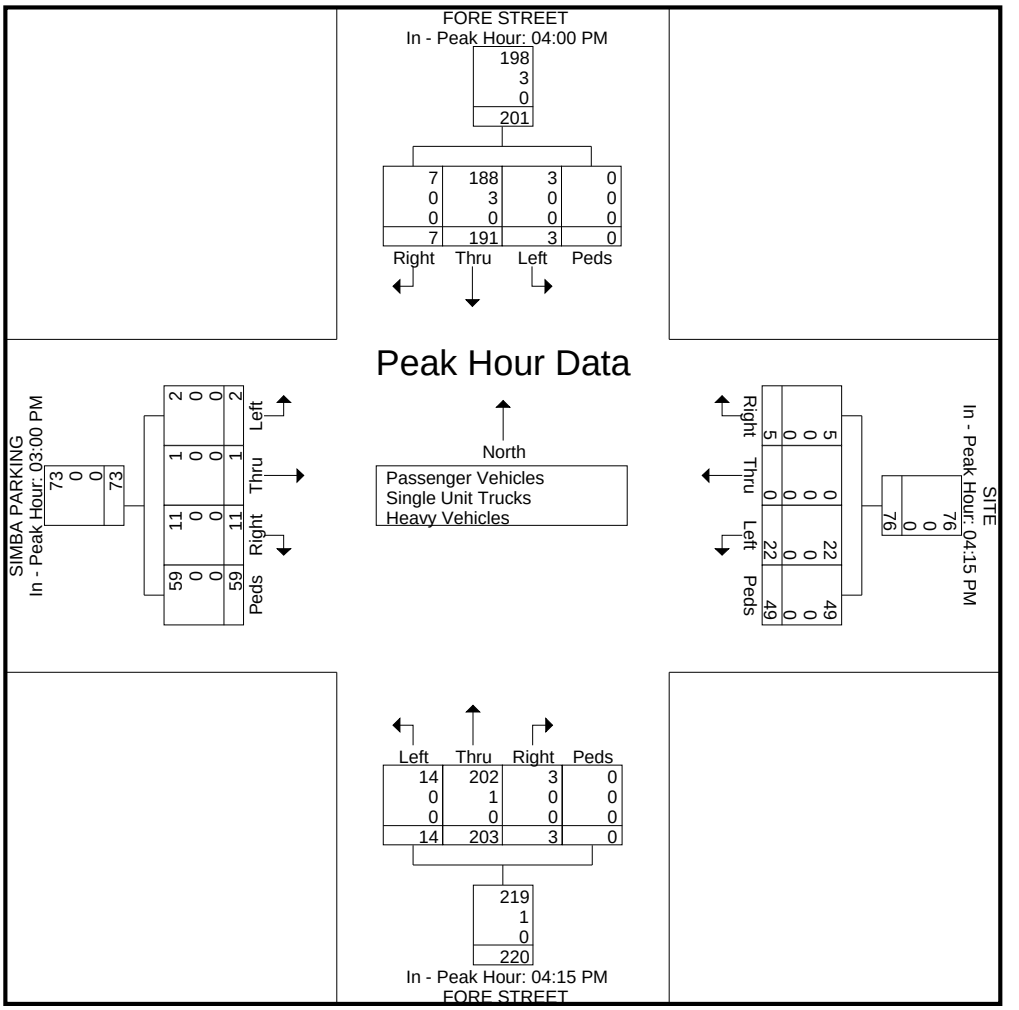


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300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : Fore Street & Site
Site Code : 3904.01
Start Date : 9/27/2024
Page No : 4

	FORE STREET From North					SITE From East					FORE STREET From South					SIMBA PARKING From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					04:15 PM					04:15 PM					03:00 PM					
+0 mins.	0	**58**	**2**	0	**60**	0	0	**8**	**17**	**25**	0	45	4	0	49	**5**	**1**	0	19	**25**	
+15 mins.	1	46	1	0	48	1	0	5	11	17	**3**	48	2	0	53	1	0	0	13	14	
+30 mins.	2	42	0	0	44	1	0	5	7	13	0	49	**5**	0	54	4	0	**1**	**20**	25	
+45 mins.	**4**	45	0	0	49	**3**	0	4	14	21	0	**61**	3	0	**64**	1	0	1	7	9	
Total Volume	7	191	3	0	201	5	0	22	49	76	3	203	14	0	220	11	1	2	59	73	
% App. Total	3.5	95	1.5	0		6.6	0	28.9	64.5		1.4	92.3	6.4	0		15.1	1.4	2.7	80.8		
PHF	.438	.823	.375	.000	.838	.417	.000	.688	.721	.760	.250	.832	.700	.000	.859	.550	.250	.500	.738	.730	
Passenger Vehicles	7	188	3	0	198	5	0	22	49	76	3	202	14	0	219	11	1	2	59	73	
% Passenger Vehicles	100	98.4	100	0	98.5	100	0	100	100	100	100	99.5	100	0	99.5	100	100	100	100	100	
Single Unit Trucks	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	
% Single Unit Trucks	0	1.6	0	0	1.5	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



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South Portland, Maine 04106
207-772-2515

LOCATION: MIDDLE STREET & INDIA STREET
COUNTER: KJB
BOARD: 1
WEATHER: CLEAR

File Name : Middle Street & India Street
Site Code : 3904.01
Start Date : 9/10/2024
Page No : 1

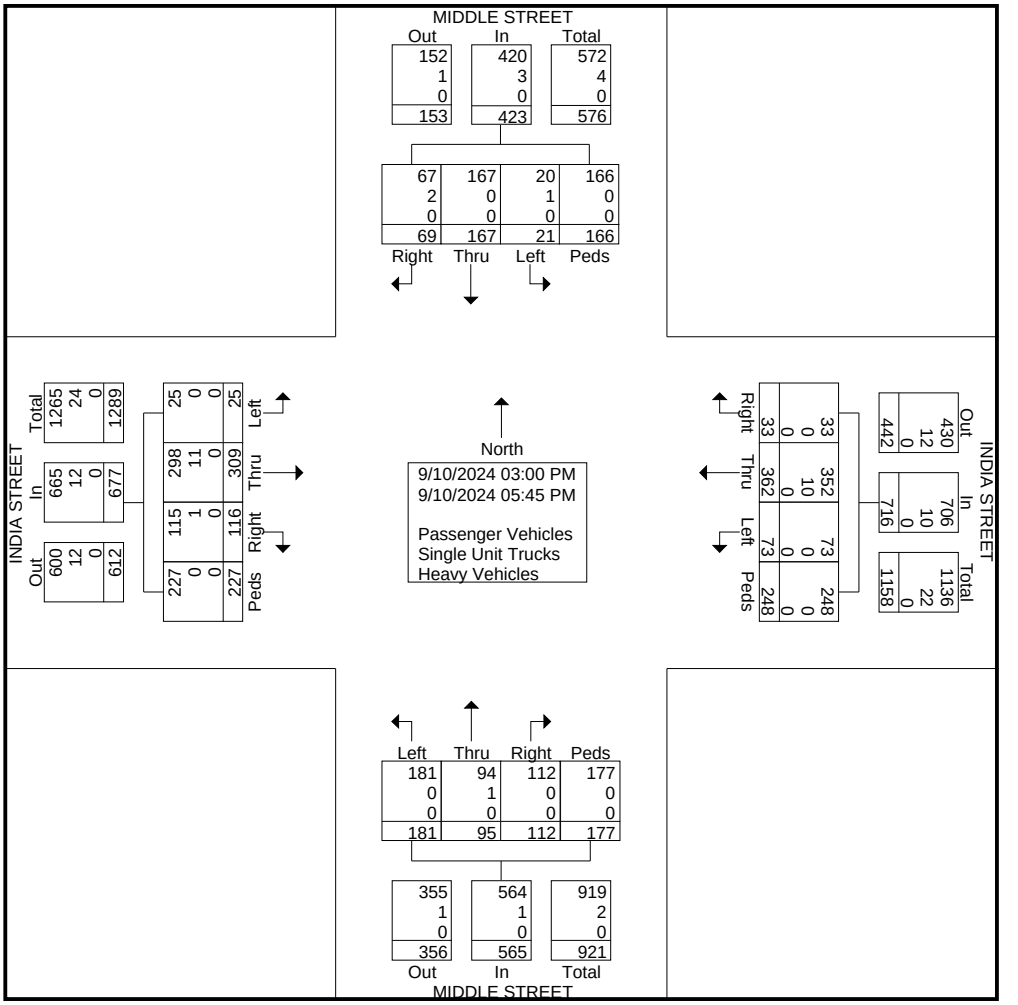
Groups Printed- Passenger Vehicles - Single Unit Trucks - Heavy Vehicles

	MIDDLE STREET From North					INDIA STREET From East					MIDDLE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	7	8	3	11	29	2	31	3	30	66	11	11	12	10	44	5	19	0	27	51	190
03:15 PM	11	11	1	14	37	1	24	5	39	69	8	4	17	26	55	5	27	2	33	67	228
03:30 PM	6	10	0	16	32	0	20	6	14	40	9	6	7	13	35	8	24	3	14	49	156
03:45 PM	3	15	1	16	35	1	24	4	9	38	12	7	17	10	46	9	18	2	20	49	168
Total	27	44	5	57	133	4	99	18	92	213	40	28	53	59	180	27	88	7	94	216	742
04:00 PM	2	21	2	15	40	4	42	5	21	72	5	6	10	9	30	4	19	4	16	43	185
04:15 PM	4	15	2	9	30	5	24	6	15	50	6	10	24	13	53	5	14	0	16	35	168
04:30 PM	4	17	2	13	36	3	40	3	12	58	8	10	14	9	41	5	29	2	10	46	181
04:45 PM	7	12	3	18	40	5	26	8	25	64	11	8	16	21	56	9	35	1	13	58	218
Total	17	65	9	55	146	17	132	22	73	244	30	34	64	52	180	23	97	7	55	182	752
05:00 PM	5	26	2	22	55	2	35	10	34	81	14	9	18	26	67	15	30	5	28	78	281
05:15 PM	8	13	1	12	34	4	30	10	26	70	8	12	19	16	55	17	24	5	22	68	227
05:30 PM	7	12	2	12	33	3	36	7	9	55	11	6	11	13	41	12	38	1	23	74	203
05:45 PM	5	7	2	8	22	3	30	6	14	53	9	6	16	11	42	22	32	0	5	59	176
Total	25	58	7	54	144	12	131	33	83	259	42	33	64	66	205	66	124	11	78	279	887
Grand Total	69	167	21	166	423	33	362	73	248	716	112	95	181	177	565	116	309	25	227	677	2381
Apprch %	16.3	39.5	5	39.2		4.6	50.6	10.2	34.6		19.8	16.8	32	31.3		17.1	45.6	3.7	33.5		
Total %	2.9	7	0.9	7	17.8	1.4	15.2	3.1	10.4	30.1	4.7	4	7.6	7.4	23.7	4.9	13	1	9.5	28.4	
Passenger Vehicles	67	167	20	166	420	33	352	73	248	706	112	94	181	177	564	115	298	25	227	665	2355
% Passenger Vehicles	97.1	100	95.2	100	99.3	100	97.2	100	100	98.6	100	98.9	100	100	99.8	99.1	96.4	100	100	98.2	98.9
Single Unit Trucks	2	0	1	0	3	0	10	0	0	10	0	1	0	0	1	1	11	0	0	12	26
% Single Unit Trucks	2.9	0	4.8	0	0.7	0	2.8	0	0	1.4	0	1.1	0	0	0.2	0.9	3.6	0	0	1.8	1.1
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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207-772-2515

File Name : Middle Street & India Street
Site Code : 3904.01
Start Date : 9/10/2024
Page No : 2

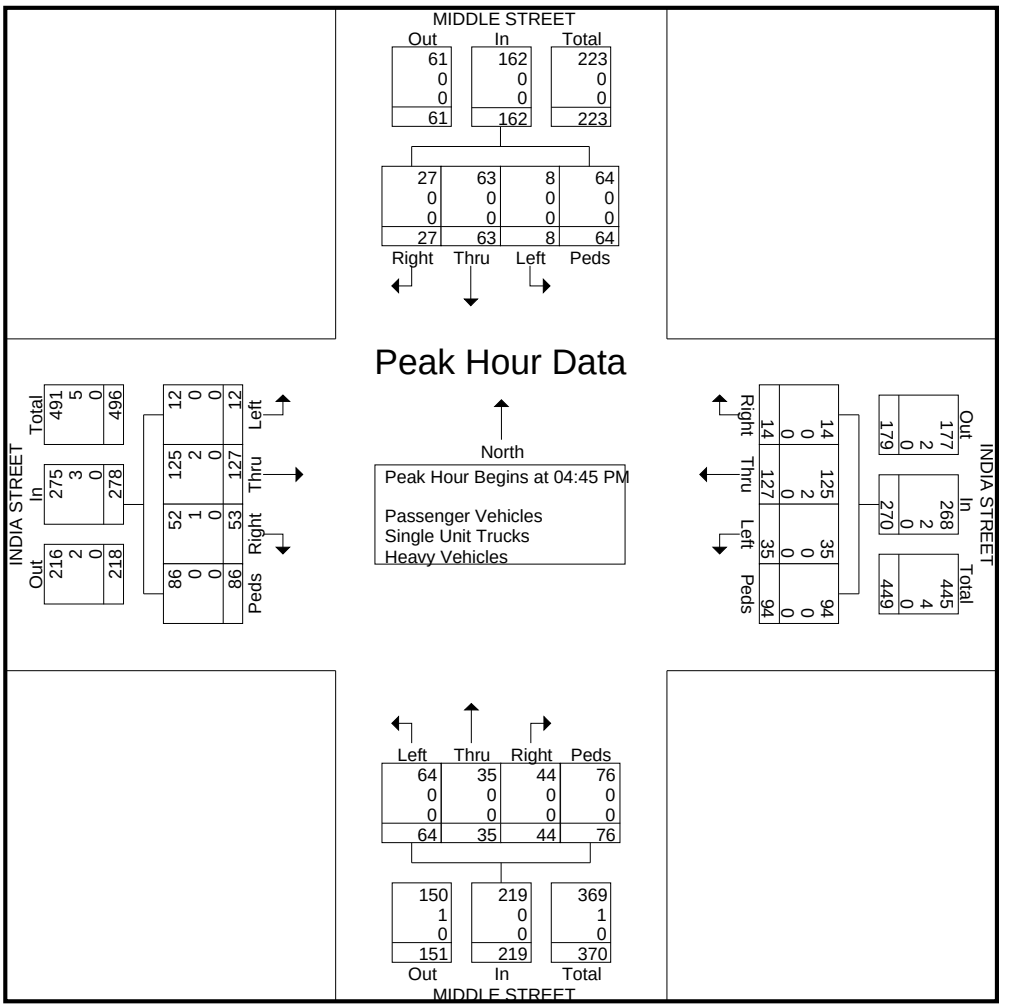


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300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : Middle Street & India Street
Site Code : 3904.01
Start Date : 9/10/2024
Page No : 3

	MIDDLE STREET From North					INDIA STREET From East					MIDDLE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	7	12	**3**	18	40	**5**	26	8	25	64	11	8	16	21	56	9	35	1	13	58	218
05:00 PM	5	**26**	2	**22**	**55**	2	35	**10**	**34**	**81**	**14**	9	18	**26**	**67**	15	30	**5**	**28**	**78**	**281**
05:15 PM	**8**	13	1	12	34	4	30	10	26	70	8	**12**	**19**	16	55	**17**	24	5	22	68	227
05:30 PM	7	12	2	12	33	3	**36**	7	9	55	11	6	11	13	41	12	**38**	1	23	74	203
Total Volume	27	63	8	64	162	14	127	35	94	270	44	35	64	76	219	53	127	12	86	278	929
% App. Total	16.7	38.9	4.9	39.5		5.2	47	13	34.8		20.1	16	29.2	34.7		19.1	45.7	4.3	30.9		
PHF	.844	.606	.667	.727	.736	.700	.882	.875	.691	.833	.786	.729	.842	.731	.817	.779	.836	.600	.768	.891	.827
Passenger Vehicles	27	63	8	64	162	14	125	35	94	268	44	35	64	76	219	52	125	12	86	275	924
% Passenger Vehicles	100	100	100	100	100	100	98.4	100	100	99.3	100	100	100	100	100	98.1	98.4	100	100	98.9	99.5
Single Unit Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	5
% Single Unit Trucks	0	0	0	0	0	0	1.6	0	0	0.7	0	0	0	0	0	1.9	1.6	0	0	1.1	0.5
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

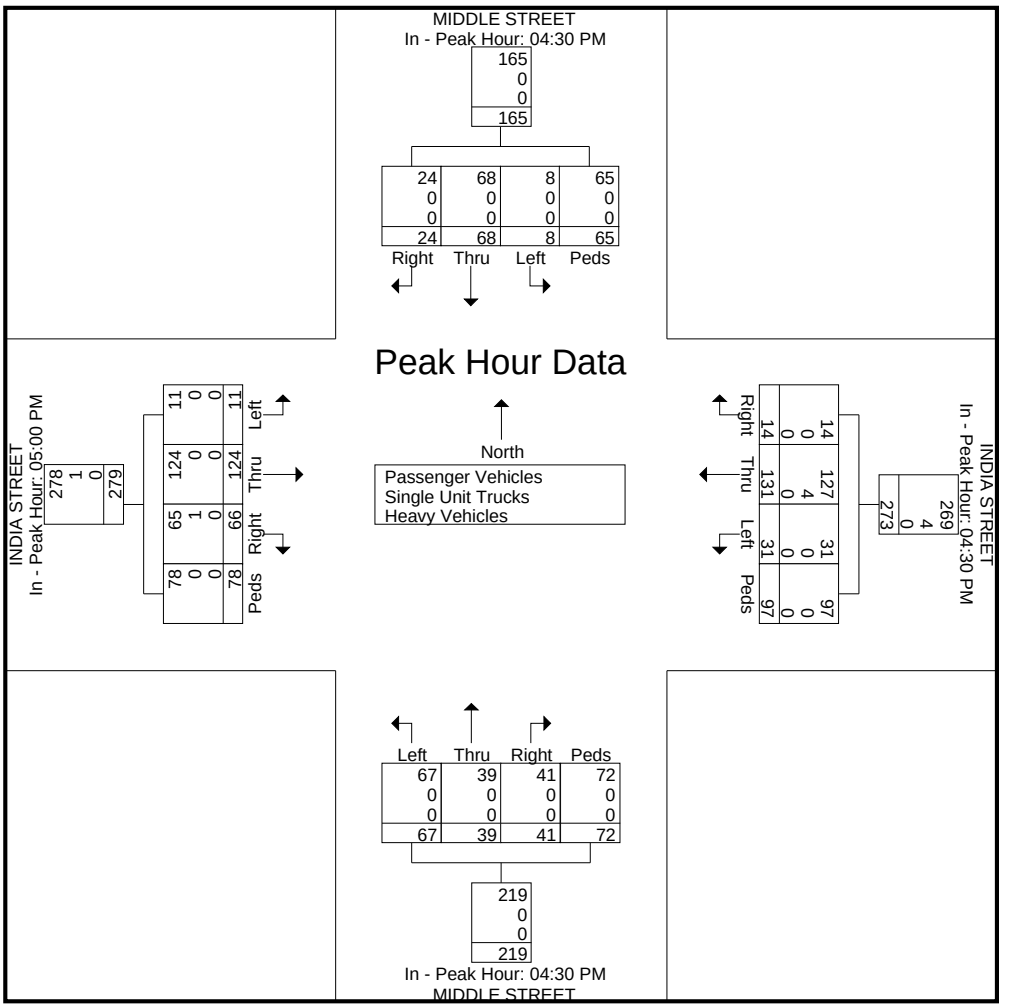


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207-772-2515

File Name : Middle Street & India Street
Site Code : 3904.01
Start Date : 9/10/2024
Page No : 4

	MIDDLE STREET From North					INDIA STREET From East					MIDDLE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					04:30 PM					04:30 PM					05:00 PM					
+0 mins.	4	17	2	13	36	3	**40**	3	12	58	8	10	14	9	41	15	30	**5**	**28**	**78**	
+15 mins.	7	12	**3**	18	40	**5**	26	8	25	64	11	8	16	21	56	17	24	5	22	68	
+30 mins.	5	**26**	2	**22**	**55**	2	35	**10**	**34**	**81**	**14**	9	18	**26**	**67**	12	**38**	1	23	74	
+45 mins.	**8**	13	1	12	34	4	30	10	26	70	8	**12**	**19**	16	55	**22**	32	0	5	59	
Total Volume	24	68	8	65	165	14	131	31	97	273	41	39	67	72	219	66	124	11	78	279	
% App. Total	14.5	41.2	4.8	39.4		5.1	48	11.4	35.5		18.7	17.8	30.6	32.9		23.7	44.4	3.9	28		
PHF	.750	.654	.667	.739	.750	.700	.819	.775	.713	.843	.732	.813	.882	.692	.817	.750	.816	.550	.696	.894	
Passenger Vehicles	24	68	8	65	165	14	127	31	97	269	41	39	67	72	219	65	124	11	78	278	
% Passenger Vehicles	100	100	100	100	100	100	96.9	100	100	98.5	100	100	100	100	100	98.5	100	100	100	99.6	
Single Unit Trucks	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	0	0	0	1	
% Single Unit Trucks	0	0	0	0	0	0	3.1	0	0	1.5	0	0	0	0	0	1.5	0	0	0	0.4	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



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300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

LOCATION: FORE STREET & INDIA STREET
COUNTER: KJB
BOARD: 1
WEATHER: CLEAR

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 1

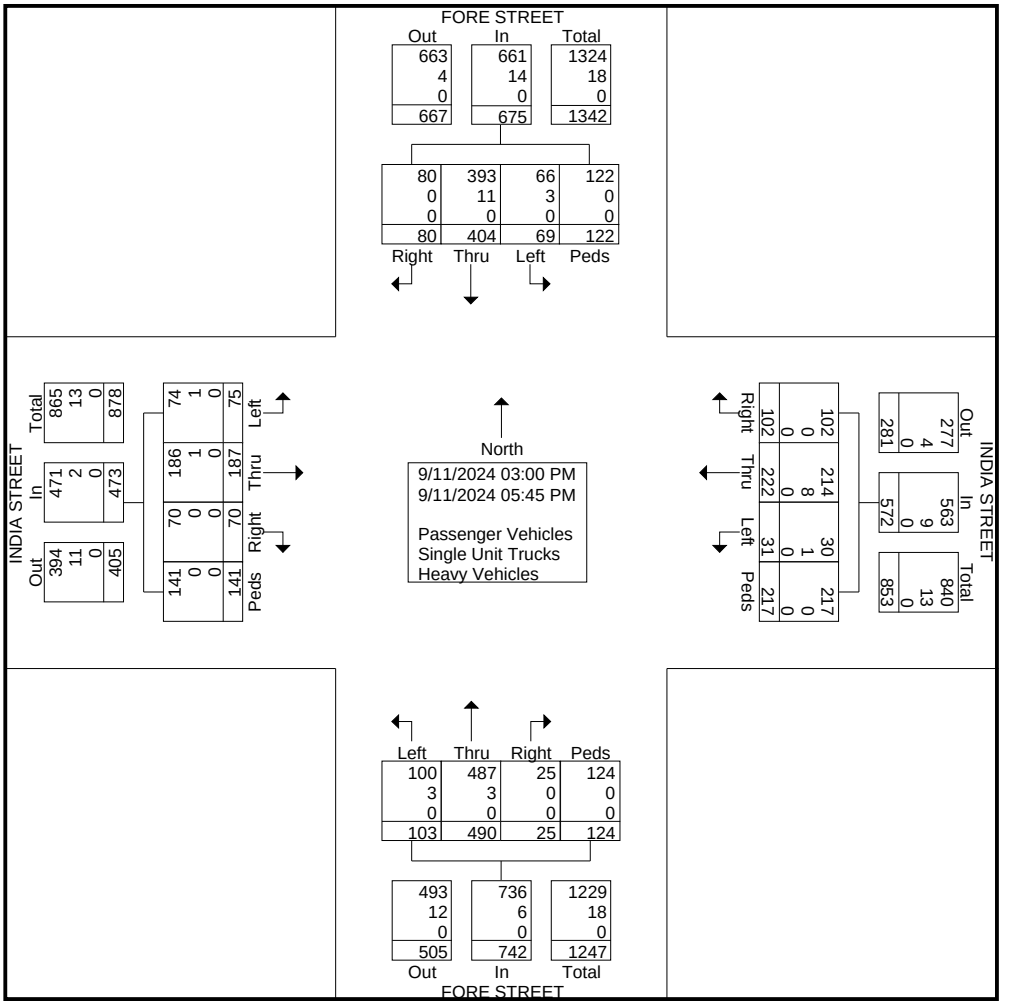
Groups Printed- Passenger Vehicles - Single Unit Trucks - Heavy Vehicles

	FORE STREET From North					INDIA STREET From East					FORE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	6	30	6	4	46	7	24	6	18	55	4	31	8	10	53	3	15	5	11	34	188
03:15 PM	3	24	6	7	40	3	25	2	11	41	2	33	4	6	45	5	14	4	12	35	161
03:30 PM	6	37	7	8	58	7	21	2	11	41	1	22	7	18	48	7	12	6	8	33	180
03:45 PM	5	29	4	6	44	8	11	2	11	32	3	26	6	6	41	8	19	6	4	37	154
Total	20	120	23	25	188	25	81	12	51	169	10	112	25	40	187	23	60	21	35	139	683
04:00 PM	13	31	5	15	64	4	20	3	21	48	0	29	10	5	44	8	25	5	21	59	215
04:15 PM	8	36	4	15	63	10	22	2	15	49	2	53	9	9	73	10	19	4	8	41	226
04:30 PM	6	37	8	14	65	8	17	3	14	42	3	47	6	9	65	1	9	6	16	32	204
04:45 PM	5	40	5	8	58	4	14	2	21	41	1	51	10	9	71	3	20	8	13	44	214
Total	32	144	22	52	250	26	73	10	71	180	6	180	35	32	253	22	73	23	58	176	859
05:00 PM	6	40	5	11	62	7	20	2	23	52	0	52	14	8	74	8	17	13	6	44	232
05:15 PM	6	36	6	13	61	18	19	2	25	64	3	50	11	12	76	4	16	1	11	32	233
05:30 PM	7	44	6	11	68	16	10	4	13	43	1	56	10	15	82	6	10	6	12	34	227
05:45 PM	9	20	7	10	46	10	19	1	34	64	5	40	8	17	70	7	11	11	19	48	228
Total	28	140	24	45	237	51	68	9	95	223	9	198	43	52	302	25	54	31	48	158	920
Grand Total	80	404	69	122	675	102	222	31	217	572	25	490	103	124	742	70	187	75	141	473	2462
Apprch %	11.9	59.9	10.2	18.1		17.8	38.8	5.4	37.9		3.4	66	13.9	16.7		14.8	39.5	15.9	29.8		
Total %	3.2	16.4	2.8	5	27.4	4.1	9	1.3	8.8	23.2	1	19.9	4.2	5	30.1	2.8	7.6	3	5.7	19.2	
Passenger Vehicles	80	393	66	122	661	102	214	30	217	563	25	487	100	124	736	70	186	74	141	471	2431
% Passenger Vehicles	100	97.3	95.7	100	97.9	100	96.4	96.8	100	98.4	100	99.4	97.1	100	99.2	100	99.5	98.7	100	99.6	98.7
Single Unit Trucks	0	11	3	0	14	0	8	1	0	9	0	3	3	0	6	0	1	1	0	2	31
% Single Unit Trucks	0	2.7	4.3	0	2.1	0	3.6	3.2	0	1.6	0	0.6	2.9	0	0.8	0	0.5	1.3	0	0.4	1.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 2

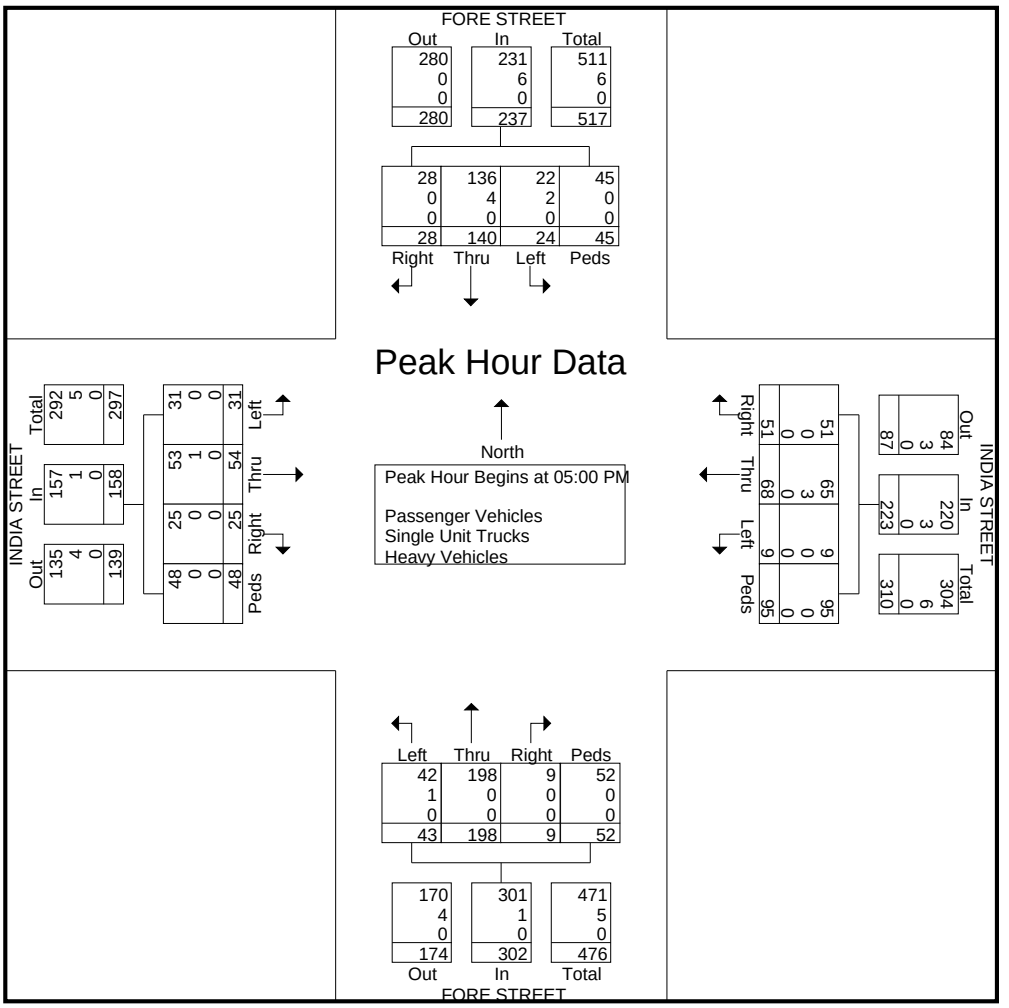


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207-772-2515

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 3

	FORE STREET From North					INDIA STREET From East					FORE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	6	40	5	11	62	7	**20**	2	23	52	0	52	**14**	8	74	**8**	**17**	**13**	6	44	232
05:15 PM	6	36	6	**13**	61	**18**	19	2	25	**64**	3	50	11	12	76	4	16	1	11	32	**233**
05:30 PM	7	**44**	6	11	**68**	16	10	**4**	13	43	1	**56**	10	15	**82**	6	10	6	12	34	227
05:45 PM	**9**	20	**7**	10	46	10	19	1	**34**	64	**5**	40	8	**17**	70	7	11	11	**19**	**48**	228
Total Volume	28	140	24	45	237	51	68	9	95	223	9	198	43	52	302	25	54	31	48	158	920
% App. Total	11.8	59.1	10.1	19		22.9	30.5	4	42.6		3	65.6	14.2	17.2		15.8	34.2	19.6	30.4		
PHF	.778	.795	.857	.865	.871	.708	.850	.563	.699	.871	.450	.884	.768	.765	.921	.781	.794	.596	.632	.823	.987
Passenger Vehicles	28	136	22	45	231	51	65	9	95	220	9	198	42	52	301	25	53	31	48	157	909
% Passenger Vehicles	100	97.1	91.7	100	97.5	100	95.6	100	100	98.7	100	100	97.7	100	99.7	100	98.1	100	100	99.4	98.8
Single Unit Trucks	0	4	2	0	6	0	3	0	0	3	0	0	1	0	1	0	1	0	0	1	11
% Single Unit Trucks	0	2.9	8.3	0	2.5	0	4.4	0	0	1.3	0	0	2.3	0	0.3	0	1.9	0	0	0.6	1.2
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

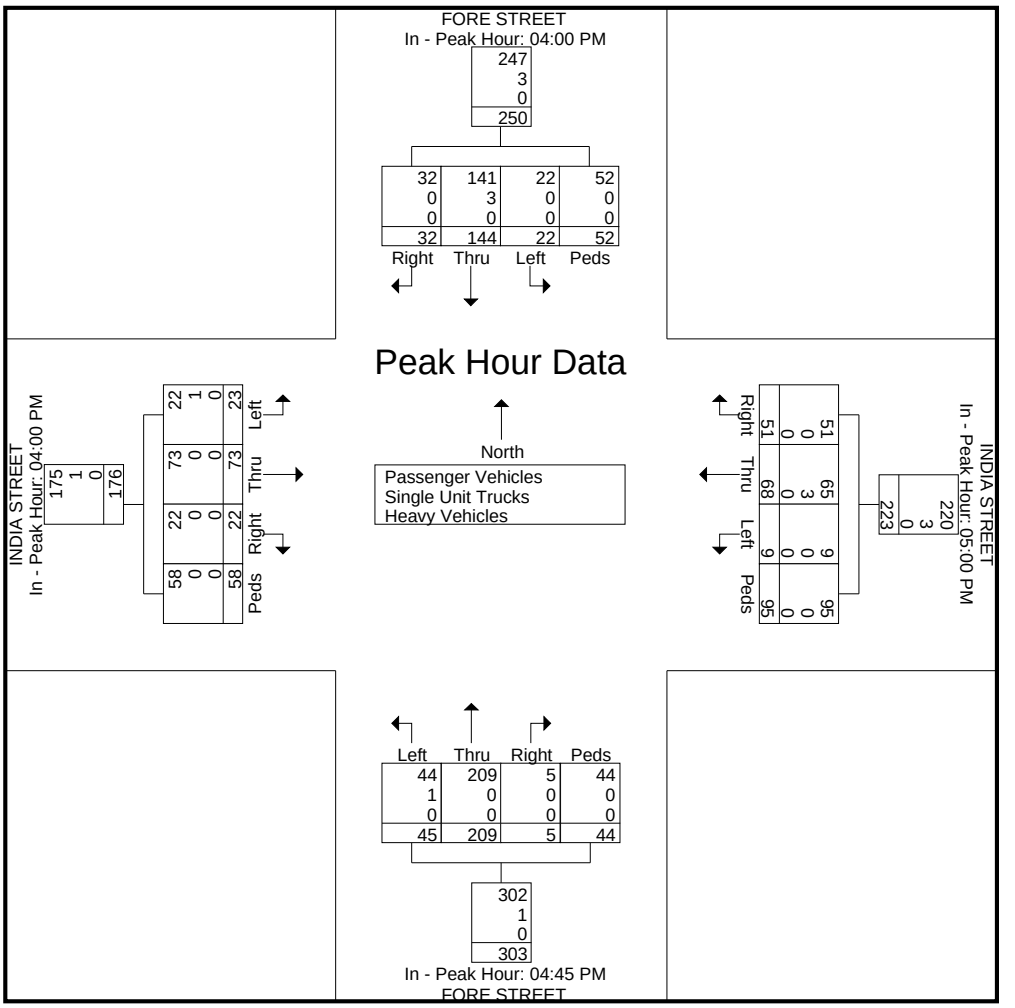


Gorrill Palmer

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207-772-2515

File Name : PM - Fore Street & India St
Site Code : 3904.01
Start Date : 9/11/2024
Page No : 4

	FORE STREET From North					INDIA STREET From East					FORE STREET From South					INDIA STREET From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					05:00 PM					04:45 PM					04:00 PM					
+0 mins.	**13**	31	5	**15**	64	7	**20**	2	23	52	1	51	10	9	71	8	**25**	5	**21**	**59**	
+15 mins.	8	36	4	15	63	**18**	19	2	25	**64**	0	52	**14**	8	74	**10**	19	4	8	41	
+30 mins.	6	37	**8**	14	**65**	16	10	**4**	13	43	**3**	50	11	12	76	1	9	6	16	32	
+45 mins.	5	**40**	5	8	58	10	19	1	**34**	64	1	**56**	10	**15**	**82**	3	20	**8**	13	44	
Total Volume	32	144	22	52	250	51	68	9	95	223	5	209	45	44	303	22	73	23	58	176	
% App. Total	12.8	57.6	8.8	20.8		22.9	30.5	4	42.6		1.7	69	14.9	14.5		12.5	41.5	13.1	33		
PHF	.615	.900	.688	.867	.962	.708	.850	.563	.699	.871	.417	.933	.804	.733	.924	.550	.730	.719	.690	.746	
Passenger Vehicles	32	141	22	52	247	51	65	9	95	220	5	209	44	44	302	22	73	22	58	175	
% Passenger Vehicles	100	97.9	100	100	98.8	100	95.6	100	100	98.7	100	100	97.8	100	99.7	100	100	95.7	100	99.4	
Single Unit Trucks	0	3	0	0	3	0	3	0	0	3	0	0	1	0	1	0	0	1	0	1	
% Single Unit Trucks	0	2.1	0	0	1.2	0	4.4	0	0	1.3	0	0	2.2	0	0.3	0	0	4.3	0	0.6	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



Section 2

Traffic Crashes

Section 2
Traffic Crashes

2.A. Crash Summary Data

Gorrill Palmer requested and reviewed the latest three-year crash history for Fore Street, India Street, and Middle Street along the Site Frontage from the MaineDOT, as well as reviewing safety information on the MaineDOT Crash Query website for the period of 2021-2023. Crash history is provided in Attachment 2A.

To evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:

2. A minimum of eight crashes over the same three-year period.

High Crash Locations:

Based on a review of the crash data information there are no high crash locations along the site frontage. To identify if there are locations that are close to becoming a HCL, we identified locations that meet one of the two criteria.

Table 1 – Safety Review Summary

Node(s)	Location	Number of Crashes	Critical Rate Factor
Intersection			
63225	Congress Street / Franklin Street NB	18	0.88
18519	Congress Street / Franklin Street SB	9	0.40
18517	Fore Street / Franklin Street	13	0.86
15397	Commercial Street / Franklin Street / Maine State Pier	11	0.78
18518	Franklin Street / Middle Street	8	0.43
Segment			

18517 to 18762	Fore Street from Franklin Street to Custom House Street	4	1.62
18814 to 19413	Middle Street from Pearl Street to Church Street	2	1.37
18518 to 18801	Middle Street from Franklin Street to Hampshire Street	2	1.02
18801 to 18817	Middle Street from Hampshire Street to India Street	5	2.06
18817 to 18818	Middle Street from India Street to Hancock Street	1	1.09
18800 to 18801	Hampshire Street from Newbury Street to Middle Street	1	2.12
18796 to 18804	India Street from East Federal Street to Newbury Street	4	2.20
18804 to 18817	India Street from Newbury Street to Middle Street	4	2.49

Based on the information in Table 1, there are no locations that are close to becoming a HCL.

Pedestrian & Bicycle crashes:

In addition to the high crash locations, GP reviewed available crash information for pedestrian or bicycle crashes within the immediate area for 2021-2023. There was a singular non-fatal bicycle crash recorded in the study area. The crash occurred at the intersection of Middle Street / Franklin Street on 8/10/2022 at 12:34 PM. There was a singular non-fatal pedestrian crash recorded in the study area. The crash occurred at the intersection of Middle Street / Franklin Street on 9/22/2022 at 11:00 AM.

2.B. Attachments

Attachment 2A – Safety Information

Attachment 2A

Safety Information

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Portland
Franklin St (Rte 1A)-Fore St-Commercial St-India St-Middle St area

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: 0001A	Start Node: 18518	Start Offset: 0	☑ Exclude First Node
	End Node: 63225	End Offset: 0	☐ Exclude Last Node
Route: 0001A	Start Node: 18517	Start Offset: 0	☑ Exclude First Node
	End Node: 18518	End Offset: 0	☑ Exclude Last Node
Route: 0001A	Start Node: 15397	Start Offset: 0	☑ Exclude First Node
	End Node: 18517	End Offset: 0	☑ Exclude Last Node
Route: 001AS	Start Node: 18519	Start Offset: 0	☐ Exclude First Node
	End Node: 18518	End Offset: 0	☑ Exclude Last Node
Route: 001AS	Start Node: 18518	Start Offset: 0	☑ Exclude First Node
	End Node: 18517	End Offset: 0	☑ Exclude Last Node
Route: 001AS	Start Node: 18517	Start Offset: 0	☑ Exclude First Node
	End Node: 15397	End Offset: 0	☑ Exclude Last Node
Route: 0560286	Start Node: 71558	Start Offset: 0	☐ Exclude First Node
	End Node: 18815	End Offset: 0	☐ Exclude Last Node
Route: 0561001	Start Node: 15397	Start Offset: 0	☐ Exclude First Node
	End Node: 18821	End Offset: 0	☐ Exclude Last Node
Route: 0560505	Start Node: 18814	Start Offset: 0	☐ Exclude First Node
	End Node: 18818	End Offset: 0	☐ Exclude Last Node
Route: 0560342	Start Node: 18801	Start Offset: 0	☑ Exclude First Node
	End Node: 18795	End Offset: 0	☑ Exclude Last Node
Route: 0561000	Start Node: 18796	Start Offset: 0	☑ Exclude First Node

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Portland
Franklin St (Rte 1A)-Fore St-Commercial St-India St-Middle St area

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

	End Node: 18817	End Offset: 0	☑ Exclude Last Node
Route: 0561000	Start Node: 18817	Start Offset: 0	☑ Exclude First Node
	End Node: 18822	End Offset: 0	☑ Exclude Last Node
Route: 0561000	Start Node: 18822	Start Offset: 0	☑ Exclude First Node
	End Node: 18821	End Offset: 0	☑ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
63225	0001A - 12.11	Int of CONGRESS ST FRANKLIN ST	9	18	0	1	3	4	10	44.4	5.671	1.06	1.21	0.88
												Statewide Crash Rate:	0.71	
18519	001AS - 1.94	Int of CONGRESS ST FRANKLIN ST	9	9	0	0	1	2	6	33.3	6.421	0.47	1.18	0.40
												Statewide Crash Rate:	0.71	
18822	0560286 - 0.45	Int of FORE ST INDIA ST	2	3	0	0	0	0	3	0.0	2.286	0.44	0.46	0.00
												Statewide Crash Rate:	0.15	
18815	0560286 - 0.69	Int of FORE ST PEARL ST	9	2	0	0	0	0	2	0.0	1.651	0.40	1.58	0.00
												Statewide Crash Rate:	0.71	
18762	0560286 - 0.66	Int of CUSTOM HOUSE ST FORE ST	2	0	0	0	0	0	0	0.0	1.464	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
18517	0560286 - 0.56	Int of FORE ST FRANKLIN ST	9	13	0	0	2	1	10	23.1	3.891	1.11	1.30	0.86
												Statewide Crash Rate:	0.71	
71558	0560286 - 0.37	Int of FORE ST HANCOCK ST	2	0	0	0	0	0	0	0.0	1.693	0.00	0.44	0.00
												Statewide Crash Rate:	0.13	
15397	0561001 - 0	Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER	9	11	0	1	3	1	6	45.5	3.521	1.04	1.33	0.78
												Statewide Crash Rate:	0.71	
18821	0561001 - 0.11	Int of COMMERCIAL ST INDIA ST THAMES ST	2	0	0	0	0	0	0	0.0	1.552	0.00	0.50	0.00
												Statewide Crash Rate:	0.15	
19413	0560505 - 0.20	Int of CHURCH ST MIDDLE ST	2	0	0	0	0	0	0	0.0	2.018	0.00	0.42	0.00
												Statewide Crash Rate:	0.13	
18801	0560505 - 0.31	Int of HAMPSHIRE ST MIDDLE ST	2	0	0	0	0	0	0	0.0	1.286	0.00	0.47	0.00
												Statewide Crash Rate:	0.13	
18518	0560505 - 0.27	Int of FRANKLIN ST MIDDLE ST	9	8	0	0	2	1	5	37.5	5.028	0.53	1.24	0.43
												Statewide Crash Rate:	0.71	
18814	0560505 - 0.16	Int of MIDDLE ST PEARL ST	9	3	0	0	0	1	2	33.3	2.750	0.36	1.41	0.00
												Statewide Crash Rate:	0.71	
18817	0560505 - 0.38	Int of INDIA ST MIDDLE ST	2	1	0	0	0	0	1	0.0	1.749	0.19	0.49	0.00
												Statewide Crash Rate:	0.15	
18818	0560505 - 0.46	Int of HANCOCK ST MIDDLE ST	2	0	0	0	0	0	0	0.0	0.393	0.00	0.56	0.00
												Statewide Crash Rate:	0.13	
18800	0560342 - 0.05	Int of HAMPSHIRE ST NEWBURY ST	2	0	0	0	0	0	0	0.0	0.278	0.00	0.55	0.00
												Statewide Crash Rate:	0.13	
18804	0561000 - 0.13	Int of INDIA ST NEWBURY ST	2	1	0	0	0	0	1	0.0	1.696	0.20	0.49	0.00
												Statewide Crash Rate:	0.15	
Study Years: 3.00		NODE TOTALS:		69	0	2	11	10	46	33.3	43.348	0.53	0.68	0.78

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
18518	63225	3121455	0 - 0.16	0001A - 11.95	0.16	2	2	0	0	0	0	2	0.0	0.00339	196.92	530.00	0.00
Int of FRANKLIN ST MIDDLE ST				US 1A											Statewide Crash Rate: 209.37		
18517	18518	3118954	0 - 0.06	0001A - 11.89	0.06	2	1	0	0	0	0	1	0.0	0.00083	401.07	755.31	0.00
Int of FORE ST FRANKLIN ST				US 1A											Statewide Crash Rate: 209.37		
15397	18517	3123025	0 - 0.08	0001A - 11.81	0.08	2	0	0	0	0	0	0	0.0	0.00071	0.00	782.36	0.00
Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER				US 1A											Statewide Crash Rate: 209.37		
18518	18519	3106668	0 - 0.16	001AS - 1.94	0.16	2	1	0	0	0	0	1	0.0	0.00324	102.88	536.00	0.00
Int of FRANKLIN ST MIDDLE ST				US 1AS											Statewide Crash Rate: 209.37		
18517	18518	3118912	0 - 0.06	001AS - 2.10	0.06	2	1	0	0	0	0	1	0.0	0.00091	364.74	738.86	0.00
Int of FORE ST FRANKLIN ST				US 1AS											Statewide Crash Rate: 209.37		
15397	18517	3100256	0 - 0.08	001AS - 2.16	0.08	2	0	0	0	0	0	0	0.0	0.00082	0.00	758.20	0.00
Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER				US 1AS											Statewide Crash Rate: 209.37		
71558	18822	4047689	0 - 0.08	0560286 - 0.37	0.08	2	1	0	0	0	0	1	0.0	0.00103	323.75	589.16	0.00
Int of FORE ST HANCOCK ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
18517	18822	3106667	0 - 0.11	0560286 - 0.45	0.11	2	1	0	0	0	0	1	0.0	0.00157	212.22	532.74	0.00
Int of FORE ST FRANKLIN ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
18517	18762	3106666	0 - 0.10	0560286 - 0.56	0.10	2	4	0	0	0	1	2	33.3	0.00153	869.55	535.92	1.62
Int of FORE ST FRANKLIN ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
18762	18815	3106796	0 - 0.03	0560286 - 0.66	0.03	2	0	0	0	0	0	0	0.0	0.00032	0.00	698.04	0.00
Int of CUSTOM HOUSE ST FORE ST				RD INV 05 60286											Statewide Crash Rate: 161.68		
15397	18821	3106035	0 - 0.11	0561001 - 0	0.11	2	1	0	0	0	0	1	0.0	0.00160	207.87	642.83	0.00
Int of COMMERCIAL ST FRANKLIN ST MAINE STATE PIER				RD INV 05 61001											Statewide Crash Rate: 209.37		
18814	19413	3117964	0 - 0.04	0560505 - 0.16	0.04	2	2	0	0	0	0	1	0.0	0.00078	853.50	624.95	1.37
Int of MIDDLE ST PEARL ST				RD INV 05 60505											Statewide Crash Rate: 161.68		
18518	19413	3106669	0 - 0.07	0560505 - 0.20	0.07	2	2	0	0	0	0	2	0.0	0.00140	476.58	548.16	0.00
Int of FRANKLIN ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 161.68		
18518	18801	5095055	0 - 0.04	0560505 - 0.27	0.04	2	2	0	0	1	0	1	50.0	0.00049	1348.16	1321.60	1.02
Int of FRANKLIN ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 370.79		
18801	18817	5095056	0 - 0.07	0560505 - 0.31	0.07	2	5	0	0	0	0	5	0.0	0.00066	2544.13	1235.29	2.06
Int of HAMPSHIRE ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 370.79		
18817	18818	194423	0 - 0.08	0560505 - 0.38	0.08	2	1	0	0	0	0	1	0.0	0.00020	1708.91	1566.88	1.09
Int of INDIA ST MIDDLE ST				RD INV 05 60505											Statewide Crash Rate: 370.79		
18800	18801	194396	0 - 0.05	0560342 - 0	0.05	2	1	0	0	0	0	1	0.0	0.00010	3326.93	1568.42	2.12
Int of HAMPSHIRE ST NEWBURY ST				RD INV 05 60342											Statewide Crash Rate: 370.79		
18795	18800	194387	0 - 0.05	0560342 - 0.05	0.05	2	0	0	0	0	0	0	0.0	0.00010	0.00	1555.44	0.00
Int of FEDERAL ST E HAMPSHIRE ST				RD INV 05 60342											Statewide Crash Rate: 370.79		
18796	18804	3130049	0 - 0.05	0561000 - 0.08	0.05	2	4	0	0	0	0	4	0.0	0.00079	1681.07	763.36	2.20
Int of FEDERAL ST E INDIA ST				RD INV 05 61000											Statewide Crash Rate: 209.37		

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
18804	18817	3122291	0 - 0.05	0561000 - 0.13	0.05	2	4	0	0	0	0	4	0.0	0.00068	1963.43	789.75	2.49
Int of INDIA ST	NEWBURY ST			RD INV 05 61000											Statewide Crash Rate: 209.37		
18817	18822	3106813	0 - 0.05	0561000 - 0.18	0.05	2	1	0	0	0	0	1	0.0	0.00048	694.74	844.46	0.00
Int of INDIA ST	MIDDLE ST			RD INV 05 61000											Statewide Crash Rate: 209.37		
18821	18822	3106816	0 - 0.06	0561000 - 0.23	0.06	2	0	0	0	0	0	0	0.0	0.00054	0.00	827.16	0.00
Int of COMMERCIAL ST	INDIA ST	THAMES ST		RD INV 05 61000											Statewide Crash Rate: 209.37		
Study Years: 3.00				Section Totals:	1.64		34	0	0	1	1	30	5.9	0.02216	511.35	342.29	1.49
				Grand Totals:	1.64		103	0	2	12	11	76	24.3	0.02216	1549.08	480.30	3.23

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
18518	63225	3121455	0 - 0.16	0001A - 11.95	2	0	0	0	0	2	2022-17082	06/18/2022	11.98	PD
											2023-25652	09/03/2023	12.10	PD
18517	18518	3118954	0 - 0.06	0001A - 11.89	1	0	0	0	0	1	2023-38393	12/15/2023	11.94	PD
15397	18517	3123025	0 - 0.08	0001A - 11.81	0	0	0	0	0	0				
18518	18519	3106668	0 - 0.16	001AS - 1.94	1	0	0	0	0	1	2023-21756	07/27/2023	1.96	PD
18517	18518	3118912	0 - 0.06	001AS - 2.10	1	0	0	0	0	1	2023-17431	06/21/2023	2.13	PD
15397	18517	3100256	0 - 0.08	001AS - 2.16	0	0	0	0	0	0				
71558	18822	4047689	0 - 0.08	0560286 - 0.37	1	0	0	0	0	1	2023-24438	08/24/2023	0.40	PD
18517	18822	3106667	0 - 0.11	0560286 - 0.45	1	0	0	0	0	1	2021-13209	05/31/2021	0.54	PD
18517	18762	3106666	0 - 0.10	0560286 - 0.56	4	0	0	0	1	2	2022-25797	09/10/2022	0.59	C
											2023-3388	02/01/2023	0.60	
											2023-14989	05/25/2023	0.62	PD
											2023-20933	07/22/2023	0.64	PD
18762	18815	3106796	0 - 0.03	0560286 - 0.66	0	0	0	0	0	0				
15397	18821	3106035	0 - 0.11	0561001 - 0	1	0	0	0	0	1	2022-35685	12/02/2022	0.03	PD
18814	19413	3117964	0 - 0.04	0560505 - 0.16	2	0	0	0	0	1	2023-38654	12/16/2023	0.18	PD
											2022-36497	12/08/2022	0.19	
18518	19413	3106669	0 - 0.07	0560505 - 0.20	2	0	0	0	0	2	2023-5166	02/16/2023	0.23	PD
											2023-14532	03/29/2023	0.24	PD
18518	18801	5095055	0 - 0.04	0560505 - 0.27	2	0	0	1	0	1	2022-28415	09/22/2022	0.29	B
											2023-18914	07/05/2023	0.30	PD
18801	18817	5095056	0 - 0.07	0560505 - 0.31	5	0	0	0	0	5	2023-5617	02/21/2023	0.34	PD
											2021-17737	07/13/2021	0.35	PD
											2023-27254	09/20/2023	0.36	PD
											2023-3516	02/02/2023	0.37	PD
											2023-31926	11/02/2023	0.37	PD
18817	18818	194423	0 - 0.08	0560505 - 0.38	1	0	0	0	0	1	2021-16500	07/01/2021	0.44	PD
18800	18801	194396	0 - 0.05	0560342 - 0	1	0	0	0	0	1	2022-32244	11/07/2022	0.02	PD
18795	18800	194387	0 - 0.05	0560342 - 0.05	0	0	0	0	0	0				
18796	18804	3130049	0 - 0.05	0561000 - 0.08	4	0	0	0	0	4	2022-2030	01/21/2022	0.09	PD
											2022-3472	02/01/2022	0.10	PD
											2021-14244	06/09/2021	0.11	PD
											2023-32526	11/07/2023	0.11	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
18804	18817	3122291	0 - 0.05	0561000 - 0.13	4	0	0	0	0	4	2022-23348	08/18/2022	0.14	PD
											2022-14108	05/20/2022	0.15	PD
											2023-20660	07/20/2023	0.16	PD
											2023-22046	08/02/2023	0.17	PD
18817	18822	3106813	0 - 0.05	0561000 - 0.18	1	0	0	0	0	1	2022-13782	05/18/2022	0.21	PD
18821	18822	3106816	0 - 0.06	0561000 - 0.23	0	0	0	0	0	0				
				Totals:	34	0	0	1	1	30				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	2	1	0	0	11
MONDAY	2	0	0	0	0	0	0	0	2	0	0	2	0	2	0	1	0	0	1	0	1	0	1	0	0	12
TUESDAY	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1	1	1	0	0	1	0	0	1	0	0	9
WEDNESDAY	0	0	0	1	0	0	0	1	1	1	1	2	2	0	1	1	1	1	2	1	2	0	0	0	0	18
THURSDAY	0	0	1	0	0	0	0	1	0	2	0	1	1	3	0	2	1	1	2	3	1	1	0	0	0	20
FRIDAY	0	1	0	0	0	0	0	2	1	0	2	1	2	1	0	0	2	1	1	1	2	1	0	2	0	20
SATURDAY	0	0	0	0	0	0	0	1	0	2	1	1	0	0	0	2	2	1	2	0	0	0	1	0	0	13
Totals	3	1	2	1	0	0	0	5	5	6	4	8	8	6	2	9	8	4	8	6	7	4	4	2	0	103

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	112
2-(Sport) Utility Vehicle	54
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	2
5-Pickup	15
6-Motor Home	0
7-School Bus	0
8-Transit Bus	1
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	1
12-Moped	1
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	1
17-Medium/Heavy Trucks (More than 10,000 lbs)	6
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	6

Unit Type	Total
23-Bicyclist	3
24-Witness	16
25-Other	5
26-Construction	1
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	225

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	23	67	2	0	0	0	92
Ran Off Roadway	2	0	0	0	0	0	2
Failed to Yield Right-of-Way	27	5	0	0	0	0	32
Ran Red Light	8	0	0	0	0	0	8
Ran Stop Sign	1	0	0	0	0	0	1
Disregarded Other Traffic Sign	0	1	0	0	0	0	1
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	7	0	0	0	0	0	7
Improper Backing	3	0	0	0	0	0	3
Improper Passing	0	0	0	0	0	0	0
Wrong Way	1	0	0	0	0	0	1
Followed Too Closely	6	3	0	0	0	0	9
Failed to Keep in Proper Lane	8	0	0	0	0	0	8
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	2	0	0	0	0	0	2
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	1	0	0	0	0	1
Other Contributing Action	5	0	0	0	0	0	5
Unknown	3	3	0	0	0	0	6
Total	97	80	2	0	0	0	179

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	88	80	2	0	0	9	179
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	7	0	0	0	0	0	7
Other	2	0	0	0	0	0	2
Total	97	80	2	0	0	9	188

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	1	0	0	0	0	1
10-14	0	0	0	0	0	0
15-19	9	0	0	0	0	9
20-24	24	0	0	0	0	24
25-29	23	0	0	0	0	23
30-39	38	0	0	0	0	38
40-49	23	0	0	0	0	23
50-59	29	0	0	0	0	29
60-69	23	0	0	0	0	23
70-79	10	0	0	0	0	10
80-Over	3	0	0	0	0	3
Unknown	17	3	0	6	0	26
Total	200	3	0	6	0	209

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	3	2	1	6
FEBRUARY	2	4	5	11
MARCH	0	1	2	3
APRIL	2	2	4	8
MAY	2	4	5	11
JUNE	5	5	4	14
JULY	6	1	6	13
AUGUST	1	5	2	8
SEPTEMBER	1	2	4	7
OCTOBER	1	3	0	4
NOVEMBER	1	4	6	11
DECEMBER	1	4	2	7
Total	25	37	41	103

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	25	2	0	24	0	1	0	0	0	0	0	0	0	0	52
Head-on - Sideswipe	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Intersection Movement	0	0	0	36	0	3	0	0	0	0	0	0	0	0	39
Pedestrians	1	0	0	4	0	0	0	0	0	0	0	0	0	0	5
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	28	2	0	69	0	4	0	0	0	0	0	0	0	0	103

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	24	0	0	0	0	0	0	0	0	0	2	26
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	41	0	0	0	0	0	1	0	0	0	2	44
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	11	0	0	0	0	0	0	0	0	0	1	12
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	3	3
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	1	1
Daylight	0	0	0	0	0	0	0	0	0	0	10	10
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	1	0	0	1	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	79	0	0	0	0	0	1	2	0	0	21	103

Section 3

Development Entrances and Exits

Section 3
Development Entrances and Exits

3.A. Entrance and Exit Locations

The site is currently occupied by an existing parking lot with frontage along Fore Street to the south, India Street to the east, and Middle Street to the north. The site is proposed to be accessed via one shared existing full movement entrance on Fore Street; and approximately three valet spaces along the site frontage on Fore Street. The entrance is located approximately 210 feet northeast of the existing signalized intersection with Fore Street / Franklin Street. The entrance is located approximately 315 feet southwest of the existing unsignalized intersection of Fore Street / India Street.

There are sidewalks provided on both sides of Fore Street, both sides of India Street, and both sides of Middle Street.

3.B. Intersection Information

As mentioned above, access to the site is anticipated to be from an existing full movement curb cut on Fore Street; along with approximately three valet spaces along the site frontage on Fore Street. The speed limit on Fore Street along the site frontage is 25 mph.

3.C. Sight Distances

Attachment 1A of Section 1 shows the proposed site plan, there are no detailed entrance dimensions as the existing driveway will not be altered. To evaluate available sight distances for the existing entrance, Gorrill Palmer completed a field review on 6/27/2024. The City of Portland and MaineDOT use the same standards for sight distances. Table 1 below presents the sight distance standards for MaineDOT.

Table 1 – Standards for Sight Distance

Speed Limit (mph)	Passenger Vehicle – MaineDOT (ft)
25	200
30	250
35	305
40	360
45	425
50	495

MaineDOT and the City of Portland sight distance evaluation methodology is as follows:

Driveway Observation Point:	10 feet from traveled way
Height of Eye at Driveway:	3.5 feet above the ground
Height of Approaching vehicle:	4.25 feet above the ground

Based on the MaineDOT Map Viewer, the speed limit for Fore Street along the site frontage is 25 mph. For the sight distance evaluation, the posted speed limit of 25 mph was used.

Table 2 summarizes the measured sight distance at the existing entrance location based on the type of vehicle it is expected to accommodate.

Table 2 – Sight Distance Summary

Driveway	Passenger Vehicle Required (feet)	Observed Looking Left* (feet)	Observed Looking Right* (feet)
Full Movement Entrance	200	313 (To Intersection)	210 (To Intersection)

*Assumes not blocked by parked cars

Both sight distances could not be confirmed due to parked vehicles along the site frontage. It is our opinion that without parked vehicles the sight distance would exceed requirements. To improve sight distance for this entrance on-street parking in the immediate area would need to be removed; however, that is something the city would need to do if desired.

3.D. Entrance/Exit Requirements

The following information is based on the proposed site plan provided in Section Attachment 1A.

1. The site plan is provided in Attachment 1A of Section 1. As can be seen from the site plan, the MaineDOT minimum corner clearance of 100 feet from an unsignalized intersection is maintained.

2. As identified in the previous Section, the available sight distances for the proposed driveway are expected to exceed requirements if vehicles don't park directly next to the full movement driveway. As previously identified, there are paved sidewalk on Fore Street, Middle Street, and India Street along the site frontage.

3. The access is existing.

4. The site access is expected to be maintained. The driveway is assumed to meet grading requirements.

5. The existing entrance is not proposed to be altered; this is a full movement driveway with entering/exiting at the same location.

6. No separation islands are proposed.

7. The proposed project will not change the sidewalks or curbing as the existing entrance will be used.

8. Due to the existing driveway being utilized it is our understanding that no significant impacts are expected to drainage along the site frontage.

Additional Information

Capacity Analysis

Although not required for TMP sections 1-6, GP completed capacity analyses for the two unsignalized intersections of Fore Street / India Street and Middle Street / India Street. The capacity analysis has been completed using the Synchro/SimTraffic computer analysis software (Version 12). Hard copies of the capacity analysis are provided in Attachment 3B. Level of service rankings are similar to the academic rankings system where an 'A' is good with little control delay and an 'F' represents poor traffic conditions. If the level of service falls below a 'D' an evaluation should be made to determine if mitigation is warranted. The capacity analysis was completed for PM peak hours assuming full occupancy of the site and using the existing geometry.

The following Table 3 summarizes the level of service for an unsignalized intersection.

Table 3 – Unsignalized Intersection

Level of Service	Control Delay per Vehicle (s)
A	Less than 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The following Table 4 summarizes the results of the capacity analysis of 2027 pre and postdevelopment conditions with both level of service and delay (rounded up to the nearest second) shown. The results represent the average of five SimTraffic runs.

Table 4 – Capacity Analysis

Intersection	Existing PM (delay/LOS)		Proposed PM (delay/LOS)	
Fore Street / India Street				
Fore Street EB LTR	10	A	12	B
Fore Street WB LTR	9	A	10	A
India Street SEB LTR	8	A	8	A
India Street NWB LTR	7	A	8	A
India Street / Middle Street				
India Street SEB LTR	6	A	6	A
India Street NWB LTR	7	A	7	A
Middle Street NEB LTR	6	A	6	A
Middle Street SWB LTR	6	A	6	A

NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
L = Left, T = Thru, R = Right

As can be seen from the results in Table 4, the intersections are forecasted to operate at an acceptable LOS for all approaches.

3.E Attachments

Attachment 3A – Capacity Analysis

Attachment 3A

Capacity Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	5:00	5:00	5:00	5:00	5:00	5:00
End Time	6:05	6:05	6:05	6:05	6:05	6:05
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1431	1509	1497	1464	1447	1469
Vehs Exited	1430	1514	1502	1456	1448	1469
Starting Vehs	11	17	20	10	15	14
Ending Vehs	12	12	15	18	14	11
Travel Distance (mi)	256	269	266	261	258	262
Travel Time (hr)	14.7	15.9	15.7	15.2	14.9	15.3
Total Delay (hr)	4.3	4.9	4.9	4.6	4.4	4.6
Total Stops	1787	1929	1857	1819	1819	1841
Fuel Used (gal)	12.4	13.3	12.9	12.8	12.3	12.7

Interval #0 Information Seeding

Start Time	5:00
End Time	5:05
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:05
End Time	6:05
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1431	1509	1497	1464	1447	1469
Vehs Exited	1430	1514	1502	1456	1448	1469
Starting Vehs	11	17	20	10	15	14
Ending Vehs	12	12	15	18	14	11
Travel Distance (mi)	256	269	266	261	258	262
Travel Time (hr)	14.7	15.9	15.7	15.2	14.9	15.3
Total Delay (hr)	4.3	4.9	4.9	4.6	4.4	4.6
Total Stops	1787	1929	1857	1819	1819	1841
Fuel Used (gal)	12.4	13.3	12.9	12.8	12.3	12.7

2: India Street & Fore Street Performance by lane

Lane	EB	WB	SE	NW	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.2
Total Del/Veh (s)	9.8	9.0	7.7	6.8	8.7

6: Middle Street & India Street Performance by lane

Lane	SE	NW	NE	SW	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.2
Total Del/Veh (s)	5.9	6.7	5.4	5.9	6.0

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	11.0

Intersection: 2: India Street & Fore Street

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	123	116	84	93
Average Queue (ft)	63	55	41	41
95th Queue (ft)	105	99	67	68
Link Distance (ft)	471	482	190	258
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Middle Street & India Street

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	82	66	87	103
Average Queue (ft)	49	37	42	51
95th Queue (ft)	73	55	68	80
Link Distance (ft)	223	190	478	371
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	5:00	5:00	5:00	5:00	5:00	5:00
End Time	6:05	6:05	6:05	6:05	6:05	6:05
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1581	1679	1589	1546	1479	1573
Vehs Exited	1579	1668	1597	1546	1473	1572
Starting Vehs	16	12	20	16	12	15
Ending Vehs	18	23	12	16	18	13
Travel Distance (mi)	285	302	286	279	264	283
Travel Time (hr)	16.8	18.8	16.9	16.4	15.4	16.9
Total Delay (hr)	5.1	6.5	5.2	5.1	4.6	5.3
Total Stops	2003	2118	2010	1934	1854	1985
Fuel Used (gal)	13.9	15.0	13.9	13.6	12.8	13.9

Interval #0 Information Seeding

Start Time	5:00
End Time	5:05
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:05
End Time	6:05
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1581	1679	1589	1546	1479	1573
Vehs Exited	1579	1668	1597	1546	1473	1572
Starting Vehs	16	12	20	16	12	15
Ending Vehs	18	23	12	16	18	13
Travel Distance (mi)	285	302	286	279	264	283
Travel Time (hr)	16.8	18.8	16.9	16.4	15.4	16.9
Total Delay (hr)	5.1	6.5	5.2	5.1	4.6	5.3
Total Stops	2003	2118	2010	1934	1854	1985
Fuel Used (gal)	13.9	15.0	13.9	13.6	12.8	13.9

2: India Street & Fore Street Performance by lane

Lane	EB	WB	SE	NW	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.3
Total Del/Veh (s)	11.8	9.6	7.7	7.1	9.7

6: Middle Street & India Street Performance by lane

Lane	SE	NW	NE	SW	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.2
Total Del/Veh (s)	5.9	6.6	5.3	6.0	6.0

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	11.8

Intersection: 2: India Street & Fore Street

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	192	150	76	80
Average Queue (ft)	79	60	44	40
95th Queue (ft)	149	113	69	68
Link Distance (ft)	471	482	190	258
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Middle Street & India Street

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	103	62	78	91
Average Queue (ft)	47	38	43	51
95th Queue (ft)	77	57	67	77
Link Distance (ft)	223	190	478	371
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Section 4

Title, Right, or Interest

Section 4
Title, Right, or Interest

4.A. Evidence of Title, Right, or Interest

A copy of the Deed is included in Attachment 4A.

4.B. Attachments

Attachment 4A – Deed

Attachment 4A

Deed

QUITCLAIM DEED WITH COVENANT
(Maine Statutory Short Form)

MAINE REAL ESTATE TAX PAID

FORE INDIA MIDDLE, LLC, a Maine limited liability company, whose mailing address is 11 Corporate Drive, Belmont, New Hampshire 03220, for consideration paid, grants to CHATHAM PORTLAND DT LLC, a Delaware limited liability company, whose mailing address is c/o Chatham Lodging Trust, 50 Cocoanut Row, Suite 211, Palm Beach, Florida 33480, with Quitclaim Covenant, a certain lot or parcel of land, with any buildings and improvements thereon, located on Fore Street, India Street and Middle Street in the City of Portland, County of Cumberland, and State of Maine, being more particularly bounded and described as follows:

Lot 2 as shown on a subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194 (the "Subdivision Plan").

Lot 2 is hereby conveyed together with and subject to the rights and easements granted by Old Port Hospitality, LLC to Fore India Middle, LLC and by Fore India Middle, LLC to Old Port Hospitality, LLC as set forth in an Amendment of Deed, Termination of Rights and Easements and Grant of Rights and Easements by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 181, subject to the terms and conditions with respect to said rights and easements as set forth therein.

Old Port Hospitality, LLC created a condominium on Lot 1 shown on the Subdivision Plan known as the Hotel, Restaurant and Portside Residences Condominium (the "Condominium") pursuant to a Declaration of Condominium dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 188, as amended by Amendment Number One thereto dated June 3, 2011, and recorded in the Cumberland County Registry of Deeds in Book 28833, Page 126 (the "Declaration") that includes a unit in which is operated as a restaurant facility, which unit is referred to in the Declaration as the "Restaurant Unit". Lot 2 is hereby further conveyed subject to the restriction that for so long as a full-service restaurant is being operated in the Restaurant Unit, no full-service restaurant containing three thousand five hundred (3,500) square feet or more of public space may be operated on Lot 2, provided, however, that this restriction shall, in any event, expire and be of no further force and effect on the fifteenth (15^{th}) anniversary of the date of Old Port Hospitality, LLC's initial conveyance of the Restaurant Unit to a third party. This restriction shall be enforceable by Old Port Hospitality, LLC, its successors and assigns, and the owner of the Restaurant Unit, and not by the owner of any other units in the Condominium. The Restaurant Unit was conveyed by Old Port Hospitality, LLC to Bass Ackwards Realty, LLC by Deed dated January 25, 2011, and recorded in the Cumberland County Registry of Deeds in Book 28563, Page 264, together with the benefit of said restriction.

Lot 2 is further conveyed together with and subject to all rights, easements, terms, covenants, conditions, obligations and agreements set forth in a certain Revised and Restated Parking Agreement by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 242 (the "Parking Agreement"), relating to the access and use of a Parking Lot comprised of ninety (90) parking spaces

located on Lot 2, including, without limitation, the perpetual, exclusive and appurtenant right and easement to access and use all of the parking spaces covered by such Parking Agreement with the exception of the twelve (12) parking spaces granted as appurtenant to the Residences Unit of the Condominium, as set forth in a Deed of the Residence Unit from Old Port Hospitality, LLC to Portside Residences, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 251.

Chatham Portland DT LLC, by its acceptance of this Deed, hereby assumes all obligations of Fore India Middle, LLC under the Parking Agreement.

The premises conveyed herein are further subject to the following matters of record:

1. Rights and easements for sewer purposes granted by the Slum Clearance and Redevelopment Authority to the City of Portland in an instrument dated October 8, 1958 and recorded in the Cumberland County Registry of Deeds in Book 2438, Page 258, as relocated pursuant to an Easement Relocation Agreement by and between Old Port Hospitality, LLC and the City of Portland dated April 28, 2010 and recorded in the Cumberland County Registry of Deeds in Book 27742, Page 26, further reference being made to a Letter from David Margolis-Pineo, Deputy City Engineer of the Public Services Department, dated August 25, 2010 and recorded in the Cumberland County Registry of Deeds in Book 28028, Page 257;

2. Terms and conditions of a No Further Action Assurance Letter from the Maine Department of Environmental Protection to Jordan's Meats dated April 17, 2003 and recorded in the Cumberland County Registry of Deeds in Book 19244, Page 271;

3. Restrictions, covenants and conditions set forth in a Deed from Zemco Industries, Inc. to PME I, Limited Partnership dated September 23, 2005 and recorded in the Cumberland County Registry of Deeds in Book 23199, Page 107, and repeated in a Deed from said PME I, Limited Partnership to Old Port Hospitality, LLC dated January 29, 2010 and recorded in the Cumberland County Registry of Deeds in Book 27567, Page 40;

4. Matters and General Notes set forth on subdivision plan entitled "Subdivision Plan of Hotel, Restaurant & Portside Residences, 207 & 209 Fore Street, Portland, Maine" dated February 8, 2010, as most recently revised on April 23, 2010, approved by the City of Portland Planning Board on April 13, 2010, and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 194;

5. Underground Line Easement granted by Old Port Hospitality, LLC to Central Maine Power Company dated July 21, 2010 and recorded in the Cumberland County Registry of Deeds in Book 28094, Page 298;

6. Maine Department of Environmental Protection Commissioner's Certification dated June 27, 2011 and recorded in the Cumberland County Registry of Deeds in Book 28791, Page 132, as affected by a Commissioner's Certification Amended to Reflect Re-Development Plans Dated August 20, 2012, dated October 26, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30111, Page 193;

7. Declaration of Environmental Covenant by and between Fore India Middle, LLC and the Maine Department of Environmental Protection dated May 24, 2011 and recorded in the Cumberland County Registry of Deeds in Book 28791, Page 136;

8. Agreement Regarding Wall and Window With Respect to Unit One in Portside Condominium, 207 Fore Street, Portland, Maine, by and between Fore India Middle, LLC and Paula Foley-Stelmack and Mark Stelmack dated September 29, 2011 and recorded in the Cumberland County Registry of Deeds in Book 29001, Page 234; and

9. Certificate of Subdivision Waiver Approval by the City of Portland in favor of Fore India Middle, LLC dated October 18, 2012 and recorded in the Cumberland County Registry of Deeds in Book 30102, Page 285.

Reference is made to a Quitclaim Deed With Covenant from Old Port Hospitality, LLC to Fore India Middle, LLC dated June 11, 2010, and recorded in the Cumberland County Registry of Deeds in Book 27850, Page 63, as amended by said Amendment of Deed, Termination of Rights and Easements and Grant of Rights and Easements by and between Old Port Hospitality, LLC and Fore India Middle, LLC dated August 23, 2010, and recorded in the Cumberland County Registry of Deeds in Book 28022, Page 181, for Fore India Middle, LLC's source of title to the premises conveyed herein.

IN WITNESS WHEREOF, FORE INDIA MIDDLE, LLC has caused this instrument to be executed by Gregory R. Kirsch, its Manager, hereunto duly authorized, this 21ST day of December, 2012.

WITNESS:

FORE INDIA MIDDLE, LLC

By: _____
Gregory R. Kirsch
Its Manager

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

December 21, 2012

Personally appeared the above named Gregory R. Kirsch, Manager of FORE INDIA MIDDLE, LLC, and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said FORE INDIA MIDDLE, LLC.

Before me,

_____
~~Notary Public~~
Attorney At Law
Richard A. Shinay
Print name

~~My commission expires~~_____

Received
Recorded Register of Deeds
Dec 28,2012 09:30:33A
Cumberland County
Pamela E. Lovley

Section 5

Public or Private Rights-of-Way

Section 5
Public or Private Right-of-Way

5.A. Public or Private Rights-of-Way

Access to the site will be from Fore Street via an existing, full movement entrance. The location of the entrance can be seen on the Site Plan included in Section 1, Attachment 1A. No other right-of-ways are proposed.

Section 6

Schedule

Section 6
Schedule

6.A. Schedule

The proposed development is expected to begin construction in the summer of 2025 and be ready for operations by summer of 2027.



INDEX

PLANS————**A1.01-A1.05**

ELEVATIONS——**A2.01-A2.04**

MATERIALS——**A2.05**

RENDERINGS——**A2.06-A2.12**

SUMMARY

- **PROPOSED 5-STORY MIXED-USE HOTEL & COMMERCIAL RETAIL BUILDING WITH ASSOCIATED ON-SITE VALET PARKING. THE HOTEL LOBBY IS ACCESSED FROM FORE STREET, WITH RETAIL SPACES ACCESSED FROM INDIA + MIDDLE STREETS. MID-BLOCK PERMEABILITY CONNECTING MIDDLE + FORE STREETS IS PROVIDED BETWEEN THE EXISTING HOTEL AND THE PROPOSED BUILDING.**

SITE DEVELOPMENT PLANS

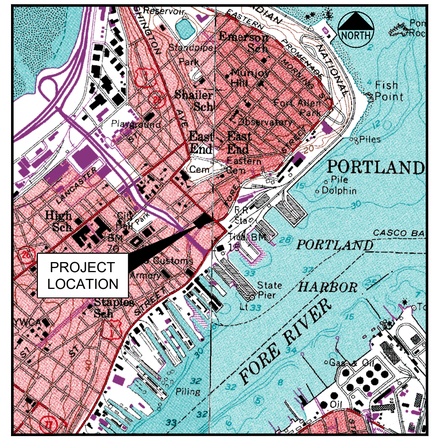
FOR A COMMERCIAL MIXED USE/HOTEL BUILDING ON

LOT 2 - 203 FORE STREET PROPERTY

PORTLAND, MAINE

MAY 2025

PERMITTING SET



LOCATION MAP
N.T.S.

OWNER/APPLICANT

TML 29-L-003
CHATHAM PORTLAND DT LLC
222 LAKEVIEW AVENUE SUITE 200
WEST PALM BEACH, FL 33401
C.C.R.D. BOOK 30252 PAGE 341

TAX MAP - BLOCK - LOT (ADDRESS)

MAP 29 - BLOCK L - LOT 3 (203 FORE STREET)

INDEX

C-1.0 COVER SHEET
C-1.1 GENERAL NOTES & LEGEND
C-2.0 BOUNDARY & TOPOGRAPHIC SURVEY - BY OWEN HASKELL
C-2.1 EXISTING CONDITIONS & DEMOLITION PLAN
*C-2.2 CONSTRUCTION MANAGEMENT PLAN (BY PROCON)
C-2.3 ORIGINAL SUBDIVISION PLAN
C-3.0 SITE LAYOUT PLAN
C-3.1 PARKING PLAN
C-3.2 OVERHEAD WIRE SETBACK PLAN
C-4.0 GRADING, DRAINAGE & EROSION CONTROL PLAN
C-4.1 STORMWATER MANAGEMENT PLAN & DETAILS
C-4.2 FOCALPOINT DETAILS
C-4.3 5 SCALE GRADING ENLARGEMENT
C-5.0 UTILITY PLAN
C-6.0 SITE DETAILS
C-6.1 SITE DETAILS
C-6.2 SITE & MISCELLANEOUS DETAILS
C-6.3 STORM DRAIN & UTILITY DETAILS
C-6.4 UTILITY & MISCELLANEOUS DETAILS

*NOT INCLUDED IN SUBMISSION

UTILITIES

WATER:
PORTLAND WATER DISTRICT
22 DOUGLASS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104
207.774.5961
CONTACT: ROBERT BARTELS

SEWER / STREETS:
CITY OF PORTLAND
PUBLIC SERVICES DIVISION
258 CANCO ROAD
PORTLAND, MAINE 04103
207.874.8846
CONTACT: BRAD ROLAND, P.E. - SENIOR PROJECT ENGINEER

ELECTRIC:
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
207.842.2367
CONTACT: JAMIE COUGH
jcough@cmpco.com
207.415.4300

TELEPHONE:
CONSOLIDATED COMMUNICATIONS
5 DAVIS HILL FARM ROAD
PORTLAND, MAINE 04103
207.797.1866
CONTACT: PATRICK MORRISON

NATURAL GAS:
NORTHERN UTILITIES / UNITIL
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
207.541.2570
CONTACT: SCOTT CARPENTER

CABLE:
TIME WARNER CABLE
115 JOHNSON ROAD
PORTLAND, MAINE 04102
207.253.2324
CONTACT: MARK PELLETIER

DIG SAFE:
CALL BEFORE YOU DIG
888.344.7233

PERMITS / APPROVALS

TYPE:	GOVERNING BODY:	STATUS/DATE ISSUED:
LOCAL		
SITE PLAN / MAJOR SITE PLAN APPROVAL:	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL, CONGRESS STREET PORTLAND, MAINE 04103 207.874.8722	MAJOR SITE PLAN APPLICATION SUBMITTED: 2024.08.02 WORKSHOP HELD: 2024.12.10 FINAL APPROVAL: T.B.D.
SUBDIVISION:		PREVIOUSLY APPROVED AS LOT 2 - SEE PLAN IN C.C.R.D. PLAN BOOK 210, PAGE 194
BUILDING PERMIT:	CITY OF PORTLAND CODE ENFORCEMENT OFFICE CITY HALL, CONGRESS STREET PORTLAND, MAINE 04103 207.874.8900	TO BE FILED BY BUILDING CONTRACTOR
UTILITY / STREET OPENING PERMITS:	CITY OF PORTLAND PUBLIC SERVICES DIVISION 250 CANCO ROAD PORTLAND, ME 04103 207.874.8801	TO BE FILED PRIOR TO CONSTRUCTION
TRAFFIC MOVEMENT PERMIT:	CITY OF PORTLAND PLANNING AUTHORITY (DELEGATED) CITY HALL, CONGRESS STREET PORTLAND, MAINE 04103	SCOPING MEETING: 2024.09.03 SUBMITTED: 2025.02.21
STATE		
VOLUNTARY RESPONSE ACTION PLAN	MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION 312 CANCO ROAD, #4 PORTLAND, MAINE 04103 207.822.6300	SEE CERTIFICATION OF COMPLETION C.C.R.D. BOOK 28791, PAGE 132 SEE DECLARATION OF ENVIRONMENTAL COVENANT C.C.R.D. BOOK 28791, PAGE 136

CONSULTANT LIST

CIVIL ENGINEER:
GORRILL PALMER
300 SOUTHBOROUGH DRIVE, SUITE 200
SOUTH PORTLAND, MAINE 04106
207.772.2515
ATTN: STEVE BUSHEY
SBUSHEY@GORRILLPALMER.COM
KBOURASSA@GORRILLPALMER.COM

SURVEYOR:
OWEN HASKELL, INC.
390 US ROUTE 1, UNIT 10
FALMOUTH, MAINE 04105
207.774.0424
ATTN: SAM GLIDDEN

GEOTECHNICAL ENGINEER:
S.W. COLE ENGINEERING
286 PORTLAND ROAD
GRAY, ME 04039
207.657.2866
AATN: EVAN WALKER

LANDSCAPE ARCHITECT:
CARROLL ASSOCIATES
217 COMMERCIAL STREET, SUITE 200
PORTLAND, MAINE 04101
207.772.1552
ATTN: PATRICK CARROLL
pcarroll@carroll-assoc.com

TRAFFIC ENGINEER / TDM CONSULTANT:
GORRILL PALMER
300 SOUTHBOROUGH DRIVE, SUITE 200
SOUTH PORTLAND, MAINE 04106
207.772.2515
ATTN: RANDY DUNTON
RDUNTON@GORRILLPALMER.COM

DESIGN BUILD LEADER:
PROCON, INC.
1359 HOOKSETT ROAD
HOOKSETT, NH 03108
603.578.2159
ATTN: KENT BEIRNE, AIA
VICE PRESIDENT ARCHITECTURE
kbeirne@proconinc.com

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MAINE AND THAT I AM COMPETENT TO PREPARE THIS DOCUMENT.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

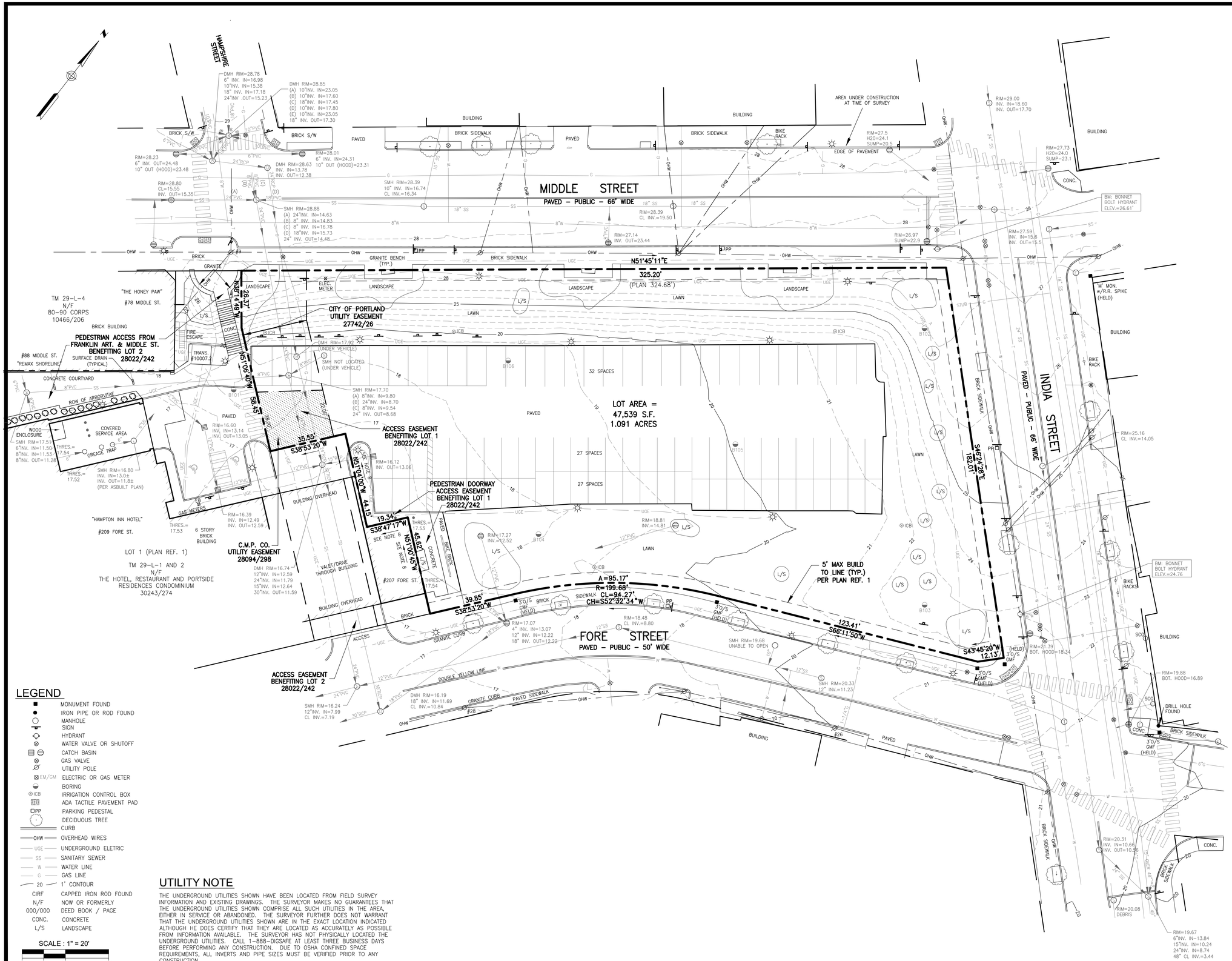
Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-COVER.dwg		

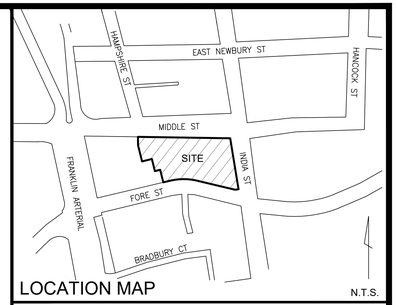
This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: COVER SHEET
Project: Home 2 Suites – 203 Fore Street, Portland, Maine
Client: Chatham Portland DT, LLC c/o Chatham Lodging Trust, 222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401
Drawing No. C-1.0

U:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-COVER.dwg 5/30/2025 2:36 PM





LOCATION MAP N.T.S.

PLAN REFERENCES

1. "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.

2. "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC.," BY SEBAGO TECHNICS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.

3 "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06-22-10 AND REVISED THROUGH 9-09-10. RECORDED IN PLAN BOOK 210 PAGE 329.

4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND, COUNTY, MAINE MADE FOR GORRILL PALMER" MAY 30, 2018 BY OWEN HASKELL, INC.

GENERAL NOTES

1. OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.

2. LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.

3. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
N:301390.32	N:301536.149
E:2931443.86	E:2931222.69

4. USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

6. PER PLAN REFRENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

SAMUEL D. GLIDDEN, PLS #2520

5/30/2018
DATE

STATE OF MAINE · SAMUEL D. GLIDDEN · 2520 · PROFESSIONAL LAND SURVEYOR

LEGEND

- MONUMENT FOUND
- IRON PIPE OR ROD FOUND
- MANHOLE
- SIGN
- HYDRANT
- WATER VALVE OR SHUTOFF
- CATCH BASIN
- GAS VALVE
- UTILITY POLE
- EM/GM ELECTRIC OR GAS METER
- BORING
- ICB IRRIGATION CONTROL BOX
- ADA TACTILE PAVEMENT PAD
- PP PARKING PEDESTAL
- DECIDUOUS TREE
- CURB
- OHW OVERHEAD WIRES
- UGE UNDERGROUND ELETRIC
- SS SANITARY SEWER
- W WATER LINE
- G GAS LINE
- 20 1' CONTOUR
- CIRF CAPPED IRON ROD FOUND
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE
- CONC. CONCRETE
- L/S LANDSCAPE

SCALE : 1" = 20'

0' 10' 20' 40'

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

Boundary & Topographic Survey

At

203 Fore Street, Portland, Maine

Made for

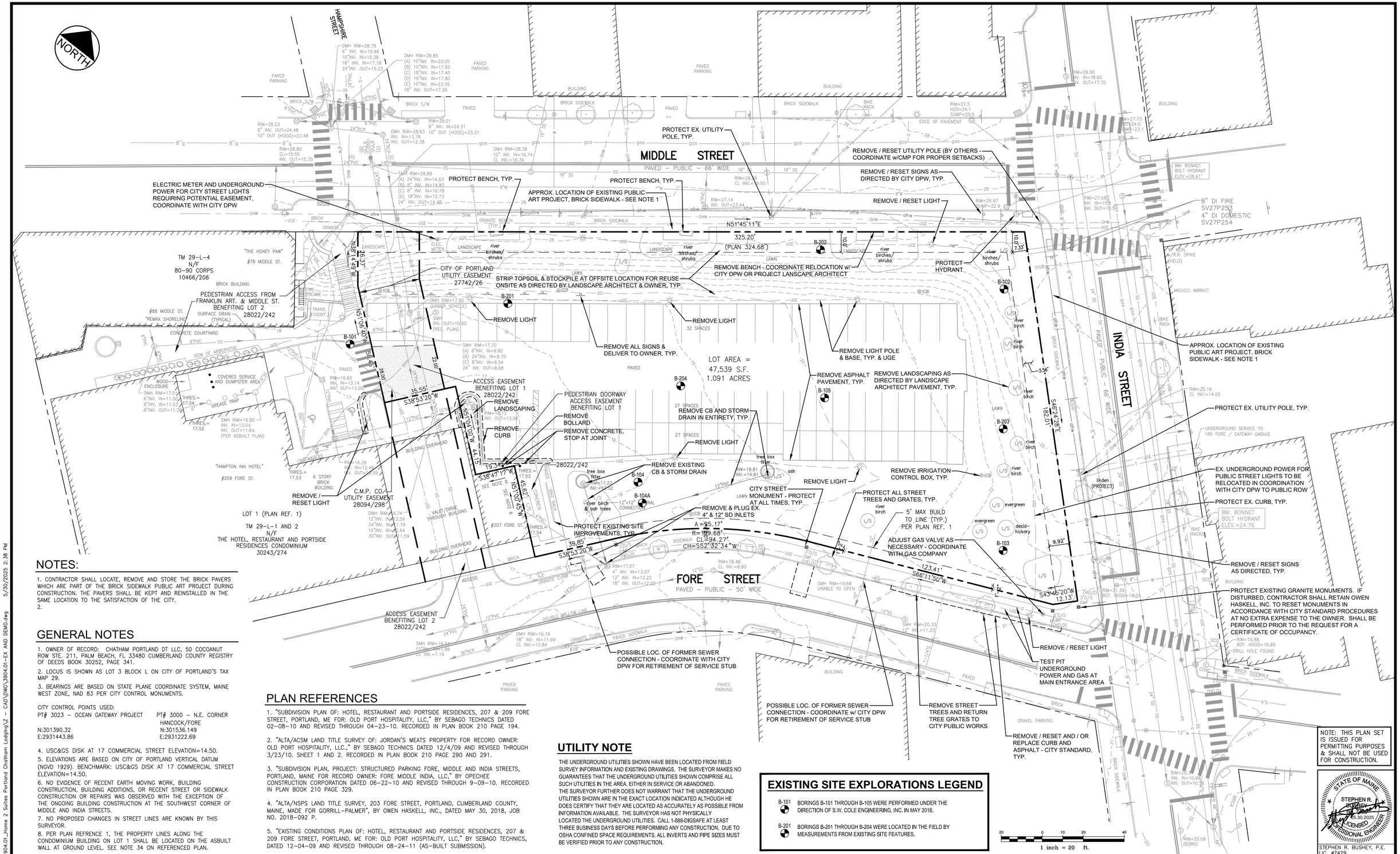
Gorrill Palmer

300 Southborough Drive, #200

South Portland, Maine

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: SDG / JLW	DATE: MAY 30, 2018	JOB NO. 2018-092 P
CHECKED BY: SDG	SCALE: 1" = 20'	DRWG. NO. 1



NOTES:

1. CONTRACTOR SHALL LOCATE, REMOVE AND STORE THE BRICK PAVERS WHICH ARE PART OF THE BRICK SIDEWALK PUBLIC ART PROJECT DURING CONSTRUCTION. THE PAVERS SHALL BE KEPT AND REINSTALLED IN THE SAME LOCATION TO THE SATISFACTION OF THE CITY.
2.

GENERAL NOTES

1. OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.
2. LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.
3. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
N:301390.32	N:301536.149
E:2931443.86	E:2931222.69

4. USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
6. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED WITH THE EXCEPTION OF THE ONGOING BUILDING CONSTRUCTION AT THE SOUTHWEST CORNER OF MIDDLE AND INDIA STREETS.
7. NO PROPOSED CHANGES IN STREET LINES ARE KNOWN BY THIS SURVEYOR.
8. PER PLAN REFRENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

PLAN REFERENCES

1. "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.
2. "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC.," BY SEBAGO TECHNICS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.
3. "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06-22-10 AND REVISED THROUGH 9-09-10. RECORDED IN PLAN BOOK 210 PAGE 329.
4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR GORRILL-PALMER", BY OWEN HASKELL, INC., DATED MAY 30, 2018, JOB NO. 2018-092 P.
5. "EXISTING CONDITIONS PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS, DATED 12-04-09 AND REVISED THROUGH 08-24-11 (AS-BUILT SUBMISSION).

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

EXISTING SITE EXPLORATIONS LEGEND

B-101 BORINGS B-101 THROUGH B-105 WERE PERFORMED UNDER THE DIRECTION OF S.W. COLE ENGINEERING, INC. IN MAY 2018.

B-201 BORINGS B-201 THROUGH B-204 WERE LOCATED IN THE FIELD BY MEASUREMENTS FROM EXISTING SITE FEATURES.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
No. 7429
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E. LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-EX AND DEMO.dwg		

This plan shall not be modified without written permission from Gorrill Palmer. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Gorrill Palmer.

GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: EXISTING CONDITIONS & DEMOLITION PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-2.1

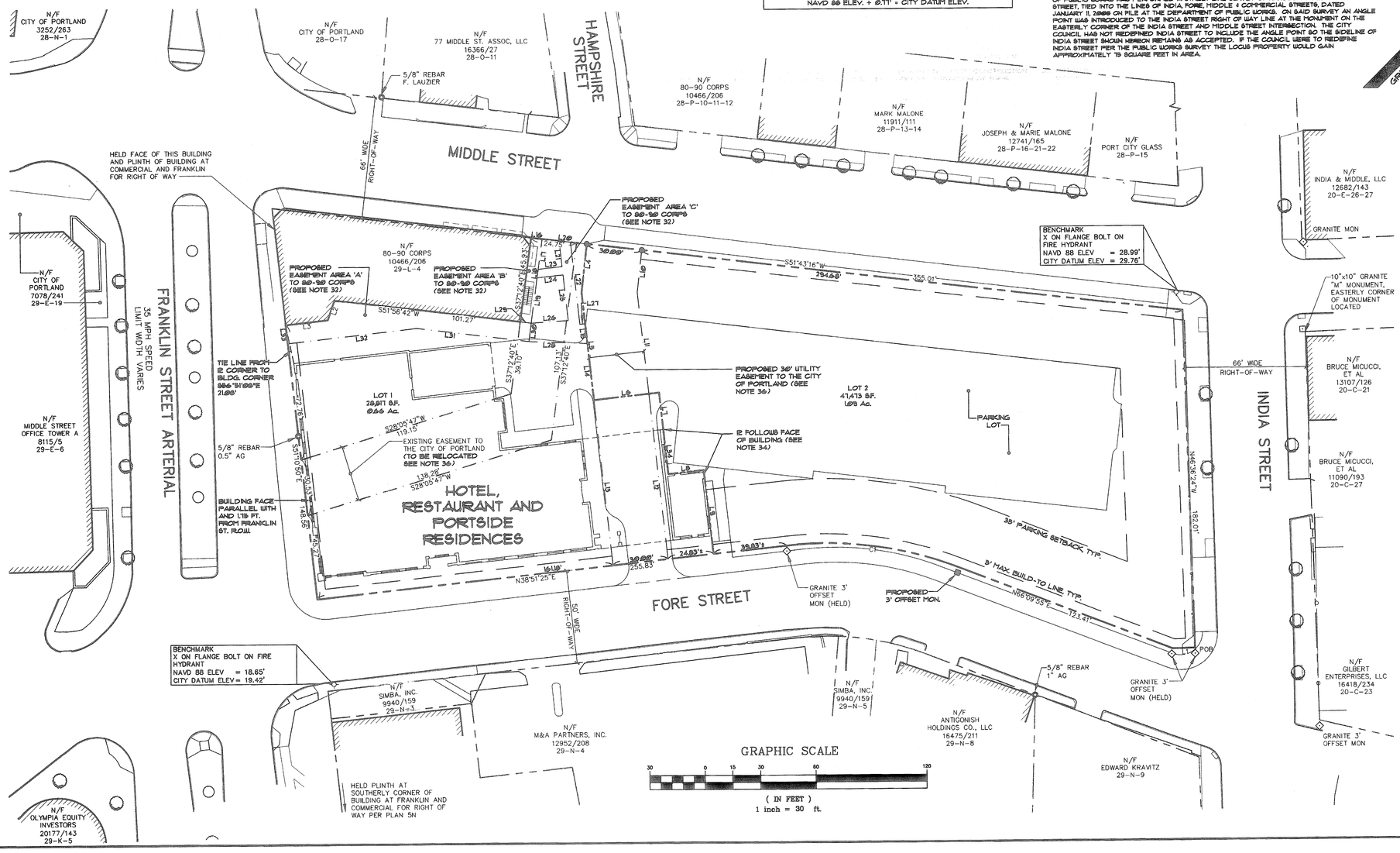
U:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-EX AND DEMO.dwg 5/30/2025 2:38 PM

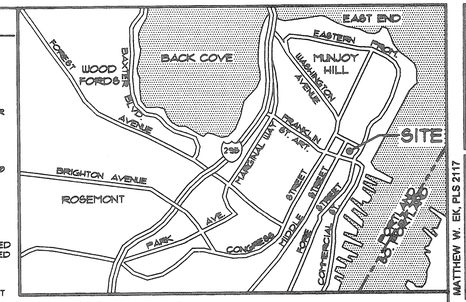
GENERAL NOTES:

1. APPLICANT: OLD PORT HOSPITALITY, LLC 11 CORPORATE DRIVE, 11 BELMONT, NEW HAMPSHIRE, 03220.
2. THE RECORD OWNER OF THE PROPERTY IS OLD PORT HOSPITALITY, LLC BY DEED DATED JANUARY 29, 2010 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS (CCRD) IN BOOK 27367, PAGE 149.
3. THE PROPERTY IS SHOWN AS LOTS 1, 2, 4 & 5 OF BLOCK L ON THE CITY OF PORTLAND TAX MAP 29.
4. TOTAL AREA OF PARCEL IS APPROXIMATELY 16,269 SQUARE FEET.
5. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON AN ON THE GROUND ALTA SURVEY TITLED ALTA/ACSM LAND TITLE SURVEY OF JORDAN'S MEATS PROPERTY FOR OLD PORT HOSPITALITY, LLC BY SEBAGO TECHNICS, INC. PERFORMED DATED DECEMBER 4, 2009, REVISED THROUGH DECEMBER 10, 2009 TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
6. ZONING DISTRICT: B-3 DOWNTOWN BUSINESS DISTRICT.
7. SPACE AND BULK CRITERIA FOR THE B-3 DOWNTOWN BUSINESS DISTRICT:
   (a) MIN. LOT SIZE: NONE
   (b) MIN. STREET FRONTAGE: 15 FT.
   (c) STREET WALL TO BUILD LINE: 3' FT. (SEE SEC. 14-220, CHAPTER 14, OF CITY LAND USE ORDINANCE)
   (d) MIN. YARD DIMENSIONS: NONE
   (e) MIN. LOT WIDTH: NONE
   (f) MAX. LENGTH OF UNDIFFERENTIATED BLANK WALL ALONG A PUBLIC STREET OR PUBLICLY ACCESSIBLE PEDESTRIAN WAY:
      (1) PAD OVERLAY ZONE: 15 FT.
      (2) ALL OTHER AREAS: 30 FT.
   (g) MAX. LOT COVERAGE: 100%
   (h) MIN. BLDG. HEIGHT: NO NEW CONSTRUCTION OF ANY BUILDING SHALL BE LESS THAN 35 FT. IN HEIGHT WITHIN 50 FT. OF ANY STREET FRONTAGE, EXCEPT FOR PARKING ATTENDANT BOOTHS OR BANK REMOTE TELLER FACILITIES
   (i) MAX. HEIGHT OF STRUCTURES: SEE SEC. 14-220, CHAPTER 14, OF CITY LAND USE ORDINANCE.
8. "HOTEL, RESTAURANT AND PORTSIDE RESIDENCES" IS A PRIVATE CONDOMINIUM DEVELOPMENT THAT WILL CONSIST OF A HOTEL UNIT, A RESTAURANT UNIT AND A RESIDENTIAL UNIT. THE RESIDENTIAL UNIT WILL ITSELF BE A SUB-CONDOMINIUM NAMED "PORTSIDE CONDOMINIUM" CONSISTING OF UP TO 12 DWELLING UNITS. FOR DIMENSIONS AND BOUNDARIES OF THE UNITS AND COMMON ELEMENTS, REFER TO THE CONDOMINIUM PLATS AND PLANS OF THE FOREGOING CONDOMINIUM AND SUB-CONDOMINIUM TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
9. THE SIGNATURE(S) OF THE CITY OF PORTLAND PLANNING BOARD ON THIS SUBDIVISION PLAN SHALL CONSTITUTE APPROVAL OF SUBDIVISION OF THE LAND INTO TWO LOTS AS SHOWN HEREUPON AND APPROVAL OF SUBDIVISION OF THE TOP FLOOR OF THE PROPOSED BUILDING INTO UP TO 12 RESIDENTIAL CONDOMINIUM UNITS. THE APPLICANT OR ITS SUCCESSORS OR ASSIGNS MAY DESIGNATE AND ALTER THE LAYOUT, DIMENSIONS AND BOUNDARIES OF THE RESIDENTIAL DWELLING UNITS WITHOUT FURTHER PLANNING BOARD APPROVAL, PROVIDED THAT NO MORE THAN 12 RESIDENTIAL DWELLING UNITS MAY BE DESIGNATED AND CONSTRUCTED.
10. THE PROJECT IS A PRIVATE CONDOMINIUM DEVELOPMENT AND SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL SHALL BE THE RESPONSIBILITY OF THE CONDOMINIUM ASSOCIATION(S) OR THE HOTEL UNIT OPERATOR.
11. A SUBDIVISION SHALL BE DEFINED AS THE DIVISION OF A LOT, TRACT OR PARCEL OF LAND INTO THREE (3) OR MORE LOTS, INCLUDING LOTS OF FORTY (40) ACRES OR MORE, WITHIN ANY FIVE-YEAR PERIOD, WHETHER ACCOMPLISHED BY SALE, LEASE, DEVELOPMENT, BUILDINGS OR OTHERWISE AND AS FURTHER DEFINED IN 30-A M.R.S.A. SECTION 4401. THE TERM SUBDIVISION SHALL ALSO INCLUDE THE DIVISION OF A NEW STRUCTURE OR STRUCTURES ON A TRACT OR PARCEL OF LAND INTO THREE (3) OR MORE DWELLING UNITS WITHIN A FIVE-YEAR PERIOD AND THE DIVISION OF AN EXISTING STRUCTURE OR STRUCTURES PREVIOUSLY USED FOR COMMERCIAL OR INDUSTRIAL USE INTO THREE (3) OR MORE DWELLING UNITS WITHIN A FIVE-YEAR PERIOD. THE AREA INCLUDED IN THE EXPANSION OF AN EXISTING STRUCTURE IS DEEMED TO BE A NEW STRUCTURE FOR THE PURPOSES OF THIS PARAGRAPH. A DWELLING UNIT SHALL INCLUDE ANY PART OF A STRUCTURE WHICH, THROUGH SALE OR LEASE, IS INTENDED FOR HUMAN HABITATION, INCLUDING SINGLE-FAMILY AND MULTI-FAMILY HOUSING CONDOMINIUMS, TIME-SHARE UNITS AND APARTMENTS.
12. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS WITHIN THE CITY RIGHT OF WAY SHALL CONFORM TO THE CURRENT CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND SPECIFICATIONS AND/OR CURRENT M.D.O.T STANDARDS AND SPECIFICATIONS.
13. ALL CURBING SHALL BE DESIGNED AND BUILT WITH TIP-DOWNS AT ALL DRIVEWAYS AND CROSSWALKS, IN ACCORDANCE WITH THE CITY OF PORTLAND PUBLIC SERVICES DIVISION TECHNICAL STANDARDS AND GUIDELINES.
14. THE FACILITY IS SERVICED BY CITY SEWER, WATER, GAS, UNDERGROUND ELECTRIC, STORM DRAINAGE, TELEPHONE AND CABLE TELEVISION UTILITIES.
15. ALL ELECTRIC, TELEPHONE AND CABLE T.V. SERVICES SHALL BE UNDERGROUND AND IN CONFORMANCE WITH THE STANDARDS OF CENTRAL MAINE POWER CO., VERIZON NEW ENGLAND, TIME WARNER CABLE T.V. CO., OR OTHER UTILITIES PROVIDING SERVICE TO THE SITE.
16. ALL WATER MAINS, SERVICES AND ASSOCIATED APPURTENANCES SHALL BE IN CONFORMANCE WITH PORTLAND WATER DISTRICT STANDARDS.
17. ALL NATURAL GAS MAINS, SERVICES AND ASSOCIATED APPURTENANCES SHALL BE IN CONFORMANCE WITH NORTHERN UTILITIES/UNITIL STANDARDS.
18. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2003 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
19. THE CONTRACTOR OR DEVELOPER IS REQUIRED TO NOTIFY THE CITY OF PORTLAND PUBLIC SERVICES INSPECTION DIVISION IN WRITING THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION (874-8300 EXT. 8828). SHOULD THE IMPROVEMENTS BE OF SIGNIFICANT CONCERN OR IN A SENSITIVE AREA, A PRE-CONSTRUCTION MEETING MAY BE REQUIRED AT THE DISCRETION OF THE PUBLIC WORKS AUTHORITY.
20. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. THE DEVELOPER, OR AN AUTHORIZED AGENT, MUST BE AVAILABLE AT ALL TIMES DURING CONSTRUCTION.
21. WARNING SIGNS, MARKERS, BARRICADES OR FLAGMEN, APPROPRIATE FOR THE TYPE OF CONSTRUCTION MUST BE EMPLOYED TO REGULATE TRAFFIC.
22. CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH CITY OF PORTLAND'S SOLID WASTE ORDINANCE CHAPTER 12.
23. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE DEVELOPER/CONTRACTOR AT THEIR EXPENSE.
24. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO INSURE THEIR INTEGRITY. IF DISTURBED THEY SHALL BE REPLACED BY A SURVEYOR REGISTERED IN THE STATE OF MAINE AT THE CONTRACTOR/DEVELOPER'S EXPENSE.
25. ALL SANITARY SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF PORTLAND PUBLIC SERVICES DEPARTMENT SEWER DIVISION.
26. ALL NEW CONNECTIONS, RECONNECTIONS, ETC. TO SANITARY OR STORM SEWERS SHALL REQUIRE A CONNECTION PERMIT PRIOR TO BEGINNING ANY WORK. THE CITY OF PORTLAND PUBLIC SERVICES DEPARTMENT MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO COMMENCEMENT TO ALLOW FOR INSPECTION.
27. A PERMIT MUST BE OBTAINED FROM THE CITY OF PORTLAND PUBLIC SERVICES DEPARTMENT PRIOR TO BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
28. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE PLAN. APPROVAL OF THE PLANNING AUTHORITY OR PLANNING BOARD SHALL BE REQUIRED FOR ANY ALTERATIONS TO OR DEVIATIONS FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION, TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF WOODED OR OPEN AREAS, ACCESS, SIZE, LOCATION AND SURFACING OF PARKING AREAS, AND LOCATION AND SIZE OF BUILDINGS.
29. LANDSCAPING SHALL MEET THE "ARBORICULTURAL SPECIFICATION AND STANDARDS OF PRACTICE AND LANDSCAPE GUIDELINES" OF THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.

ELEVATION DATUM
ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO NAVD 88. THE CONVERSION TO CITY OF PORTLAND VERTICAL DATUM IS AS FOLLOWS:
NAVD 88 ELEV. + 0.71' = CITY DATUM ELEV.

30. ALL DISTURBED AREA ON THE SITE NOT COVERED BY BUILDINGS OR PAVED AREA SHALL BE STABILIZED WITH LOAM AND SEED OR OTHER MATERIALS AS REQUIRED BY BEST MANAGEMENT PRACTICES.
31. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING SHALL BE HELD AT THE PROJECT SITE WITH THE CONTRACTOR, DEVELOPMENT REVIEW COORDINATOR, PUBLIC WORKS REPRESENTATIVE AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE SITE WORK. AT THAT TIME, THE SITE/BUILDING CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A DETAILED CONSTRUCTION SCHEDULE AT ATTENDING CITY REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A MUTUALLY AGREEABLE TIME FOR THE PRECONSTRUCTION MEETING.
32. AREAS INDICATED ARE SUBJECT TO EASEMENTS AND RIGHTS TO BE CONVEYED IN PROPOSED EASEMENT AGREEMENT BETWEEN OLD PORT HOSPITALITY, LLC AND 80-90 CORPS TO BE RECORDED IN THE CCRD.
33. THIS SUBDIVISION SUPERSEDES THE WESTIN HOTEL AND RESIDENCES PORTLAND SUBDIVISION OF THIS PROPERTY APPROVED BY THE CITY OF PORTLAND PLANNING BOARD ON DECEMBER 13, 2005. SAID SUBDIVISION WAS NOT RECORDED AND APPROVALS HAVE SINCE LAPSED.
34. SEGMENTS L8, L9 AND L34 OF THE BOUNDARY BETWEEN LOT 1 AND LOT 2 ARE INTENDED TO FOLLOW THE BUILDING TO BE CONSTRUCTED ON LOT 1, AND SEGMENT L7 IS INTENDED TO RUN IN THE SAME BEARING AS SEGMENT L34, UNTIL SUCH TIME AS THE BUILDING IS CONSTRUCTED. THE FOREGOING SEGMENTS SHALL BE AS SHOWN ON THIS PLAN. UPON COMPLETION OF THE BUILDING, THE FOREGOING SEGMENTS SHALL BE DEEMED TO FOLLOW THE LINE FORMED BY THE "AS-BUILT" FOUNDATION WALLS OF THE BUILDING AT GROUND LEVEL (THE "WALL LINE") AND SEGMENT L9 SHALL EXTEND ALONG THE WALL LINE TO THE FORE STREET RIGHT-OF-WAY. NOTWITHSTANDING THE FOREGOING, ALL SUCH AS-BUILT PROPERTY LINE SEGMENTS SHALL NOT DEVIATE MORE THAN TWO FEET FROM THE LINES SHOWN ON THIS PLAN.
35. THE BOUNDARY LINES BETWEEN LOT 1 AND THE ABUTTING LAND OF 80-90 CORPS FOLLOW THE EXISTING FACE OF THE BRICK WALLS OF THE BUILDING ON 80-90 CORPS LAND.
36. SEE EASEMENT RELOCATION AGREEMENT BETWEEN OLD PORT HOSPITALITY, LLC AND THE CITY OF PORTLAND TO BE RECORDED IN THE CCRD.
37. THE HOTEL AND THE RESIDENTIAL UNITS HAVE ACCESS AND PARKING RIGHTS ON LOT 2 IN ACCORDANCE WITH THE APPROVED SITE PLAN OF THE HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, WHICH RIGHTS ARE GRANTED IN THE QUITCLAIM DEED CONVEYING TITLE TO LOT 2 FROM OLD PORT HOSPITALITY, LLC TO FORE INDIA MIDDLE, LLC OR IN THE PARKING AGREEMENT BETWEEN OLD PORT HOSPITALITY, LLC AND FORE INDIA MIDDLE, LLC, BOTH TO BE RECORDED IN THE CCRD.
38. PEDESTRIAN ACCESS IS TO BE PROVIDED FROM THE MIDDLE STREET SIDEWALK, APPROXIMATELY AT THE HAMPSHIRE STREET INTERSECTION, THROUGH THE SITE TO FORE STREET. THE PEDESTRIAN ACCESS SHALL BE OPEN TO PUBLIC USE AS A CONDITION OF PLANNING BOARD APPROVAL FOR THIS PLAN.
39. THE SOUTHWESTERLY SIDELINE OF INDIA STREET SHOWN HEREON IS BASED UPON FOUND MONUMENTATION AND THE INDIA STREET ACCEPTANCE. THE CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS HAS PERFORMED A STREET LINE SURVEY OF HANCOCK STREET AND THAMES STREET, TIED INTO THE LINES OF INDIA, FORE, MIDDLE & COMMERCIAL STREETS, DATED JANUARY 7, 2008 ON FILE AT THE DEPARTMENT OF PUBLIC WORKS. ON SAID SURVEY AN ANGLE POINT WAS INTRODUCED TO THE INDIA STREET RIGHT OF WAY LINE AT THE MONUMENT ON THE EASTERLY CORNER OF THE INDIA STREET AND MIDDLE STREET INTERSECTION. THE CITY COUNCIL HAS NOT REDEFINED INDIA STREET TO INCLUDE THE ANGLE POINT SO THE SIDELINE OF INDIA STREET SHOWN HEREON REMAINS AS ACCEPTED. IF THE COUNCIL WERE TO REDEFINE INDIA STREET PER THE PUBLIC WORKS SURVEY THE LOCUS PROPERTY WOULD GAIN APPROXIMATELY 79 SQUARE FEET IN AREA.





LOCATION MAP

N.T.S.

EXISTING IE CURVE DATA

CURVE	LENGTH	RADIUS	DELTA	CRD. BEARING	CRD. DIST.
C1	55.11'	1938.68'	1°37'36"	S82°36'48"W	54.27'

EXISTING IE DATA

LINE	DIRECTION	DISTANCE
L1	N43°43'25"E	12.13'
L2	S25°31'21"E	11.37'
L3	S38°31'43"W	23.03'

PROPOSED IE DATA

LINE	DIRECTION	DISTANCE
L4	S38°16'44"W	26.31'
L5	S51°08'38"E	36.48'
L6	N38°51'25"E	38.89'
L7	S51°08'24"E	28.81'
L8	S38°51'36"W	15.33'
L9	S51°08'38"E	48.46'
L34	S51°08'24"E	24.89'

PROPOSED EASEMENT LINE DATA

LINE	DIRECTION	DISTANCE
L10	N38°16'44"W	22.96'
L11	N51°08'38"W	38.81'
L12	N51°08'38"W	29.67'
L13	N51°08'38"W	89.67'
L14	N51°08'38"W	30.65'
L15	N51°08'38"W	10.71'
L16	S51°43'16"W	6.89'
L17	N37°12'40"W	16.39'
L18	N37°12'40"W	4.64'
L19	N37°12'40"W	24.79'
L20	N51°43'16"E	6.89'
L21	S51°08'38"E	13.98'
L22	S51°08'38"E	44.78'
L23	S38°51'25"W	12.98'
L24	S38°51'25"W	14.11'
L25	S51°08'38"E	24.84'
L26	N41°21'46"E	20.18'
L27	N38°51'25"E	2.83'
L28	N47°15'56"E	31.65'
L29	N51°36'42"E	6.88'
L30	S37°12'40"E	16.88'
L31	S51°36'42"W	61.41'
L32	S38°37'43"W	7.81'
L33	N51°22'17"W	16.88'

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/ROW.	
	ABUTTER LINE/ROW.	
	SETBACK	
	EASEMENT	
	MONUMENT	
	IRON PIPE/ROD	
C1/L1	CURVE/LINE NO.	C1 / L1
	BENCHMARK	
	BUILDING	
	EDGE PAVEMENT	
	EDGE CONCRETE	
	PAVEMENT PAINT	
	CURBLINE	
	HYDRANT	
	LIGHT POLE/WALL	
	UTILITY POLE	

APPROVAL - CITY OF PORTLAND PLANNING BOARD

APRIL 13, 2010

STATE OF MAINE
CUMBERLAND COUNTY SS REGISTRY OF DEEDS
RECEIVED June 4th 2010
AT 10h 30m A.M. AND RECORDED IN
PLAN BOOK 210 PAGE 194
ATTEST Pamela E. Lovley REGISTRAR

D	04-23-10	DLR	REVISED PER CONDITIONS OF PLANNING BOARD APPROVAL
C	03-23-10	DLR	REVISED PER CITY REVIEW
B	02-23-10	DLR	REVISED UTILITY EASEMENT
A	02-16-10	DLR	SITE PLAN APPLICATION SUBMITTAL
REV:	DATE:	BY:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

SEAL

MATTHEW W. EK, PLS 2117

Sebago Technics
Engineering Expertise You Can Build On.
One Chabot Street, Westbrook, Me 04092-1339, Tel (207) 856-0277
250 Goddard Rd. - Suite B, Lewiston, ME 04240, Tel (207) 783-3666
WWW.SEBAGOTECHNICS.COM

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
05090	624	DLR	MWE	MAL

SUBDIVISION PLAN
OF:
HOTEL, RESTAURANT AND PORTSIDE RESIDENCES
207 & 209 FORE STREET
PORTLAND, MAINE
FOR:
OLD PORT HOSPITALITY, LLC
11 CORPORATE DRIVE
BELMONT, NH 03220

RECORD OWNER: SEE NOTE 2.

DATE	SCALE
02-08-10	1"=30'

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GENERAL NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.
2. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXITS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS.
3. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-DIGSAFE), IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT NO EXTRA EXPENSE TO THE OWNER.
5. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
6. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
7. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO PROJECT CONTRACT SPECIFICATIONS, AND THE CITY OF PORTLAND TECHNICAL MANUAL STANDARDS, WHICHEVER IS MORE STRINGENT.
8. TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS PROVIDED BY OWEN HASKELL, INC. BENCHMARK = USC & GC DISK AT 17 COMMERCIAL STREET. ELEVATION 14.50
9. FEMA MAP COMMUNITY PANEL NUMBERS 0692 AND 0711. THE SITE IS LOCATED IN A C ZONE.
10. THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED IN THIS APPROVED PLAN. ALL ELEMENTS AND FEATURES OF THE PLAN AND ALL THE PROPERTY WHICH APPEARS IN THE RECORD OF THE PLANNING BOARD PROCEEDINGS ARE CONDITIONS OF THE APPROVAL. NO CHANGE FROM THE CONDITIONS OF APPROVALS IS PERMITTED UNLESS AN AMENDED PLAN IS FIRST SUBMITTED TO AND APPROVED BY THE PLANNING AUTHORITY.
11. ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
12. ALL CURB SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AS NOTED ON THE PLANS:
    GRANITE AND BITUMINOUS CONCRETE CURB SHALL MEET THE REQUIREMENTS OF MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS 609.03 AND 609.04 AND CITY OF PORTLAND TECHNICAL STANDARDS.
13. ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB OR FACE OF BUILDING.
14. THE FACILITY IS SERVICED BY PUBLIC WATER, SEWER, NATURAL GAS AND OVERHEAD POWER. THE PROJECT INCLUDES UPDATES TO THE POWER SERVICE INCLUDING THE INSTALLATION OF NEW UNDERGROUND SYSTEM. SEE SITE ELECTRICAL PLANS FOR DETAILS.

PERMITTING NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

GRADING AND DRAINAGE NOTES:

1. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF n = 0.013 OR LESS. UNLESS A SPECIFIC PIPE MATERIAL IS CALLED FOR ON THE CONTRACT DRAWINGS. PVC PIPING SHALL NOT BE USED IN AREAS OF EXPOSED SUNLIGHT.
2. SLOPE PROTECTION IS TO BE PROVIDED PER THE DESIGN PLANS AND MAY INCLUDE RIPRAP, SOD OR MULCH.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EARTHWORK OPERATIONS TO INSURE THAT DISTURBANCE TO ANY STEEP SLOPE AREAS ARE MINIMIZED TO THE EXTENT PRACTICABLE.
4. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY OTHERS. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
5. ALL PAVING WITHIN THE PUBLIC R.O.W. SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF PORTLAND RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC R.O.W.
6. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
7. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
8. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES AND PHYSICAL FEATURES THAT ARE OUTSIDE THE SCOPE OF WORK. THE CONTRACTOR SHALL MAINTAIN SITE STABILITY DURING CONSTRUCTION TO AVOID EROSION AND SEDIMENT TRANSPORT. CONTRACTOR SHALL RESTORE ALL AREAS TO A FINAL STABILIZED CONDITION AS DIRECTED BY DESIGN DRAWINGS.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
10. EXTERIOR GRADES AROUND PROPOSED STRUCTURE SHALL BE COORDINATED WITH FINAL BUILDING PLANS AND PROVIDE FOR ALL ACCESS OPENINGS.
11. SUBGRADE FILL PLACED BENEATH ALL PERMANENT PAVEMENT, SIDEWALK OR CONCRETE SURFACES EXCLUDING ANY BUILDING AREAS, SHALL BE GRANULAR BORROW (MDOT 703.19). SUBGRADE FILL PLACED BENEATH ALL LANDSCAPE AREAS EXCEPT THOSE ADJACENT THE FOUNDATION SYSTEMS MAY BE A COMMON BORROW MATERIAL SUITABLE FOR EMBANKMENT CONSTRUCTION, FREE FROM FROZEN MATERIAL, PERISHABLE RUBBLE, PEAT, ORGANICS, ROCKS LARGER THAN 12" IN DIAMETER, VEGETATION AND OTHER MATERIAL UNSUITABLE FOR ROADWAY AND SUBGRADE CONSTRUCTION. EXCAVATED ON-SITE MATERIALS MAY BE USED FOR FILL PROVIDED THE MATERIAL IS FREE FROM UNSUITABLE MATERIAL DESCRIBED IN THIS NOTE AND UPON APPROVAL OF THE ENGINEER. EXCAVATED ONSITE MATERIALS MAY NOT BE USED AS COMPACTED STRUCTURAL FILL BENEATH THE BUILDING AREAS OR AS FOUNDATION BACKFILL. GRANULAR BORROW AND COMMON BORROW SHALL COMPLY WITH THE MDOT SPECIFICATIONS.
12. ALL FILLS SHALL BE PLACED IN LAYERS NOT MORE THAN 12" LOOSE DEPTH AND COMPACTED BY HEAVY COMPACTION EQUIPMENT. MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY ASTM 1557, MODIFIED AND FIELD DENSITY ASTM D2922 (NUCLEAR METHODS).
13. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

CONSTRUCTION MANAGEMENT NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH 2009 NFPA 1 CHAPTER 16 SAFE GUARDS DURING BUILDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS.
2. ANY CUTTING AND WELDING WORK PERFORMED ONSITE SHALL REQUIRE A "HOT WORK" PERMIT FROM THE PORTLAND FIRE DEPARTMENT.
3. THE GENERAL CONTRACTOR SHALL POST EMERGENCY CONTACT INFORMATION ON THE PROJECT SITE PROPERTY DURING CONSTRUCTION IN THE EVENT OF AN AFTER HOURS EMERGENCY. THIS CONTACT INFORMATION SHALL ALSO BE PROVIDED TO THE PORTLAND FIRE DEPARTMENT.
4. IF THE SITE IS SECURED BY TEMPORARY OR PERMANENT FENCING WITH LOCKED GATES, THEN THE APPLICANT OR ASSIGNED REPRESENTATIVE SHALL PURCHASE A KNOX PADLOCK FROM THE PORTLAND FIRE DEPARTMENT TO ALLOW ACCESS BY THE PORTLAND FIRE DEPARTMENT.
5. STREETS SHALL MAINTAIN A 20' WIDTH FOR FIRE DEPARTMENT ACCESS AT ALL TIMES.
6. FIRE HYDRANTS SHALL NOT BE BLOCKED OR ENCLOSED BY FENCING. A 3' CLEARANCE SHALL BE MAINTAINED AT ALL TIMES AROUND FIRE HYDRANTS.

EROSION CONTROL NOTES:

THE PROJECT SITE IS RELATIVELY SMALL AND WILL PRIMARILY FEATURE BELOW GROUND EXCAVATION THAT WILL RESULT IN AN INTERNALLY DRAINING RUNOFF PATTERN. NEARLY THE ENTIRE PROJECT SITE WILL BE STABILIZED BY ROOFTOP, PAVEMENT, OR BRICK SIDEWALKS.

THE PRIMARY EMPHASIS OF THE EROSION AND SEDIMENTATION CONTROL PLAN TO BE IMPLEMENTED FOR THIS PROJECT IS AS FOLLOWS:

1. PLANNING THE PROJECT TO PROVIDE THE ABILITY TO CAPTURE ANY ERODED MATERIALS FROM THE WORK AREA ON THE SITE.
2. DEVELOPMENT OF A CAREFUL CONSTRUCTION SEQUENCE.
3. RAPID STABILIZATION OF DENUDED AREAS TO MINIMIZE THE PERIOD OF SOIL EXPOSURE.
4. PREVENTING SEDIMENT LADEN RUNOFF FROM ENTERING THE EXISTING STORM DRAIN NETWORK ON AND AROUND THE SITE.
5. KEEPING SURROUNDING STREETS FREE OF MUD AND DUST BY REGULARLY SWEEPING.

EROSION/SEDIMENTATION CONTROL DEVICES

AS PART OF THE SITE DEVELOPMENT THE CONTRACTOR WILL IMPLEMENT THE FOLLOWING EROSION AND SEDIMENT CONTROL DEVICES. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED HEREIN. FOR FURTHER REFERENCE, SEE THE "MAINE EROSION AND SEDIMENT CONTROL BMPS" HANDBOOK PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

1. SILTATION FENCE SHALL BE INSTALLED DOWN SLOPE OF ANY DISTURBED AREAS TO TRAP RUNOFF-BORNE SEDIMENTS UNTIL THE SITE IS REVEGETATED. THE SILT FENCE SHALL BE INSTALLED PER THE DETAIL PROVIDED IN THE PLAN SET AND INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THE CONTRACTOR SHALL MAKE REPAIRS IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE. PROPER PLACEMENT OF STAKES AND KEYING THE BOTTOM OF THE FABRIC INTO THE GROUND ARE CRITICAL TO THE FENCE'S EFFECTIVENESS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM. THE SILTATION FENCE SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.
2. CATCH BASIN INLET PROTECTION: STONE SEDIMENT TRAPS OR A PREMANUFACTURED SILTSACK™ WILL BE INSTALLED AT CATCH BASIN INLETS TO PREVENT SILT FROM ENTERING THE STORM DRAIN SYSTEM. INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. INLET PROTECTION SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL TRIBUTARY AREAS ARE PERMANENTLY STABILIZED.

TEMPORARY EROSION & SEDIMENTATION CONTROL MEASURES

ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. THE FOLLOWING ARE PLANNED AS TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

1. SILTATION FENCE AND CATCH BASIN INLET PROTECTION AS DESCRIBED ABOVE.
2. IF OPERATIONS DURING WET MONTHS RESULT IN TRACKING OF MUD OFF THE SITE ONTO PUBLIC ROADS, ROADS SHALL BE SWEPT AT LEAST ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. WHERE CHRONIC MUD TRACKING OCCURS, A STABILIZED CONSTRUCTION ENTRANCE SHOULD BE PROVIDED.
3. IF OPERATIONS DURING DRY MONTHS RESULT IN FUGITIVE DUST EMISSION, ADJACENT ROADS SHALL BE SPRAYED WITH WATER ONCE A WEEK OR MORE FREQUENTLY, AS NEEDED.
4. STABILIZE WITH MULCH OR OTHER NON-ERODIBLE COVER ANY SOILS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS.
5. LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS MUST NOT BE STORED IN A MANNER THAT WILL CREATE A POLLUTANT SOURCE IF EXPOSED TO STORMWATER RUNOFF.

TIMING AND SEQUENCE OF EROSION/SEDIMENTATION CONTROL MEASURES

THE FOLLOWING BASIC CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO ENSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES IS OPTIMIZED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SPECIFIC CONSTRUCTION SCHEDULE, WHICH SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER.

NOTE: FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE BY LIMITING THE DISTURBED AREA.

1. INSTALL PERIMETER SILTATION FENCE & CATCH BASIN INLET PROTECTION. THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE AND FUGITIVE DUST EMISSIONS DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS.
2. CLEAR AND GRUB THE WORK AREA FOR THE BUILDING, HAUL OFF THE LOAM, AND EXCAVATE FOR THE BUILDING FOUNDATION.
3. CONSTRUCT THE DRAINAGE SYSTEM.
4. INSTALL STONE AND HAY BALE CHECK DAMS AT ANY CONCENTRATED FLOW DISCHARGE POINTS.
5. INSTALL SIDEWALKS AND PAVEMENT AS DETAILED ON THE SITE PLANS.
6. REMOVE ALL TEMPORARY EROSION CONTROL DEVICES ONCE THE SITE IS STABILIZED.

PROVISIONS FOR MAINTENANCE OF THE EROSION/SEDIMENTATION CONTROL FEATURES

DURING CONSTRUCTION OF THE BUILDING AND ASSOCIATED SITE DEVELOPMENT THE CONTRACTOR SHALL BE REQUIRED TO PERFORM THE FOLLOWING:

1. INSPECTION OF THE PROJECT WORK SITE ON A WEEKLY BASIS AND AFTER EACH SIGNIFICANT RAINFALL EVENT (0.5 INCH OR MORE WITHIN ANY CONSECUTIVE 24-HOUR PERIOD) DURING CONSTRUCTION UNTIL THE SITE HAS BEEN PERMANENTLY STABILIZED. INSPECTION OF THE PROJECT WORK SITE SHALL INCLUDE:
   - IDENTIFICATION OF PROPER EROSION CONTROL MEASURE INSTALLATION IN ACCORDANCE WITH THE EROSION CONTROL DETAILS OR AS SPECIFIED HEREIN.
   - DETERMINE WHETHER EACH EROSION CONTROL MEASURE IS OPERATING PROPERLY. IF NOT, IDENTIFY DAMAGE TO THE CONTROL DEVICE AND DETERMINE REMEDIAL MEASURES.
   - IDENTIFY AREAS THAT APPEAR VULNERABLE TO EROSION AND DETERMINE ADDITIONAL EROSION CONTROL MEASURES THAT SHOULD BE USED TO IMPROVE CONDITIONS.
   - DETERMINE THE NEED TO SWEEP ADJACENT STREETS OR APPLY WATER FOR DUST CONTROL.

   ACCUMULATED SILT/SEDIMENT SHOULD BE REMOVED WHEN THE DEPTH OF SEDIMENT REACHES 50 PERCENT OF THE BARRIER HEIGHT. ACCUMULATED SILT/SEDIMENT SHOULD BE REMOVED FROM BEHIND SILT FENCING WHEN THE DEPTH OF THE SEDIMENT REACHES 6 INCHES.
2. IF INSPECTION OF THE SITE INDICATES A CHANGE SHOULD BE MADE TO THE EROSION CONTROL PLAN, EITHER TO IMPROVE EFFECTIVENESS OR CORRECT A SITE-SPECIFIC DEFICIENCY, THE INSPECTOR SHALL IMMEDIATELY IMPLEMENT THE CORRECTIVE MEASURE AND NOTIFY THE OWNER OF THE CHANGE.
3. THE CONTRACTOR SHALL KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN.

   THE LOG MUST BE MADE ACCESSIBLE TO THE OWNER AND REGULATORY STAFF, AND A COPY MUST BE PROVIDED UPON REQUEST.
4. ONCE THE SITE HAS BEEN PERMANENTLY STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHOULD BE REMOVED.

UTILITY NOTES:

1. ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED BETWEEN THE SITE WORK CONTRACTOR AND DIVISION 22/26 CONTRACTOR(S). THE SITE WORK CONTRACTOR SHALL BE RESPONSIBLE TO EXTEND ALL PROPOSED UTILITIES TO WITHIN FIVE (5) FEET OF THE BUILDING TO A LOCATION COORDINATED WITH THE MECHANICAL AND ELECTRICAL SUBCONTRACTORS. THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES WITHIN FIVE (5) FEET AND INSIDE THE BUILDING OR UNDER SLAB.
2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AND/OR RELOCATION OF OVERHEAD AND UNDERGROUND TELEPHONE WITH FAIRPOINT COMMUNICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS, PULL WIRES, TRENCHING AND BACKFILLING NECESSARY TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER; THE TELECOMMUNICATIONS SERVICE WITH FAIRPOINT COMMUNICATIONS AND CABLE SERVICE WITH TIME WARNER CABLE. ALL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS OR UTILITY COMPANY STANDARDS, WHICHEVER IS MORE STRINGENT.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
6. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO COMPLETION OF THE PROJECT.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL; AT NO EXTRA EXPENSE TO THE OWNER.
8. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. A 12 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
9. THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO THE JOBSITE. TEMPORARY SERVICES SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. COORDINATE ALL TEMPORARY SERVICES WITH UTILITY COMPANY, OWNER AND AFFECTED BUSINESSES.
10. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY ELECTRICAL SERVICES IN CONDUIT TO SITE LIGHTING, COMPLYING WITH APPLICABLE CODES. COORDINATE WITH OWNER, SITE ELECTRICAL, ARCHITECTURAL AND CMP PLANS.
11. ALL SANITARY SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT. ALL SANITARY SERVICES AND APPURTENANCES TO BE ABANDONED SHALL BE PROPERLY RECORDED WITH PORTLAND PUBLIC WORKS ENGINEERING DEPARTMENT. A DIGITAL VIDEOTAPE SHALL BE MADE OF SANITARY SEWER SYSTEMS TO BE UTILIZED PRIOR TO CONSTRUCTION; UPSTREAM PIPES INTENDED FOR ABANDONMENT SHALL BE INSPECTED TO VERIFY THAT THEY NO LONGER SERVE OTHER FACILITIES.

VRAP - CERTIFICATION OF COMPLETION CONDITIONS

1. THE FUTURE INSTALLATION OF GROUNDWATER EXTRACTION WELLS ON THE PROPERTY FOR ANY PURPOSE IS PROHIBITED WITHOUT PRIOR WRITTEN PERMISSION FROM THE DEPARTMENT.
2. IF SOILS ARE EXCAVATED ON THE PROPERTY THAT WILL NOT BE USED ON SITE DURING FUTURE WORK, THESE SOILS MUST BE CHARACTERIZED TO DETERMINE IF THEY CAN BE USED OFFSITE OR IF THEY NEED TO BE APPROPRIATELY DISPOSED.
3. PROPERTY USE SHALL REMAIN RESIDENTIAL AND COMMERCIAL UNLESS OTHERWISE APPROVED IN WRITING BY THE DEPARTMENT.
4. A SUB-SLAB VAPOR BARRIER MUST BE INSTALLED BENEATH ANY NEW STRUCTURES BUILT ON THE PROPERTY THAT ARE TO OCCUPIED BY HUMANS.
5. A COPY OF THIS CERTIFICATE SHALL BE RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS. A COPY OF THE RECORDED DOCUMENT MUST BE SUPPLIED TO THE DEPARTMENT.
6. A DECLARATION OF ENVIRONMENTAL COVENANT, AS DEFINED IN 38 M.R.S.A. § 3001 et seq., THAT IS CONSISTENT WITH THIS CERTIFICATE AND ACCEPTABLE TO THE DEPARTMENT MUST BE PREPARED AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS. A COPY OF THE RECORDED DOCUMENT MUST BE SUPPLIED TO THE DEPARTMENT.

GEOTECHNICAL RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS ARE CONTAINED IN THE GEOTECHNICAL REPORT 24-1452 S PREPARED BY S.W. COLE, DATED NOVEMBER 8, 2024:

4.2 Site and Subgrade Preparation

We recommend that site preparation begin with the construction of an erosion control system to protect adjacent drainage ways and areas outside the construction limits. Surficial organics, roots and topsoil should be completely removed from areas of proposed fill and construction. As much vegetation and pavement as possible should remain outside the construction areas to lessen the potential for erosion and site disturbance.

As discussed, the site was previously developed and the borings encountered unsuitable layers of unsuitable uncontrolled fill, relic bay sediment, and soft silty clay. Therefore, we recommend the proposed building and carport structures be supported on steel H-Piles driven to end bearing on sound bedrock. We recommend at least 6-inches of Crushed Stone be provided beneath pile caps and grade beams to act as a casting bed and stable working surface. We recommend at least 12-inches of Crushed Stone be provided beneath floor slabs.

Slab-on-grade subgrades should be proof-rolled and densified. Areas that become soft or continue to yield should be removed and replaced with compacted Structural Fill. As discussed, we recommend lightweight fill, such as Foamed Glass Aggregate, be used to raise grades beneath the proposed retail units along India Street and Middle Street; alternatively, pile supported Structural Floor slabs with normal weight fill, and utilities hung from the structural slabs, may be considered.

Uncontrolled fills encountered beneath proposed paved areas should be proof-rolled and densified. Areas that become soft or continue to yield after densification should be removed and replaced with compacted Structural Fill. Additionally, we recommend installing woven geotextile fabric over pavement subgrades.

Beneath pipes and utility structures with soft trench bottoms, we recommend overexcavating with a smooth edged bucket and installing at least 1 foot of Underdrain Sand below customary bedding materials wrapped in geotextile filter fabric, such as Mirafi 180N. The depth of customary bedding materials for soft trench bottoms should be at least 12 inches beneath pipes and 24 inches beneath structures. Organics, rubble, and debris encountered at utility subgrade elevation should be over-excavated and replaced with compacted Underdrain Sand.

4.3 Excavation and Dewatering

Excavation work will generally encounter uncontrolled fills with rubble and debris, relic bay sediments, silty sand, silt, and clay soils. Care must be exercised during construction to limit disturbance of the bearing soils. Earthwork and grading activities should occur during drier, non-freezing weather of Spring, Summer and Fall. Final cuts to subgrade should be performed with a smooth-edged bucket to help reduce strength loss from soil disturbance.

Vibrations from construction should be controlled below threshold limits of 0.5 in/sec for structures, water supply wells and infrastructure within 500 feet of the project site. More restrictive vibration limits may be warranted in specific cases with sensitive equipment, historic structures or artifacts on-site or within close proximity.

The site soils include uncontrolled fill with ash and debris. We recommend planning include an environmental media management plan prepared by the project environmental consultant. Handling and disposal of soil and groundwater must meet applicable local, state, and federal regulations.

Sumping and pumping dewatering techniques should be adequate to control groundwater in excavations. Controlling the water levels to at least one foot below planned excavation depths will help stabilize subgrades during construction.

Excavations must be properly shored or sloped in accordance with OSHA Regulations to prevent sloughing and caving of the sidewalls during construction. Support of Excavation (SOE) such as braced soldier piles and lagging or interlocking sheetpiles will be required for construction of along Middle and India Streets. We recommend the contract documents require a support of excavation plan, prepared by a Professional Engineer licensed in the State of Maine, for review prior to construction. We recommend the SOE design submittal include a global stability analysis.

Care must be taken to preclude undermining adjacent structures, utilities and roadways. The design and planning of excavations, excavation support systems, and dewatering is the responsibility of the contractor.

LEGEND:

PROPOSED	EXISTING
BUILDING	IRON PIN FOUND (IPF) OR CAPPED IRON ROD FOUND (CIR)
LANDSCAPING	ELECTRIC MANHOLE
	CATCH BASIN
	SEWER MANHOLE
	DRAIN MANHOLE
	DOWN SPOUT
	WATER VALVE
EDGE OF PAVEMENT	WATER SHUTOFF
	UTILITY POLE
VERTICAL GRANITE CURB	SIGN
	LIGHT POLE
SLIPFORM CONCRETE CURB	ELECTRIC METER
	GAS METER
BRICK SIDEWALK	EDGE OF PAVEMENT
	CURB (GRANITE, UNLESS NOTED)
	EDGE OF GRAVEL
	TREE
	STUMP
	70 EXISTING CONTOUR
	x=48.3 SPOT GRADE
	PROPERTY LINE
	RIGHT OF WAY
	SD STORM DRAIN
	S SEWER
	W UNDERGROUND WATER
	OHP OVERHEAD UTILITY WIRES
	WOOD STOCKADE FENCE
	CHAIN LINK FENCE
	GUARD RAIL
	EXISTING BUILDING

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — STEPHEN R. BUSHEY — 05.30.2025 — LICENSED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-GEN.dwg		

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Drawing Name: GENERAL NOTES & LEGEND
Project: **Home 2 Suites – 203 Fore Street** Portland, Maine
Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust** 222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-1.1

U:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-GEN.dwg 5/28/2025 4:19 PM

SPACE AND BULK REGULATIONS		
SPACE AND BULK REGULATION	REQUIRED - INDIA ST FORM BASED ZONE	PROVIDED
MINIMUM LOT SIZE	NONE	139,907 SF
MIN. STREET FRONTAGE	NONE	436.78 FT.
MINIMUM SETBACKS FRONT YARD UA SUBDISTRICT FRONT YARD UT SUBDISTRICT REAR YARD SIDE YARD UA SUBDISTRICT SIDE YARD UT SUBDISTRICT	- 10' MAX. 10' MAX. 10' MIN. 5' MIN. 10' MIN.	 5' MAX. 5' N/A 58 FT. 58 FT.
BUILDING HT - UA SUBDISTRICT BUILDING HT - UT SUBDISTRICT	3 STORY MIN. / 50' (4 STORY) MAX.* 3 STORY MIN. / 65' (6 STORY) MAX.*	49.97' 50.97'

*SEE INDIA STREET FORM BASED ZONE ALLOWANCES FOR HEIGHT BONUSES

**10' MAX ALLOWED IF GROUND PLANE AT FRONTAGE IS A CONTINUATION OF THE ACCESSIBLE PUBLIC RIGHT-OF-WAY.

SIGN LEGEND:

R1-1 24"x24" STOP (A) | R7-8 12"x18" RESERVED PARKING POST MOUNTED (B) | R7-8 12"x18" RESERVED PARKING VAN ACCESSIBLE R7-8A 12"x6" POST MOUNTED (C) | HOTEL PARKING ALL OTHER VEHICLES TOWED AT OWNER'S EXPENSE 18"x24" (D) | NO PARKING HERE TO CORNER R7-11 18"x24" (E)

MATERIALS LEGEND:

- CITY STANDARD BRICK SIDEWALK (REQUIRED IN CITY R.O.W.)
- BRICK / PAVERS (SEE LS PLANS)

HAMPSHIRE STREET

NORTH

MIDDLE STREET
PAVED – PUBLIC – 66' WIDE

FORE STREET
PAVED – PUBLIC – 50' WIDE

INDIA STREET
PAVED – PUBLIC – 65' WIDE

BEGIN SIDEWALK REPLACEMENT

NEW CITY STANDARD BRICK SIDEWALK - INFILL TO R.O.W. LINE, TYP.

BRICK SIDEWALK CONNECTION TO STAIRS

PROTECT GRANITE SEAT BENCHES, TYP. - REMOVE / RESET AS NECESSARY

BUILDING ENTRANCE CANOPY, TYP.

NEW CITY STANDARD BRICK SIDEWALK - INFILL TO R.O.W. LINE, TYP. - MATCH EXISTING

SEE MORATORIUM NOTE BELOW

8" DI FIRE SV27P253
4" DI DOMESTIC SV27P254

TM 29-L-4
N/F
80-90 CORPS
10466/206
BRICK BUILDING

"THE HONEY PAW"
#78 MIDDLE ST.

#88 MIDDLE ST.
"REMAX SHORELINE"

SURFACE DRAIN (TYPICAL)

CONCRETE COURTYARD

ROW OF ARBORVITAE

WOOD ENCLOSURE

COVERED SERVICE AND DUMPSTER AREA

GREASE TRAP

THRES.= 17.54

THRES.= 17.52

GAS METERS

"HAMPTON INN HOTEL"
#209 FORE ST.

THRES.= 17.53

6 STORY BRICK BUILDING

BUILDING OVERHEAD

STANDARD-DUTY BITUMINOUS PAVEMENT INFILL - REMOVE / RESET LIGHTS, TYP.

LOT 1 (PLAN REF. 1)
TM 29-L-1 AND 2
N/F
THE HOTEL, RESTAURANT AND PORTSIDE RESIDENCES CONDOMINIUM
30243/274

LANDSCAPING AND STORMWATER TREATMENT AREA

VALET/DRIVE THROUGH BUILDING

#207 FORE ST.

THRES.= 17.54

SEE NOTE 8

CONCRETE

GRANITE CURB

POCKET PARK

L/S

9' x 9' TRANSFORMER PAD

BEGIN SIDEWALK REPLACEMENT

ACCESS

DOUBLE YELLOW LINE

GRANITE CURB

PAVED SIDEWALK

#28

POCKET PARK ABOVE LOWER LEVEL, TYP. (SEE LANDSCAPE PLANS)

POCKET PARK ABOVE LOWER LEVEL, TYP. (SEE LANDSCAPE PLANS)

GRASS / LANDSCAPING

PLAZA

REAR OF CARPORT STRUCTURE

LIMIT OF COLUMN SUPPORTED CARPORT STRUCTURE - SEE STRUCTURAL / ARCHITECTURAL PLANS

STEPPED PLANTER BEDS

CAST IN PLACE STEPS - SEE STRUCTURAL PLANS

SEE SHEET C-3.1 FOR PARKING LAYOUT

STANDARD-DUTY BITUMINOUS PAVEMENT

NEW PASS THROUGH TO ALLOW PEDESTRIAN ACCESS TO HAMPTON INN ENTRANCE

COVERED PARKING WITH BUILDING SPACE ABOVE

BIKE HITCH, TYP. OF 3

4" BOLLARDS FOR METER EQUIPMENT, TYP.

WALL MOUNTED EV CHARGING STATION, TYP. OF 3

UNDERGROUND DETENTION

GROUND FLOOR ROOMS F.F. = 19.75

GROUND FLOOR ROOMS F.F. = 20.75

5-STORY HOME 2 SUITES
130 ROOMS

HOTEL LOBBY
F.F. = 20.75
GROUND LEVEL

RETAIL C
F.F. = 28.20
SECOND LEVEL

RETAIL B
F.F. = 28.20
SECOND LEVEL

RETAIL A
F.F. = 26.25
GROUND LEVEL

UTILITY ROOMS ACCESSED FROM GROUND LEVEL

ELEV.

STAIRS 1

STAIRS 2

PAVERS

DOORS

PLANTER AREA - SEE LS PLANS, TYP.

MICUCCI MARKET

CAST-IN-PLACE CONCRETE OR GRANITE STEPS

RAISED WALKWAY WITH RAILING AT RETAIL A ENTRANCES - SEE ARCHITECTURAL AND STRUCTURAL FOR WALL AND STEP DESIGN

EXISTING CITY STANDARD BRICK SIDEWALK (SEE LANDSCAPE PLANS FOR PROPOSED TREE LOCATIONS, TYP.)

EXTEND CITY BRICK FROM BACK OF EXISTING SIDEWALK TO FACE OF BUILDING (TYP.)

STAINLESS STEEL HANDRAIL, SEE ARCHITECTURAL

GRANITE STEPS

BUILDING ENTRANCE CANOPY, TYP.

OUTDOOR PATIO / LOUNGE AREA

TYPE C TREE WELL (PORTLAND DETAIL IV-4C), TYP. OF 2

BOLLARD, TYP. OF 5

SIGN BOLLARD, TYP. OF 2

PROTECT MONUMENTS, TYP.

NEW CITY STANDARD BRICK SIDEWALK - INFILL TO R.O.W. LINE, TYP.

ALL PAVEMENT RESTORATION IS SUBJECT TO THE CITY RULES AND REGULATIONS FOR EXCAVATION IN THE PUBLIC RIGHT-OF-WAY (TYP.)

DRILL HOLE FOUND

BRICK SIDEWALK

GRAVEL PARKING

20 0 10 20 40
1 inch = 20 ft.

MORATORIUM NOTE:

1) INDIA STREET IS UNDER MORATORIUM UNTIL 9/25/2025. COORDINATE FINAL MORATORIUM PAVEMENT RESTORATION WITH DEPARTMENT OF PUBLIC WORKS.

HOTEL GROSS AREA SCHEDULE	
FIRST FLOOR HOTEL	13,062 SF
SECOND FLOOR HOTEL	13,962 SF
THIRD FLOOR HOTEL	19,181 SF
FOURTH FLOOR HOTEL	19,181 SF
FIFTH FLOOR HOTEL	17,198 SF
GROSS HOTEL AREA	82,585 SF
RETAIL A	1,616 SF
RETAIL B	1,964 SF
RETAIL C	1,757 SF
TOTAL BUILDING FOOTPRINT	20,575 SF

GENERAL NOTES

1. OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.
2. LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.
3. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
N:301390.32	N:301536.149
E:2931443.86	E:2931222.69

4. USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
6. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED WITH THE EXCEPTION OF THE ONGOING BUILDING CONSTRUCTION AT THE SOUTHWEST CORNER OF MIDDLE AND INDIA STREETS.
7. NO PROPOSED CHANGES IN STREET LINES ARE KNOWN BY THIS SURVEYOR.
8. PER PLAN REFRENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

PLAN REFERENCES

1. "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS DATED 02-08-10 AND REVISED THROUGH 04-23-10. RECORDED IN PLAN BOOK 210 PAGE 194.
2. "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC.," BY SEBAGO TECHNICS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.
3. "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06-22-10 AND REVISED THROUGH 9-09-10. RECORDED IN PLAN BOOK 210 PAGE 329.
4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR GORRILL-PALMER", BY OWEN HASKELL, INC., DATED MAY 30, 2018, JOB NO. 2018-092 P.
5. "EXISTING CONDITIONS PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS, DATED 12-04-09 AND REVISED THROUGH 08-24-11 (AS-BUILT SUBMISSION).

NOTES:

1. DIMENSIONING IS TO EDGE OF PAVEMENT, FACE OF BUILDING OR FACE OF CURB.
2. PROJECT SIGN(S) SUBJECT TO SEPARATE PERMIT FROM CODES & INSPECTIONS DIVISION.
3. THE OWNER RESERVES THE RIGHT TO INSTALL SNOWMELT SYSTEMS BENEATH SIDEWALKS & PLAZAS SUBJECT TO FUNDING AVAILABILITY.
4. ONSITE SNOW STORAGE WILL BE LIMITED AND, IN GENERAL, SNOW WILL BE REMOVED FROM THE SITE AND STOCKPILED AT AN APPROVED OFFSITE LOCATION BY A CONTRACTED SNOW REMOVAL CONTRACTOR.
5. OFFSITE PARKING SIGNAGE FOR INFORMATION ONLY SHALL BE RESPONSIBILITY OF CITY PARKING DIVISION TO SUPPLY AND INSTALL.
6. ALL EXTERIOR DOORS SHALL HAVE STRUCTURAL SLABS AT GRADE OR BENEATH BRICK PAVERS - COORDINATE WITH ARCHITECTUAL AND STRUCTURAL PLANS.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-SITE.dwg		

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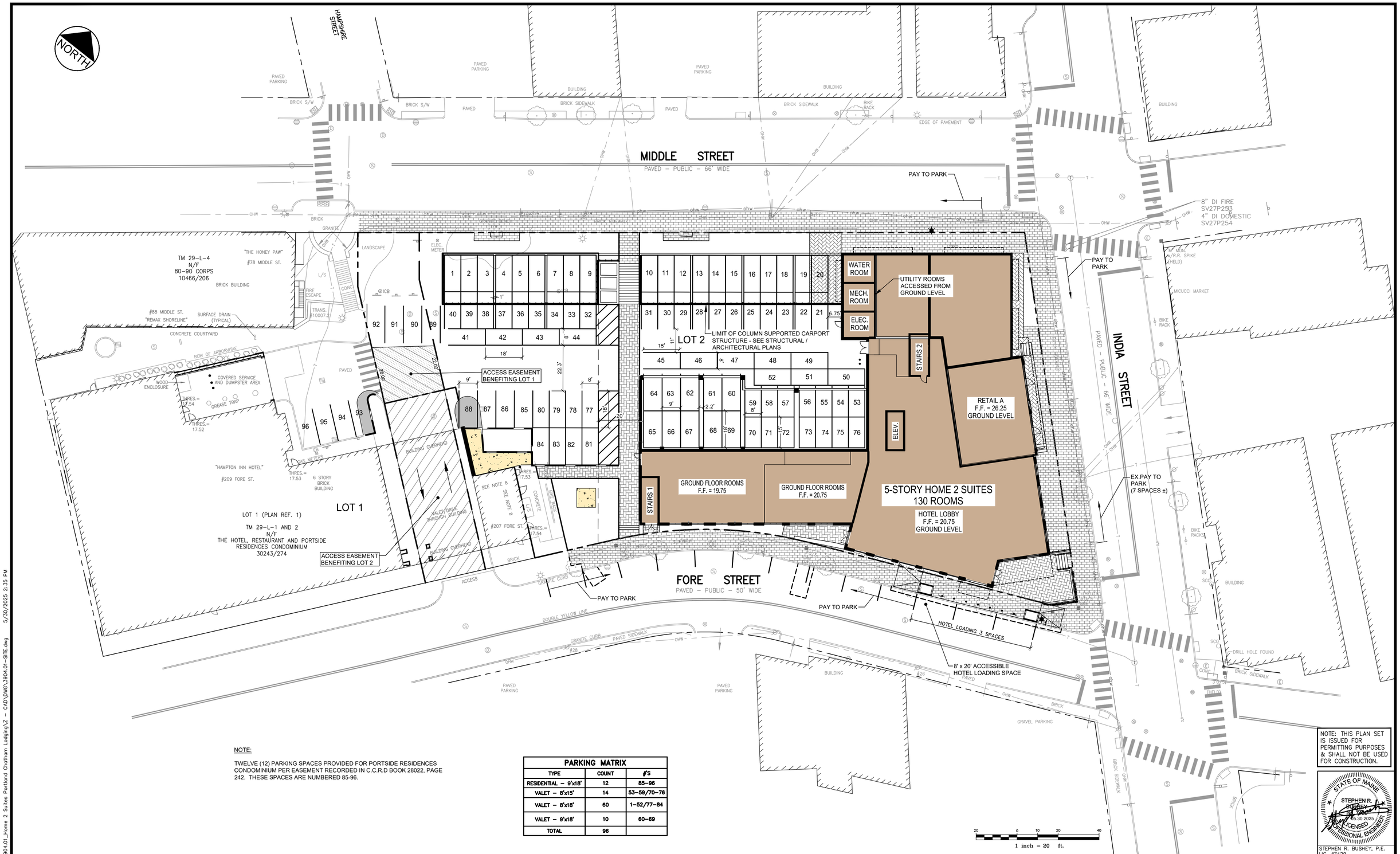
Drawing Name: SITE LAYOUT PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-3.0

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NOTE:

TWELVE (12) PARKING SPACES PROVIDED FOR PORTSIDE RESIDENCES CONDOMINIUM PER EASEMENT RECORDED IN C.C.R.D BOOK 28022, PAGE 242. THESE SPACES ARE NUMBERED 85-96.

PARKING MATRIX		
TYPE	COUNT	#'S
RESIDENTIAL – 9'x18'	12	85–96
VALET – 8'x15'	14	53–59/70–76
VALET – 8'x18'	60	1–52/77–84
VALET – 9'x18'	10	60–69
TOTAL	96	

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
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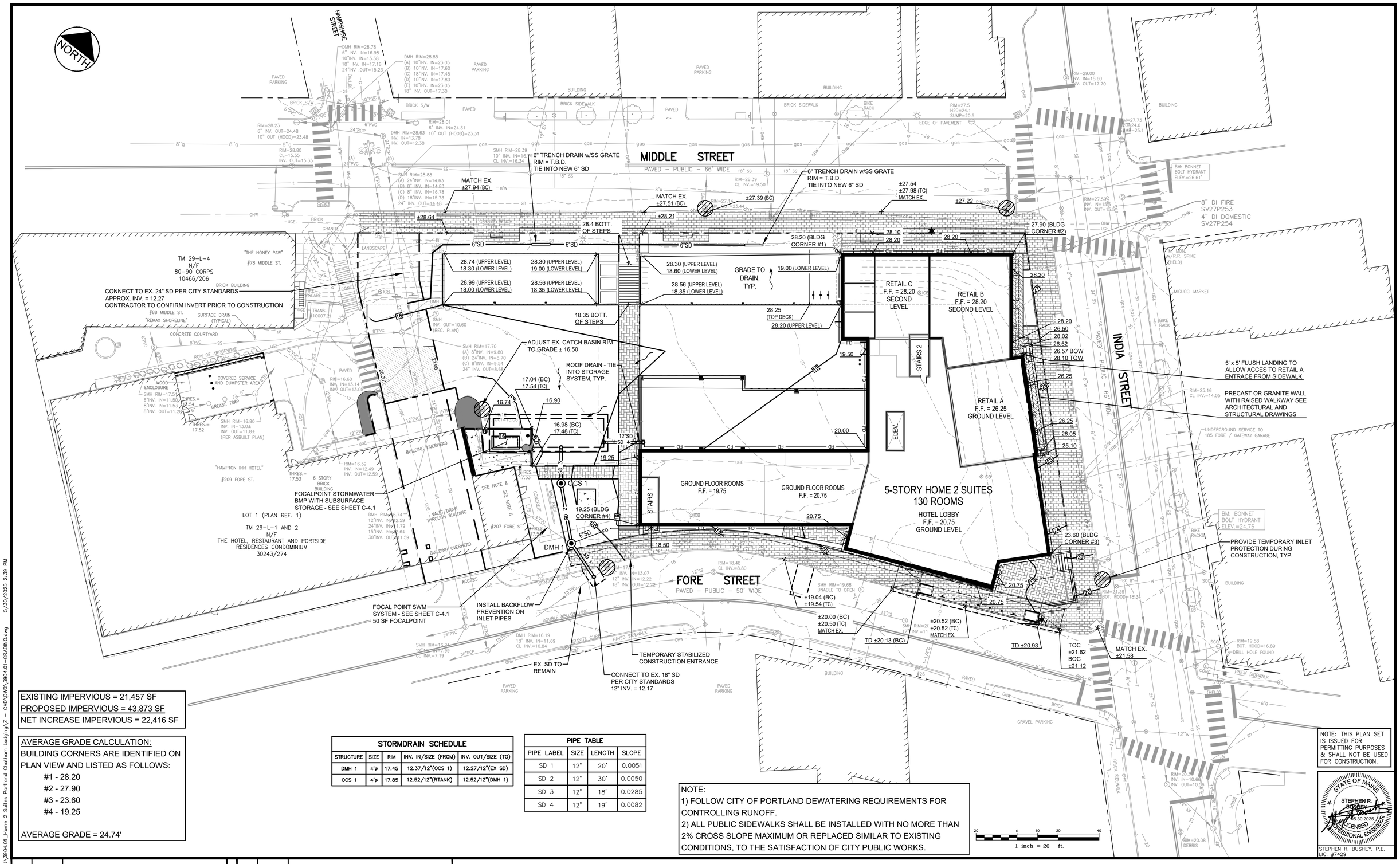
Drawing Name: PARKING PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-3.1

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EXISTING IMPERVIOUS = 21,457 SF
PROPOSED IMPERVIOUS = 43,873 SF
NET INCREASE IMPERVIOUS = 22,416 SF

AVERAGE GRADE CALCULATION:
BUILDING CORNERS ARE IDENTIFIED ON PLAN VIEW AND LISTED AS FOLLOWS:
#1 - 28.20
#2 - 27.90
#3 - 23.60
#4 - 19.25

AVERAGE GRADE = 24.74'

STORMDRAIN SCHEDULE

STRUCTURE	SIZE	RIM	INV. IN/SIZE (FROM)	INV. OUT/SIZE (TO)
DMH 1	4'ø	17.45	12.37/12"(OCS 1)	12.27/12"(EX SD)
OCS 1	4'ø	17.85	12.52/12"(RTANK)	12.52/12"(DMH 1)

PIPE TABLE

PIPE LABEL	SIZE	LENGTH	SLOPE
SD 1	12"	20'	0.0051
SD 2	12"	30'	0.0050
SD 3	12"	18'	0.0285
SD 4	12"	19'	0.0082

NOTE:
1) FOLLOW CITY OF PORTLAND DEWATERING REQUIREMENTS FOR CONTROLLING RUNOFF.
2) ALL PUBLIC SIDEWALKS SHALL BE INSTALLED WITH NO MORE THAN 2% CROSS SLOPE MAXIMUM OR REPLACED SIMILAR TO EXISTING CONDITIONS, TO THE SATISFACTION OF CITY PUBLIC WORKS.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

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4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
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File Name: 3904.01–GRADING.dwg		

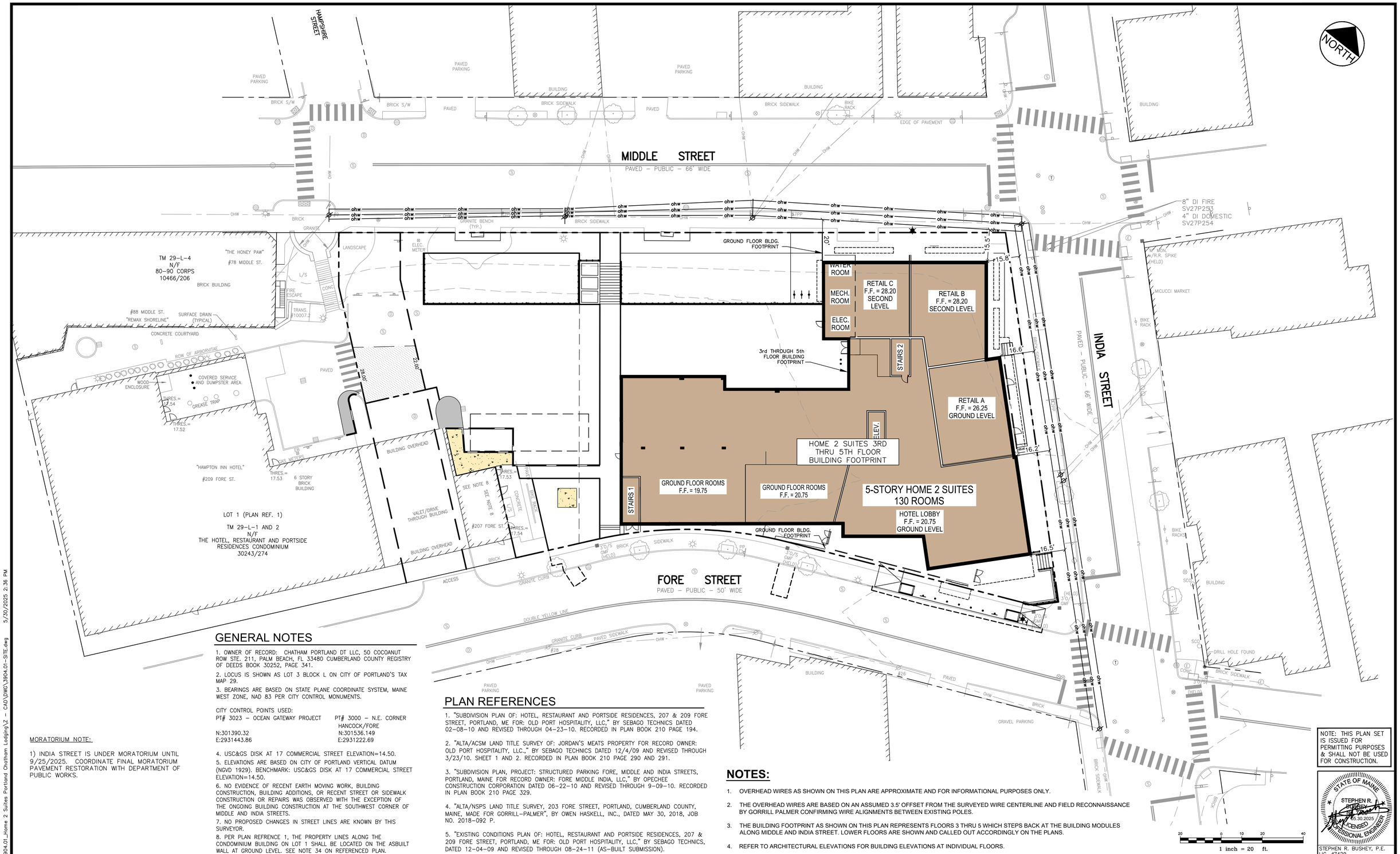
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South Portland, ME 04106

Drawing Name: GRADING, DRAINAGE & EROSION CONTROL PLAN
Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine
Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-4.0

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GENERAL NOTES

1. OWNER OF RECORD: CHATHAM PORTLAND DT LLC, 50 COCOANUT ROW STE. 211, PALM BEACH, FL 33480 CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30252, PAGE 341.
2. LOCUS IS SHOWN AS LOT 3 BLOCK L ON CITY OF PORTLAND'S TAX MAP 29.
3. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER CITY CONTROL MONUMENTS.

CITY CONTROL POINTS USED:

PT# 3023 – OCEAN GATEWAY PROJECT	PT# 3000 – N.E. CORNER HANCOCK/FORE
N:301390.32	N:301536.149
E:2931443.86	E:2931222.69

4. USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
5. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM (NGVD 1929). BENCHMARK: USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.
6. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED WITH THE EXCEPTION OF THE ONGOING BUILDING CONSTRUCTION AT THE SOUTHWEST CORNER OF MIDDLE AND INDIA STREETS.
7. NO PROPOSED CHANGES IN STREET LINES ARE KNOWN BY THIS SURVEYOR.
8. PER PLAN REFRENCE 1, THE PROPERTY LINES ALONG THE CONDOMINIUM BUILDING ON LOT 1 SHALL BE LOCATED ON THE ASBUILT WALL AT GROUND LEVEL. SEE NOTE 34 ON REFERENCED PLAN.

MORATORIUM NOTE:

1) INDIA STREET IS UNDER MORATORIUM UNTIL 9/25/2025. COORDINATE FINAL MORATORIUM PAVEMENT RESTORATION WITH DEPARTMENT OF PUBLIC WORKS.

PLAN REFERENCES

1. "SUBDIVISION PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS DATED 02–08–10 AND REVISED THROUGH 04–23–10. RECORDED IN PLAN BOOK 210 PAGE 194.
2. "ALTA/ACSM LAND TITLE SURVEY OF: JORDAN'S MEATS PROPERTY FOR RECORD OWNER: OLD PORT HOSPITALITY, LLC.," BY SEBAGO TECHNICS DATED 12/4/09 AND REVISED THROUGH 3/23/10. SHEET 1 AND 2. RECORDED IN PLAN BOOK 210 PAGE 290 AND 291.
3. "SUBDIVISION PLAN, PROJECT: STRUCTURED PARKING FORE, MIDDLE AND INDIA STREETS, PORTLAND, MAINE FOR RECORD OWNER: FORE MIDDLE INDIA, LLC," BY OPECHEE CONSTRUCTION CORPORATION DATED 06–22–10 AND REVISED THROUGH 9–09–10. RECORDED IN PLAN BOOK 210 PAGE 329.
4. "ALTA/NSPS LAND TITLE SURVEY, 203 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR GORRILL–PALMER", BY OWEN HASKELL, INC., DATED MAY 30, 2018, JOB NO. 2018–092 P.
5. "EXISTING CONDITIONS PLAN OF: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES, 207 & 209 FORE STREET, PORTLAND, ME FOR: OLD PORT HOSPITALITY, LLC," BY SEBAGO TECHNICS, DATED 12–04–09 AND REVISED THROUGH 08–24–11 (AS–BUILT SUBMISSION).

NOTES:

1. OVERHEAD WIRES AS SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY.
2. THE OVERHEAD WIRES ARE BASED ON AN ASSUMED 3.5' OFFSET FROM THE SURVEYED WIRE CENTERLINE AND FIELD RECONNAISSANCE BY GORRILL PALMER CONFIRMING WIRE ALIGNMENTS BETWEEN EXISTING POLES.
3. THE BUILDING FOOTPRINT AS SHOWN ON THIS PLAN REPRESENTS FLOORS 3 THRU 5 WHICH STEPS BACK AT THE BUILDING MODULES ALONG MIDDLE AND INDIA STREET. LOWER FLOORS ARE SHOWN AND CALLED OUT ACCORDINGLY ON THE PLANS.
4. REFER TO ARCHITECTURAL ELEVATIONS FOR BUILDING ELEVATIONS AT INDIVIDUAL FLOORS.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01–SITE.dwg		

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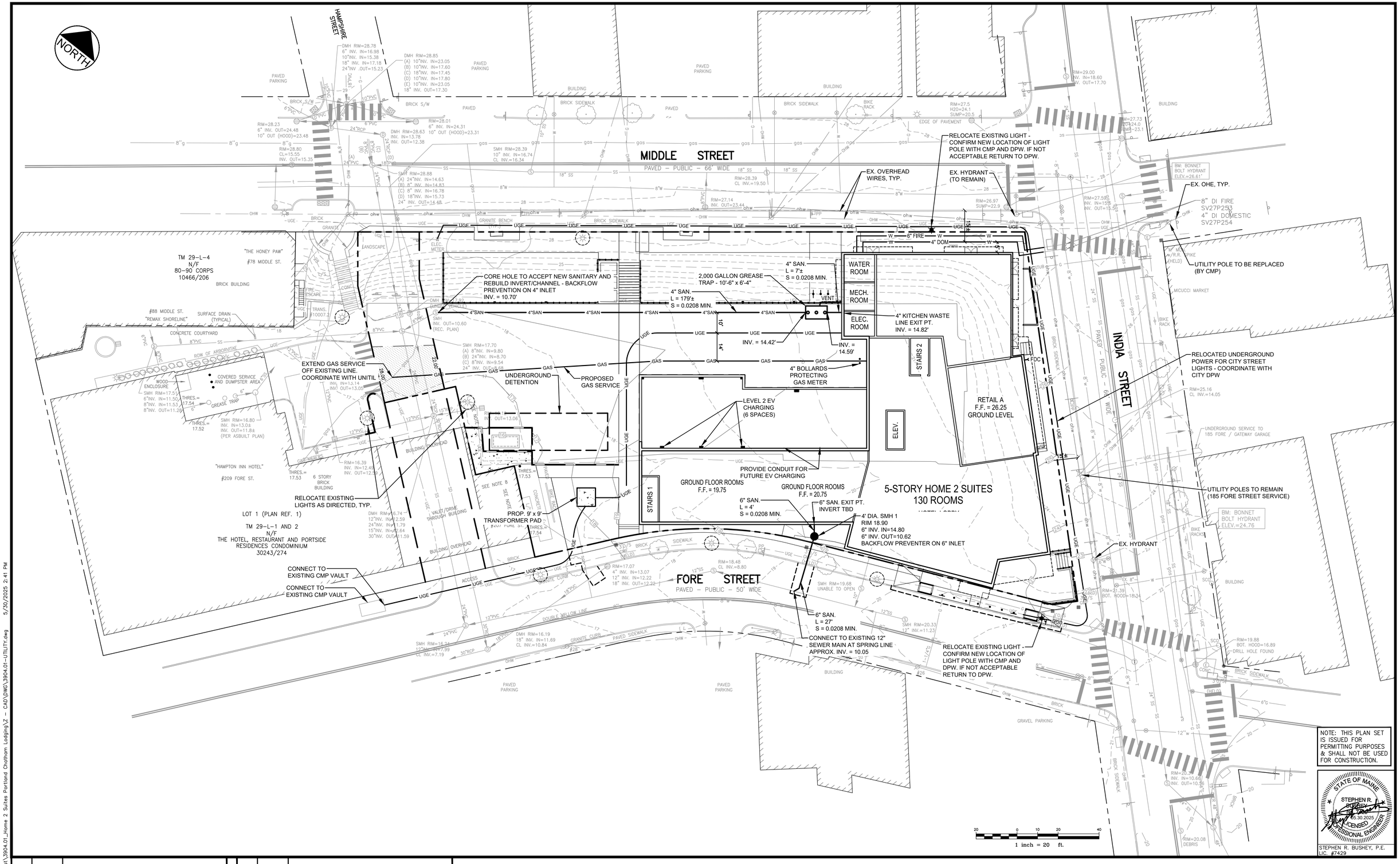
Drawing Name: OVERHEAD WIRE SETBACK PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-3.2

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NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
12429
05.30.2025
LICENSED PROFESSIONAL ENGINEER

STEPHEN R. BUSHEY, P.E.
LIC. #7429

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Design: SRB	Draft: CDD	Date: FEB. 2025
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File Name: 3904.01–UTILITY.dwg		

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300 Southborough Drive - Suite 200
South Portland, ME 04106

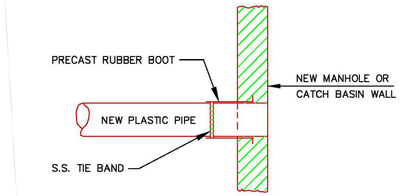
Drawing Name: UTILITY PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

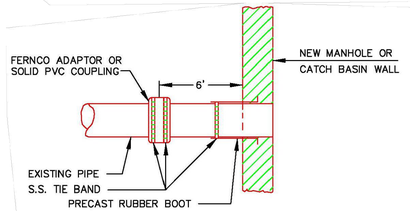
Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-5.0

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METHOD 2 – NEW CONSTRUCTION

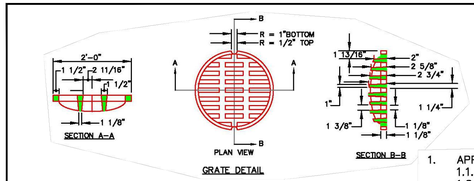


METHOD 1 – EXISTING PIPE INTO NEW STRUCTURE

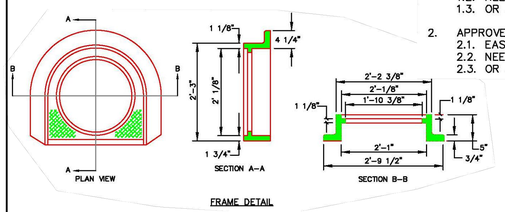
(A) PLASTIC PIPE CONNECTION METHODS 1 & 2

N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



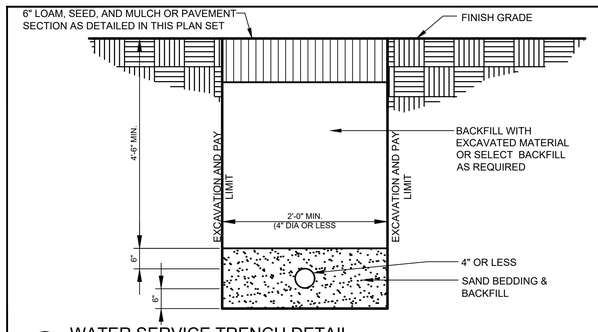
1. APPROVED CATCH BASIN FRAMES:
   1.1. EAST JORDAN = 7375Z
   1.2. NEENAH = R-3248
   1.3. OR APPROVED EQUAL
2. APPROVED CATCH BASIN GRATES
   2.1. EAST JORDAN = 2440M
   2.2. NEENAH = R-3248
   2.3. OR APPROVED EQUAL



(D) CATCH BASIN FRAME AND GRATE

N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



(B) WATER SERVICE TRENCH DETAIL

N.T.S.

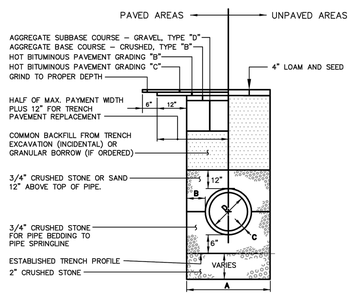
NOTES

1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION **B** SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION **B** SHALL BE AT LEAST 9".
4. DIMENSION **A** IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION **A** SHALL BE BASED ON PIPE DIAMETER **D**, AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, **D** (INCHES)	MAX. TRENCH WIDTH, **A** (FEET)
4	4.0
6	4.0
8	4.0
10	4.0
12	5.0
15	5.0
18	5.0
21	5.0
24	6.0
27	6.0
30	6.0
36	6.0
42	7.0
48	7.0

NOTES:
DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

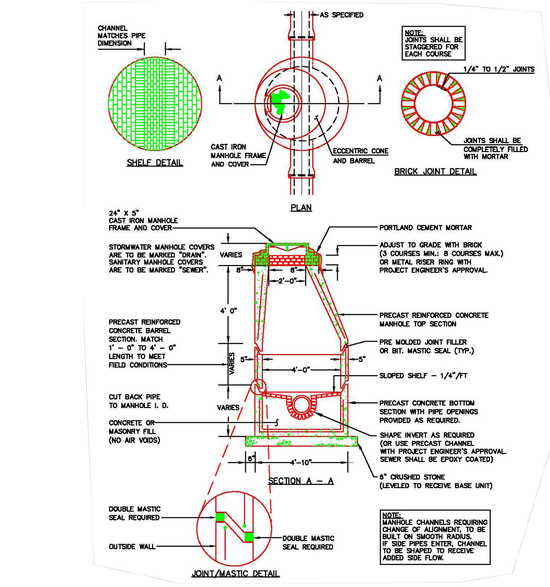
ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES..



(D) TYPICAL PIPE TRENCH INSTALLATION AND NOTES

N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



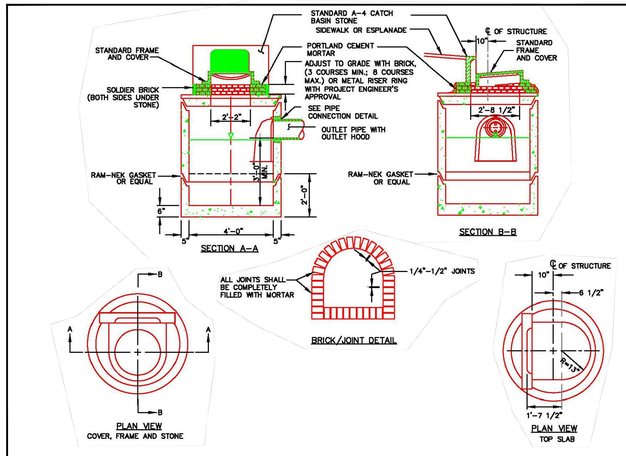
(G) PRECAST CONCRETE MANHOLE

N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL PIPES ENTERING MANHOLES AND CATCH BASINS SHALL HAVE FLEXIBLE PIPE CONNECTIONS WITH STAINLESS STEEL BANDS. FILL ANY ANNUAL SPACE WITH NON SHRINK GROUT.
5. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID
6. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. INVERTS SHALL BE BUILT TO THE HEIGHT OF THE FOLLOWING AS DETERMINED BY THE LARGEST PIPE SIZE.
   8.1. FOR PIPE SIZES 4"–12" INVERTS SHALL GO TO THE TOP OF THE PIPE.
   8.2. FOR PIPE SIZES 15"–36" INVERTS SHALL GO TO THE SPRING LINE.
   8.3. FOR PIPE SIZES 42"–60" INVERTS SHALL GO TO THE 1/3 OF PIPE SIZE
9. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48–CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A HOOD / CASCO TRAP. SEE FIGURE II-09.
13. ALL MANHOLES AND CATCH BASINS REQUIRE BUOYANCY CALCULATIONS AND THE STRUCTURES SHALL BE MODIFIED AS NECESSARY BASED ON THOSE CALCULATIONS.

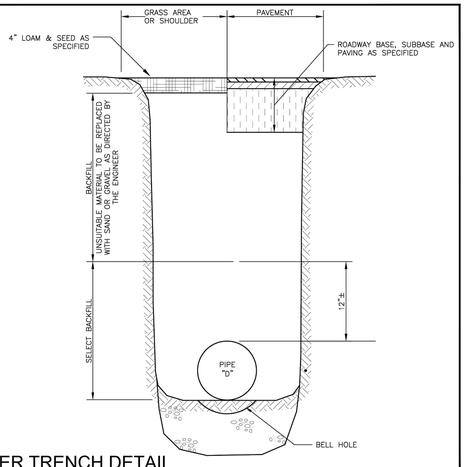
GENERAL NOTES FOR MANHOLES AND CATCH BASINS



(C) PRECAST CONCRETE CATCH BASIN - TYPE 'E'

N.T.S.

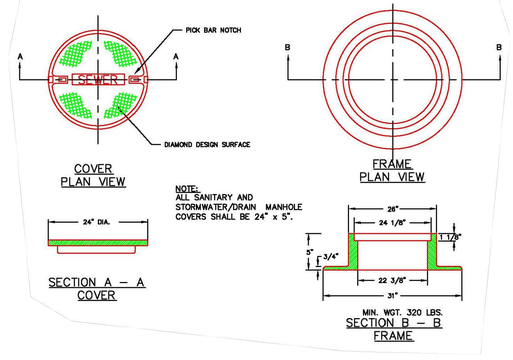
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



(F) TYPICAL WATER TRENCH DETAIL

N.T.S.

NOTES:
1. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
2. APPROVED MANHOLE FRAMES:
   2.1. EAST JORDAN = 1690Z
   2.2. NEENAH = R-1496
   2.3. OR APPROVED EQUAL
3. APPROVED MANHOLE COVERS
   3.1. EAST JORDAN = 2160A
   3.2. NEENAH = R-1496
   3.3. OR APPROVED EQUAL



(H) CAST IRON MANHOLE COVER AND FRAME

N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01–DETAILS.dwg		

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GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

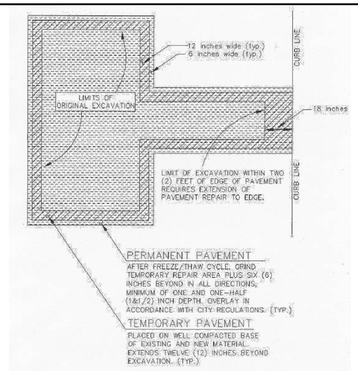
Drawing Name: STORM DRAIN & UTILITY DETAILS

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

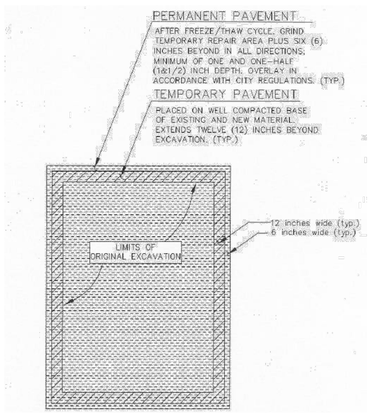
Drawing No. C-6.3

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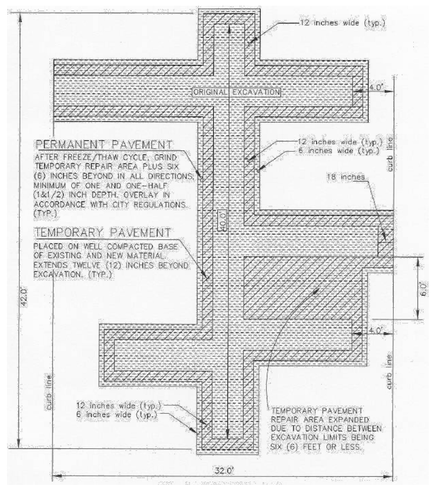
A PLAN VIEW OF MINOR EXCAVATION PAVEMENT REPAIR

A AS OBTAINED FROM THE CITY OF PORTLAND "RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC RIGHT OF WAY"



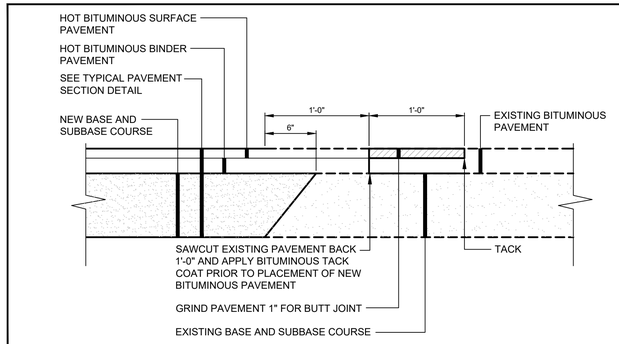
B PLAN VIEW OF MINOR EXCAVATION PAVEMENT REPAIR

B AS OBTAINED FROM THE CITY OF PORTLAND "RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC RIGHT OF WAY"



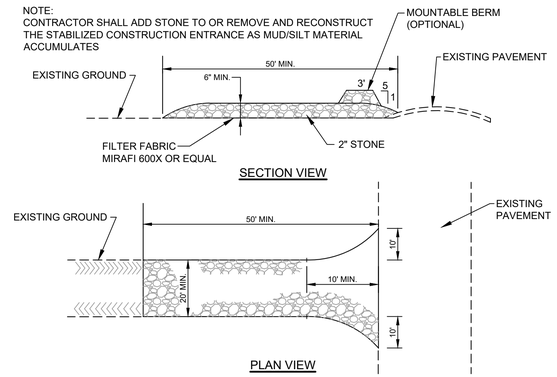
C PLAN VIEW OF MAJOR EXCAVATION PAVEMENT REPAIR

C AS OBTAINED FROM THE CITY OF PORTLAND "RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC RIGHT OF WAY"



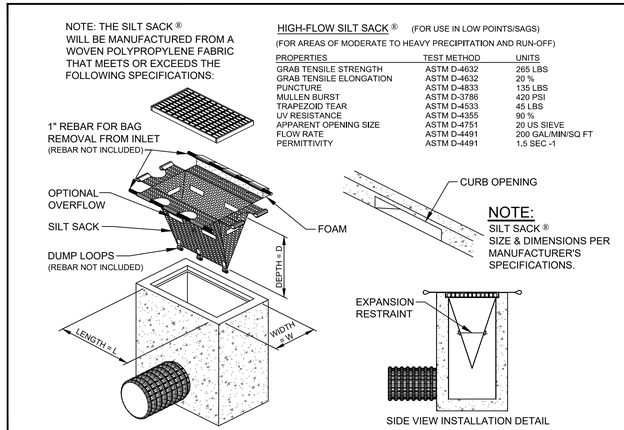
D PAVEMENT SAWCUT DETAIL

N.T.S.



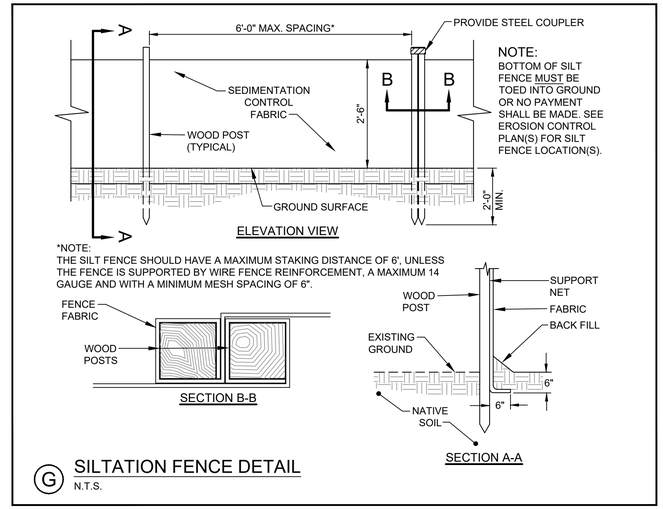
E STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.



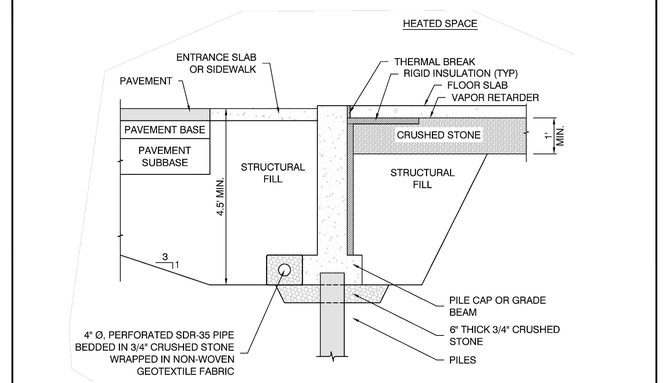
F SILT SACK® DETAIL & SPECIFICATIONS

N.T.S.

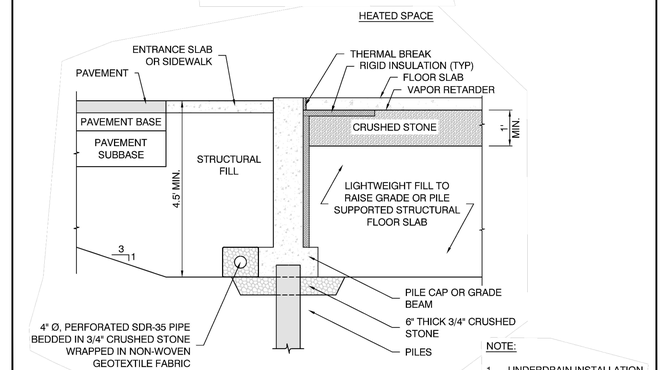


G SILTATION FENCE DETAIL

N.T.S.



PROPOSED HOTEL (F.F.E. = 20' ±)



PROPOSED MIDDLE STREET AND INDIA STREET RETAIL UNITS (F.F.E. = 26' AND 28' ±)

NOTE:

1. UNDERDRAIN INSTALLATION AND MATERIAL GRADATION RECOMMENDATIONS ARE CONTAINED WITHIN THIS REPORT.
2. DETAIL IS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY, NOT FOR CONSTRUCTION.

H FOUNDATION / ENTRANCE SLAB DETAILS

N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
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GORRILL PALMER
An LJB Engineering Company
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GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

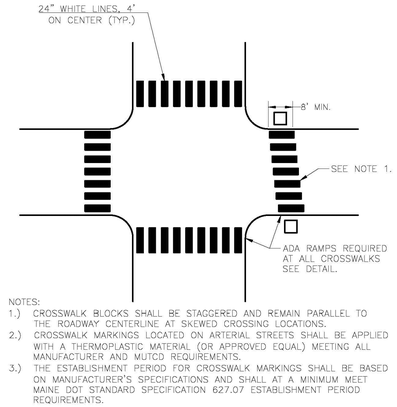
Drawing Name: SITE & MISCELLANEOUS DETAILS

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-6.2

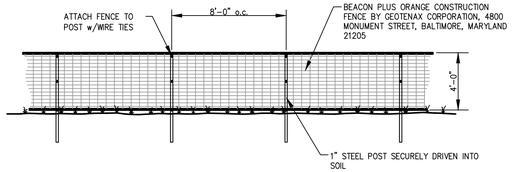
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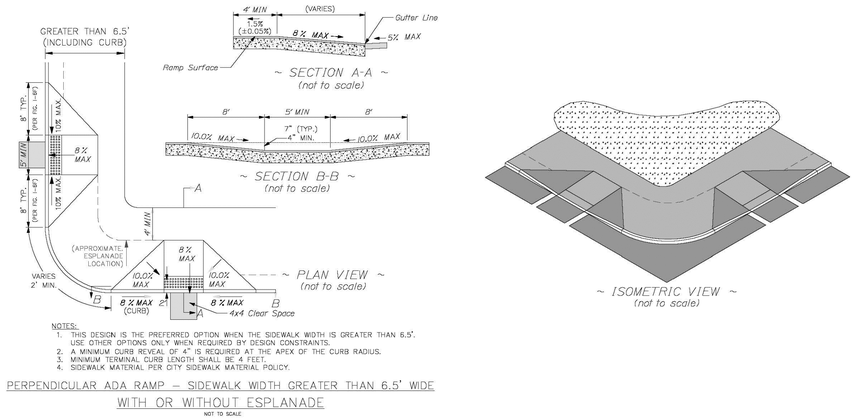
NOTES:
1.) CROSSWALK BLOCKS SHALL BE STAGGERED AND REMAIN PARALLEL TO THE ROADWAY CENTERLINE AT SKEWED CROSSING LOCATIONS.
2.) CROSSWALK MARKINGS LOCATED ON ARTERIAL STREETS SHALL BE APPLIED WITH A THERMOPLASTIC MATERIAL (OR APPROVED EQUAL) MEETING ALL MANUFACTURER AND MUTCD REQUIREMENTS.
3.) THE ESTABLISHMENT PERIOD FOR CROSSWALK MARKINGS SHALL BE BASED ON MANUFACTURER'S SPECIFICATIONS AND SHALL AT A MINIMUM MEET MAINE DOT STANDARD SPECIFICATION 627.07 ESTABLISHMENT PERIOD REQUIREMENTS.

(A) CROSSWALK STRIPING DETAIL
N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



(C) ORANGE CONSTRUCTION FENCE DETAIL
N.T.S.



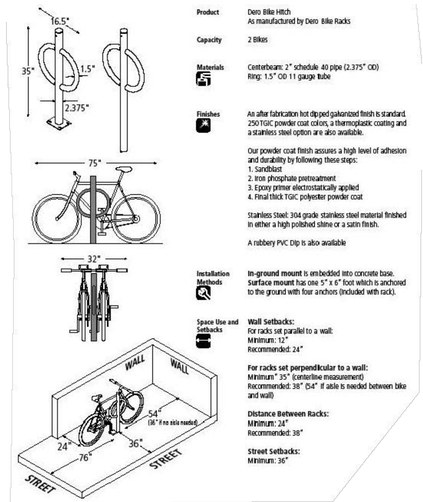
NOTES:
1. THIS DESIGN IS THE PREFERRED OPTION WHEN THE SIDEWALK WIDTH IS GREATER THAN 6.5'. USE OTHER OPTIONS ONLY WHEN REQUIRED BY DESIGN CONSTRAINTS.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

PERPENDICULAR ADA RAMP – SIDEWALK WIDTH GREATER THAN 6.5' WIDE WITH OR WITHOUT ESPLANADE

NOT TO SCALE

(F) PERPENDICULAR ADA RAMP FOR SIDEWALK GREATER THAN 6.5'
N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



Product Dero Bike Hitch
As manufactured by Dero Bike Racks

Capacity 2 Bikes

Materials Centerbeam: 2" schedule 40 pipe (2.375" OD)
Ring: 1.5" OD 11 gauge tube

Finishes As after fabrication hot dipped galvanized finish is standard. 2507GIC powder coat colors, a thermoplastic coating and a stainless steel option are also available.

Our powder coat finish assures a high level of adhesion and durability by following these steps:
1. Sandblast
2. Iron phosphate pretreatment
3. Epoxy primer electrostatically applied
4. Final thick TGIC polyester powder coat

Stainless Steel: 304 grade stainless steel material finished in either a high polished shine or a satin finish.

A rubbery PVC Dip is also available

Installation Methods **In-ground mount** is embedded into concrete base. **Surface mount** has one 5" x 6" foot which is anchored to the ground with four anchors (included with rack).

Space Use and Setbacks

Wall Setbacks:
For racks set parallel to a wall:
Minimum: 12"
Recommended: 24"

For racks set perpendicular to a wall:
Minimum" 35" (centerline measurement)
Recommended: 38" (54" if table is needed between bike and wall)

Distance Between Racks:
Minimum: 24"
Recommended: 38"

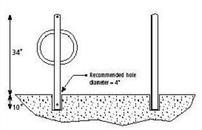
Street Setbacks:
Minimum: 36"

Tools needed for installation

Level	Hole coring machine with 4" bit
Cement mixing tub	Access to water hose
Shovel	Materials to build brace (see "install Tip" at bottom of page)
Trowel	

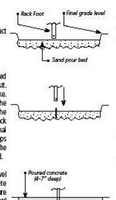
Installing into Existing Sidewalk

Core holes no less than 3" diameter (4" recommended) and no less than 6" deep into sidewalk. Place Bike Hitch into hole making sure the rack is level. Fill hole with Por-Rok or epoxy grout. 34-36" of the bike Hitch should remain above the surface. Make sure Hitch is level and held in place until the grout has completely set.

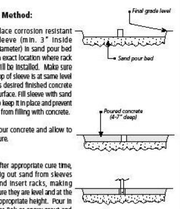


Installing into a New Sidewalk:

Stake Method:
1. Use rack to measure exact location in pour bed.
2. Pound stake into pour bed where end of rack will sit. Slide rack and onto stake. You may need to dig the end of the rack into the sand to make sure the rack sits at least 25" above final grade level. The stake keeps the rack straight while the concrete is being poured.
3. Make sure the rack is level and true. Pour concrete around the rack. Make sure the rack is not touched until the concrete has completely set.



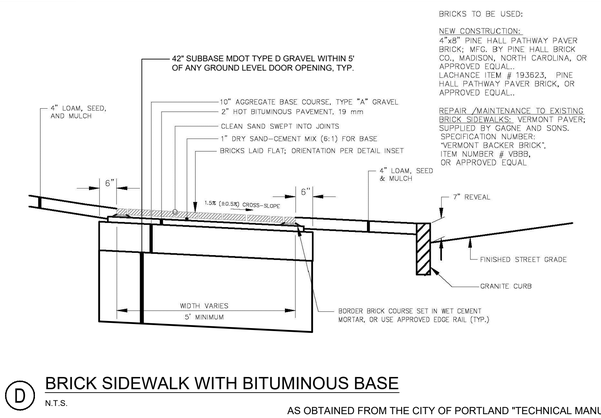
Sleeve Method:
1. Place corrosion resistant sleeve (min. 3" inside diameter) in sand pour bed in exact location where rack will be installed. Make sure top of sleeve is at same level as desired finished concrete surface. Fill sleeve with sand to keep it in place and prevent it from filling with concrete.
2. Pour concrete and allow to cure.
3. After appropriate cure time, dig out sand from sleeves and insert racks, making sure they are level and at the appropriate height. Pour in Por-Rok or epoxy grout and allow to set.



INSTALL TIP
An easy way to brace the Bike Hitch while the grout sets is to bolt two 1x4" boards together at one end and clamp them onto the legs of the bike Hitch like a clothes pin.

DERO BIKE RACKS www.dero.com 1-800-248-4015

(B) CITY STANDARD DERO BIKE HITCH DETAILS
N.T.S.



BRICKS TO BE USED:

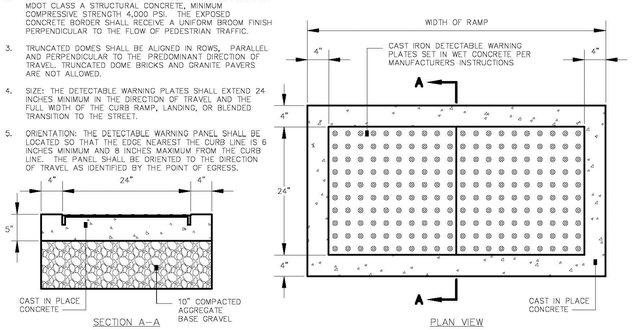
NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA, OR APPROVED EQUAL.
LACHANCE ITEM # 193523, PINE HALL PATHWAY PAVER BRICK, OR APPROVED EQUAL.

REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS. SPECIFICATION NUMBER: "VERMONT BACKER BRICK", ITEM NUMBER # V888, OR APPROVED EQUAL

(D) BRICK SIDEWALK WITH BITUMINOUS BASE
N.T.S.

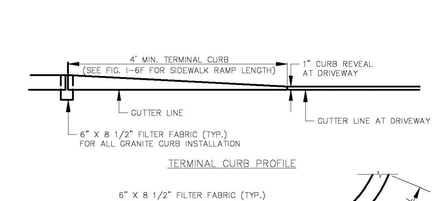
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"

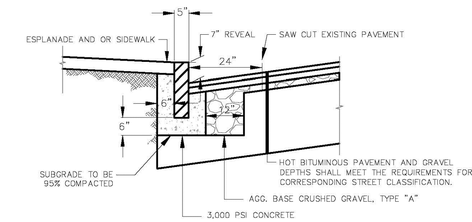
NOTES:
1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.
4. SIZE: THE DETECTABLE WARNING PLATES SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION TO THE STREET.
5. ORIENTATION: THE DETECTABLE WARNING PANEL SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.



(E) SIDEWALK RAMP DETECTABLE WARNING PANEL
N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"

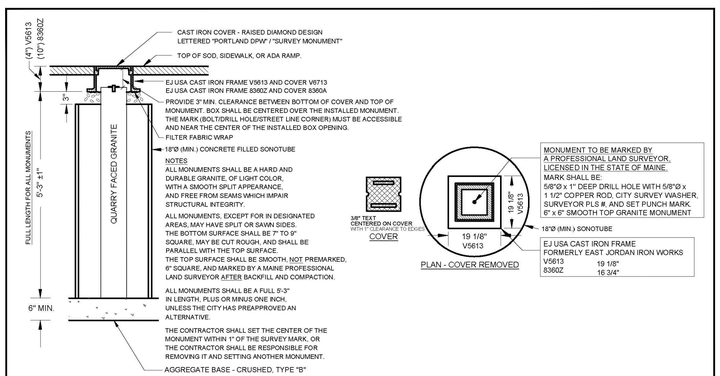




NOTES:
1. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
2. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10-INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
3. CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
4. WOODEN SHIMS MAY BE USED TO SET CURB.

(G) VERTICAL GRANITE CURB DETAIL
N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



(H) GRANITE STREET MONUMENT DETAIL (IF NECESSARY TO BE RESET)
N.T.S.

AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-DETAILS.dwg		

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GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

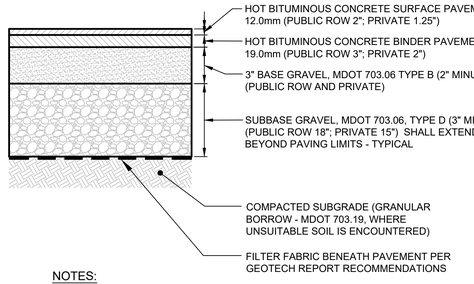
Drawing Name: SITE DETAILS

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-6.0

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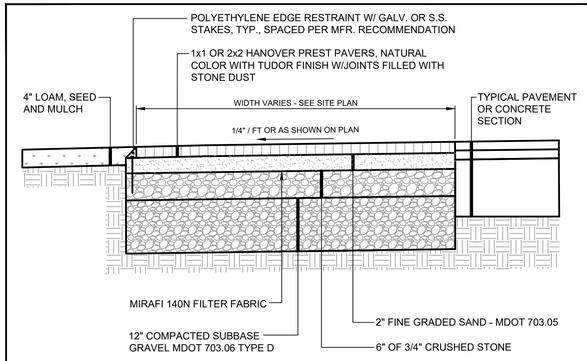


NOTES:

1. APPLY TACK COAT BETWEEN BINDER AND SURFACE COURSES.
2. ALL MATERIALS SHALL CONFORM TO MDOT SPECIFICATIONS, LATEST REVISION AND/OR CITY OF PORTLAND TECHNICAL STANDARD, WHICHEVER IS MORE STRINGENT. COMPACTION OF ALL MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORT.

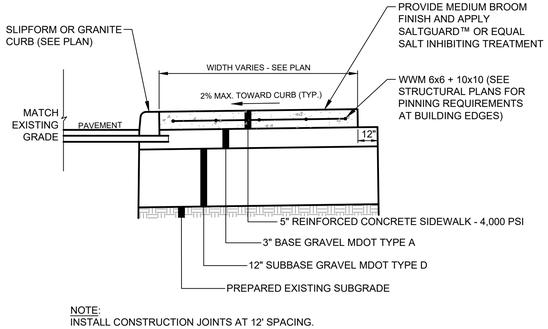
(A) BITUMINOUS CONCRETE PAVEMENT SECTION

N.T.S.



(B) TYPICAL PAVER DETAIL

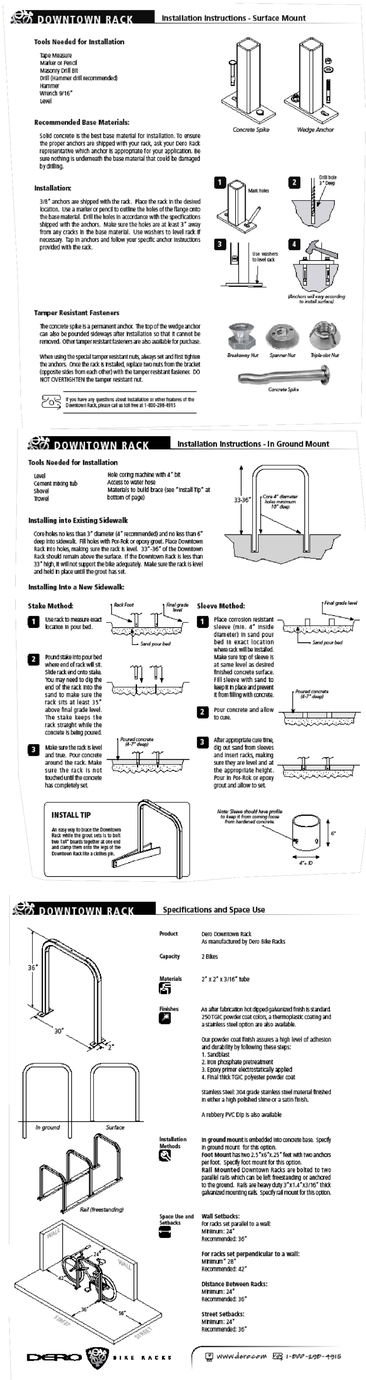
N.T.S.



NOTE:
INSTALL CONSTRUCTION JOINTS AT 12' SPACING.

(C) CONCRETE SIDEWALK DETAIL

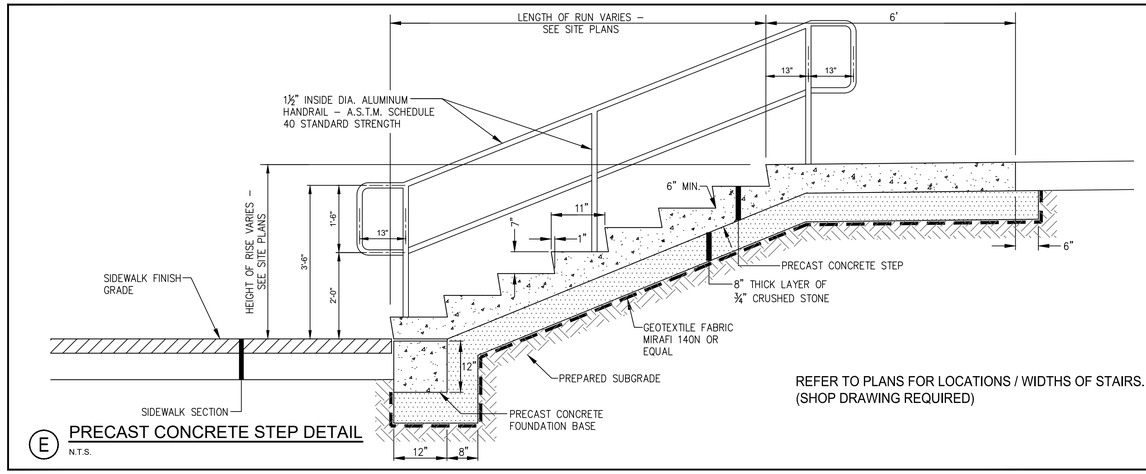
N.T.S.



(D) BICYCLE RACK SPECIFICATION - DOWNTOWN RACK

N.T.S.

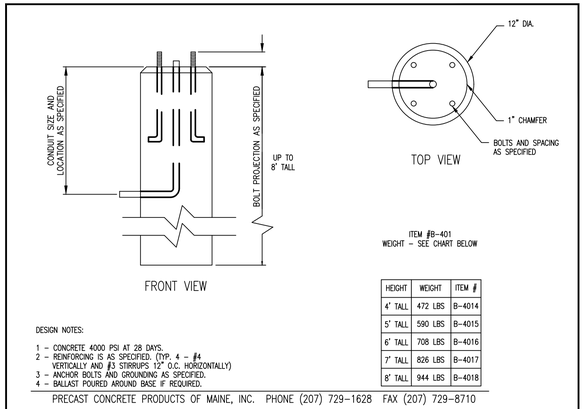
AS OBTAINED FROM THE CITY OF PORTLAND "TECHNICAL MANUAL"



REFER TO PLANS FOR LOCATIONS / WIDTHS OF STAIRS. (SHOP DRAWING REQUIRED)

(E) PRECAST CONCRETE STEP DETAIL

N.T.S.



ITEM #B-401
WEIGHT – SEE CHART BELOW

HEIGHT	WEIGHT	ITEM #
4' TALL	472 LBS	B-4014
5' TALL	590 LBS	B-4015
6' TALL	708 LBS	B-4016
7' TALL	826 LBS	B-4017
8' TALL	944 LBS	B-4018

DESIGN NOTES:

1 – CONCRETE 4000 PSI AT 28 DAYS.
2 – REINFORCING IS AS SPECIFIED. (TYP. 4 – #4 VERTICALLY AND #3 STIRRUPS 12" O.C. HORIZONTALLY)
3 – ANCHOR BOLTS AND GROUNDING AS SPECIFIED.
4 – BALLAST POURED AROUND BASE IF REQUIRED.

PRECAST CONCRETE PRODUCTS OF MAINE, INC. PHONE (207) 729-1628 FAX (207) 729-8710

(F) 12" DIA. LIGHT POLE BASE

N.T.S.

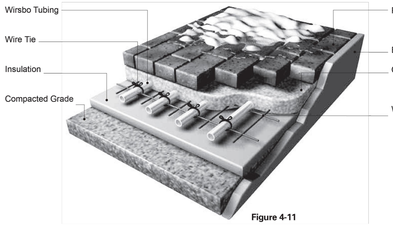


Figure 4-11

Pavers Over a Compactable Soil/Sand Bed

Application

This method is for designs with light vertical load requirements. With insulation, the heated area is isolated from high movement of energy from the system to the surrounding frozen soil. Response time is fairly quick and even faster if the system is idled.

Where Used

This installation is applicable to the following applications.

- Sidewalks
- Driveways
- Low-density roads

How to Install

There are two ways to install the tubing over the high-density insulation. As shown in **Figure 4-11**, secure the tubing to the wire mesh or rebar which has been placed over the high-density insulation board. In the alternative method, secure the tubing to the high-density insulation using Wirsbo plastic staples with the manual stapler.

Install vertical insulation along the entire edge down to the depth of the horizontal insulation. The insulation creates a thermal break between the heated area and the frozen ground.

After installing the tubing, cover with a compactable soil/sand bed (typically 2 to 3 inches) prior to applying pavers or bricks.

What to Look For

- Make sure the base material is properly compacted as specified by the project engineer.
- Verify whether a high water table or moist soil conditions exist within 8 to 10 vertical feet of the snow and ice melting system. If found, isolate the system from the moisture.
- Using approved insulation with vertical compressive strength is critical. Consult with the insulation manufacturer or project engineer for recommendations.
- Supply water temperatures for this application should be no higher than 150°F.

Control Strategy

Use the semi- or fully automatic strategy for this installation method.

NOTE:

SNOWMELT SYSTEM INSTALLATION TO BE COORDINATED WITH MEP PLANS AND CITY OF PORTLAND PUBLIC WORKS (WHEN SYSTEM IS IN THE R.O.W.).

WIRSBO
Life, Safety, Comfort Systems

(H) (BID ALTERNATE) SNOWMELT PAVER DETAIL (LOCATIONS T.B.D.)

N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

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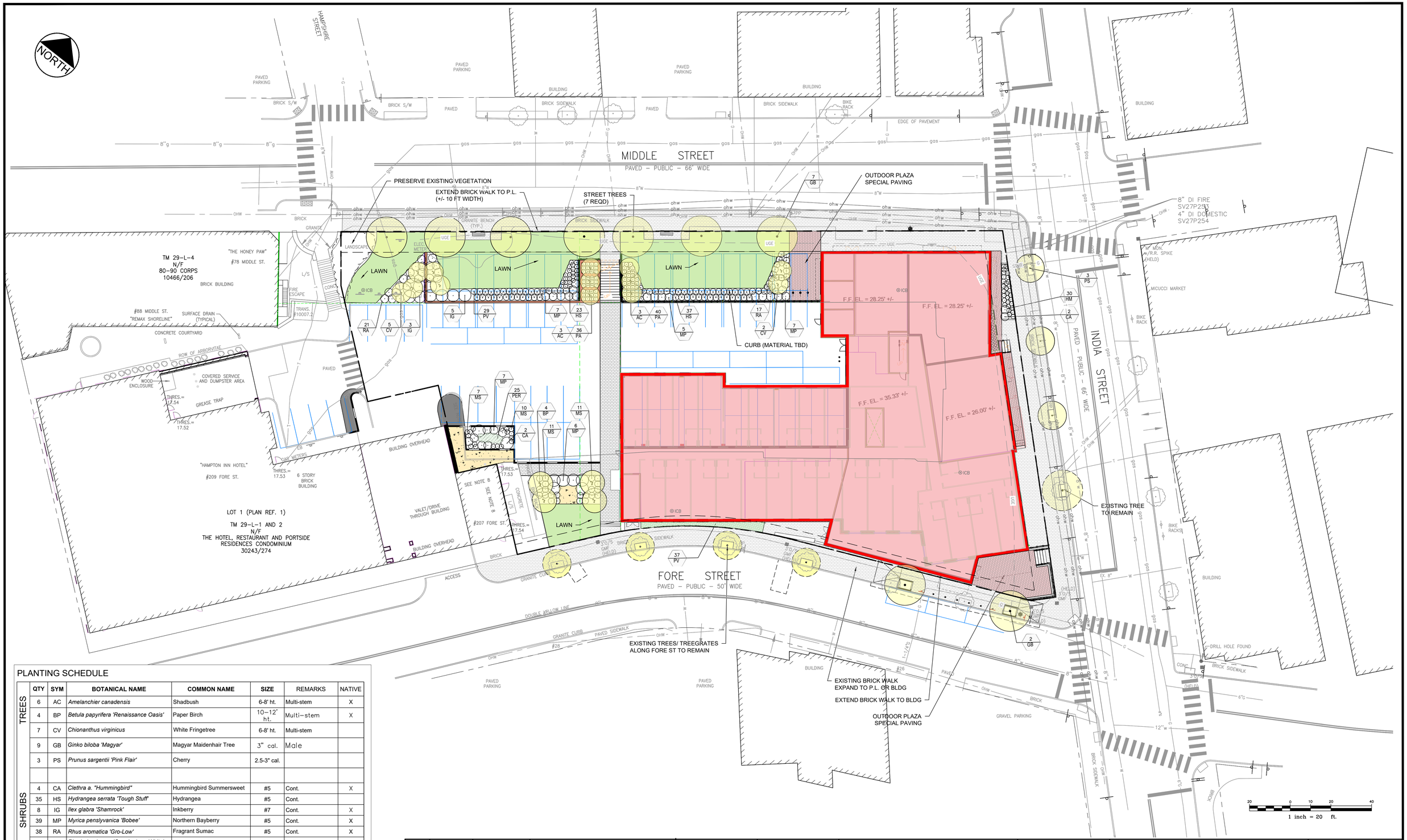
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GORRILL PALMER
An LJB Engineering Company
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GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: SITE DETAILS
Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine
Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-6.1

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PLANTING SCHEDULE

	QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATIVE
TREES	6	AC	*Amelanchier canadensis*	Shadbush	6-8' ht.	Multi-stem	X
	4	BP	*Betula papyrifera 'Renaissance Oasis'*	Paper Birch	10–12' ht.	Multi-stem	X
	7	CV	*Chionanthus virginicus*	White Fringetree	6-8' ht.	Multi-stem	
	9	GB	*Ginko biloba 'Magyar'*	Magyar Maidenhair Tree	3" cal.	Male	
	3	PS	*Prunus sargentii 'Pink Flair'*	Cherry	2.5-3" cal.		
SHRUBS	4	CA	*Clethra a. "Hummingbird"*	Hummingbird Summersweet	#5	Cont.	X
	35	HS	*Hydrangea serrata 'Tough Stuff'*	Hydrangea	#5	Cont.	
	8	IG	*Ilex glabra 'Shamrock'*	Inkberry	#7	Cont.	X
	39	MP	*Myrica penslyvanica 'Bobee'*	Northern Bayberry	#5	Cont.	X
	38	RA	*Rhus aromatica 'Gro-Low'*	Fragrant Sumac	#5	Cont.	X
	—	RC	*Rhododendron c. 'Cunningham White'*	Rhododendron	3' ht.	B+B	
PERENNIALS	30	HM	*Hakonecloa macra 'Beni kazi'*	Japanese Forest Grass	#2	Cont., full	
	39	MS	*Miscanthus s. "Adagio"*	Dwarf Maiden Grass	#2	Cont., full	
	76	PA	*Pennistum a. 'Hamlin'*	Dwarf Fountain Grass	#2	Cont., full	
	66	PV	*Panicum virgatum 'Cheyenne Sky'*	Switchgrass	#2	Cont., full	X
	66	PER	*Mixed perennials*	Species tbd	#1	Cont., full	

Phase: PERMITTING

Drawn By: MB | Approved By: PC | Date: JULY, 2024

Revisions	Date	Description
1	03/12/2025	Revise and Submit to City of Portland
2	06/20/2025	Revise Bldg FP and Submit to City of Portland

CARROLL ASSOCIATES
LANDSCAPE ARCHITECTS
217 COMMERCIAL STREET, STE 204
PORTLAND, MAINE 04101
207.772.1552 V. F. 207.772.0712

OWNER/ DEVELOPER:

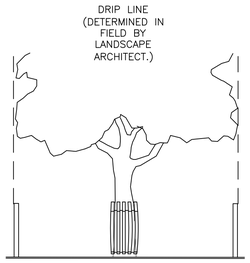
Chatham Portland, LLC
c/o Chatham Lodging Trust
222 LAKEVIEW AVE, SUITE 200
WEST PALM BEACH, FL 33401

PATRICK J. CARROLL NO. 127 REGISTERED LANDSCAPE ARCHITECT STATE OF MAINE

Project:
HOME 2 SUITES
203 FORE STREET
PORTLAND, ME

Sheet Title:
LANDSCAPE PLAN

Sheet No:
L-1.0

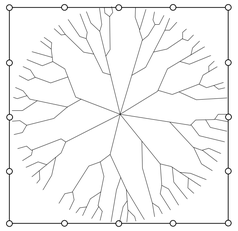


EXISTING TREE TO REMAIN

6' TALL WOOD SLAT FENCING, SLATS TO BE SPACED 2" O.C. MAX.

PLACE 1.5" THICK LEAF BASED COMPOST LAYER THROUGHOUT TREE ZONE. DO NOT STORE ANY MACHINERY OR MATERIALS WITHIN AREA OF THE PROTECTION FENCE.

TREE PROTECTION FENCE: 4'–0" SNOW FENCE. METAL POSTS SHALL BE 6' O.C. MAXIMUM.

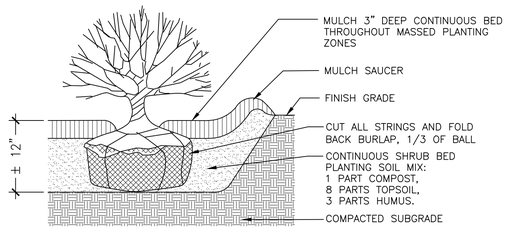


EXISTING TREE TO REMAIN

4' SNOW FENCE AT DRIPLINE OF TREE.

NOTE:
TREE PROTECTION FENCING TO REMAIN FOR DURATION OF PROJECT UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT

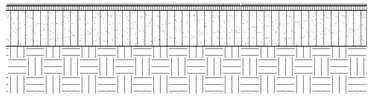
1 TREE PROTECTION
SCALE:1 1/2"=1'-0"



4 SHRUB PLANTING
SCALE: 3/4"=1'-0"

TOPSOIL: FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS GREATER THAN 1" IN ANY DIMENSION, PH RANGE 5.0–7.0 , AND SHALL CONTAIN NOT LESS THAN 6% ORGANIC MATTER BY WEIGHT. SANDY LOAM OR LOAM SOIL AS DEFINED BY THE USDA SOIL CONSERVATION SERVICE, AND HAVE THE FOLLOWING MECHANICAL ANALYSIS:

TEXTURAL CLASS	% OF TOTAL WEIGHT	AVERAGE %
SAND (0.05– 2.0 MM)	45 TO 75%	60%
SILT (0.002– 0.05 MM)	15 TO 35%	25%
CLAY (< 0.002 MM)	5 TO 25%	15%



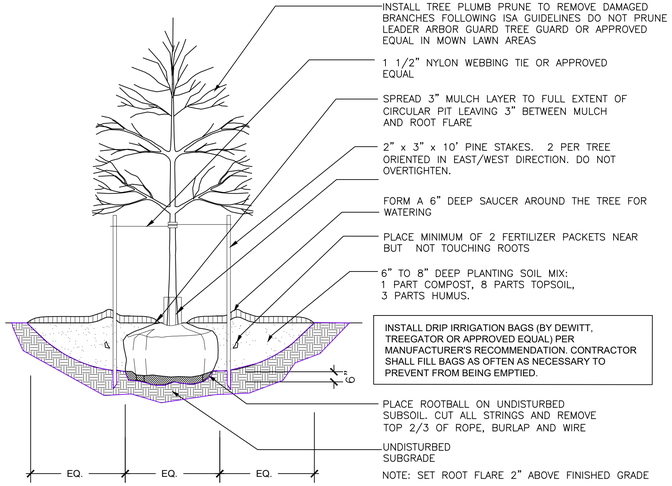
SEED MIX; SEE LANDSCAPE PLAN

6" MIN. PREPARED TOPSOIL FOR LAWNS, NO STONES OVER 3/4" DIA.

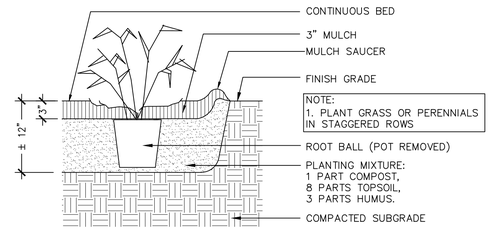
3" MIN. PREPARED TOPSOIL FOR AREAS OF CONSERVATION MIX

COMPACTED SUBGRADE

2 SEEDED OR SODDED LAWN
SCALE:1"=1'-0"



3 DECIDUOUS TREE IN LAWN OR ESPLANADE
SCALE:1"=1'-0"



5 ORNAMENTAL GRASS / PERENNIAL PLANTING
SCALE:1"=1'-0"

NOTES:

1. CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING AND MAINTENANCE.
2. CONTRACTOR SHALL SUPPLY PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE WORK SHOWN ON THE PLAN. ANY DISCREPANCY BETWEEN THE QUANTITIES SHOWN IN THE PLANT SCHEDULE AND THOSE REQUIRED ON THE PLAN SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL RENUMERATION. ANY DISCREPANCIES SHALL BE CLARIFIED WITH THE LANDSCAPE ARCHITECT PRIOR TO ORDERING PLANT MATERIAL.
3. ALL MATERIALS SHALL CONFORM TO SPECIFICATIONS OF THE AMERICAN STANDARDS FOR NURSERY STOCK (LATEST EDITION) AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THE ORIGINAL GRADES BEFORE DIGGING.
5. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
6. ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AT THE NURSERY AND AT THE SITE.
7. ALL PLANT BEDS SHALL MEET MINIMUM TOPSOIL REQUIREMENTS (SEE SPECIFICATIONS) AND NOTE 18.
8. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRUBBING, BED PREPARATION, AND FINISH GRADING HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
9. ALL PLANTS BEDS AND TREE WELLS SHALL HAVE A MINIMUM OF 3" OF UNIFORMLY DISTRIBUTED, DARK, SHREDDED BARK MULCH.
10. CONTRACTOR SHALL SUBMIT SOIL SAMPLE AND TEST OF TOPSOIL TO LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SOIL ADMIXTURE SHALL BE ADDED TO EXISTING SOIL (BY CONTRACTOR) IF DEEMED NECESSARY BY SOIL TEST RESULTS.
11. ROUGH GRADING AND BED PREPARATION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANT INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO REQUIRED SITE VISIT.
12. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. ALL ROOT WRAPPING AND CONTAINER MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING.
13. ALL BROAD LEAF EVERGREEN PLANTS SHALL BE SPRAYED WITH AN ANTI-DESSICANT AT THE BEGINNING OF THEIR FIRST WINTER.
14. ALL PLANTS SHALL BE INSTALLED AS PER DETAILS AND THE CONTRACT SPECIFICATIONS. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. CONTRACTOR SHALL STAKE TREES IF DEEMED NECESSARY BY THE LANDSCAPE ARCHITECT.
16. THE LANDSCAPE CONTRACTOR SHALL PROVIDE PREPARED SOIL PLANTING MIX AS PER THE CONTRACT SPECIFICATIONS.
17. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE PLANT LIST AND PLANTING SPECIFICATIONS FOR SEASONAL REQUIREMENTS AND OTHER RESTRICTIONS RELATED TO THE TIME AND SEASON OF PLANTING.
18. PLANTING SOIL MIX: 1 PART COMPOST, 8 PARTS TOPSOIL, 3 PARTS HUMUS.

    TOPSOIL: FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS GREATER THAN 1" IN ANY DIMENSION, PH RANGE 5.0-7.0 , AND SHALL CONTAIN NOT LESS THAN 6% ORGANIC MATTER BY WEIGHT. SANDY LOAM OR LOAM SOIL AS DEFINED BY THE USDA SOIL CONSERVATION SERVICE, AND HAVE THE FOLLOWING MECHANICAL ANALYSIS:

TEXTURAL CLASS	% OF TOTAL WEIGHT	AVERAGE %
SAND (0.05- 2.0 MM)	45 TO 75%	60%
SILT (0.002- 0.05 MM)	15 TO 35%	25%
CLAY (< 0.002 MM)	5 TO 25%	15%

Phase: PERMITTING

Drawn By: PC	Approved By: PC	Date: March 12, 2025

Revisions	Date	Description
1	03/12/2025	Revise and Submit to City of Portland
2	06/20/2025	Revise Bldg FP and Submit to City of Portland

CARROLL ASSOCIATES
LANDSCAPE ARCHITECTS
217 COMMERCIAL STREET, STE 204
PORTLAND, MAINE 04101
207.772.1552 V. F. 207.772.0712

OWNER/ DEVELOPER:

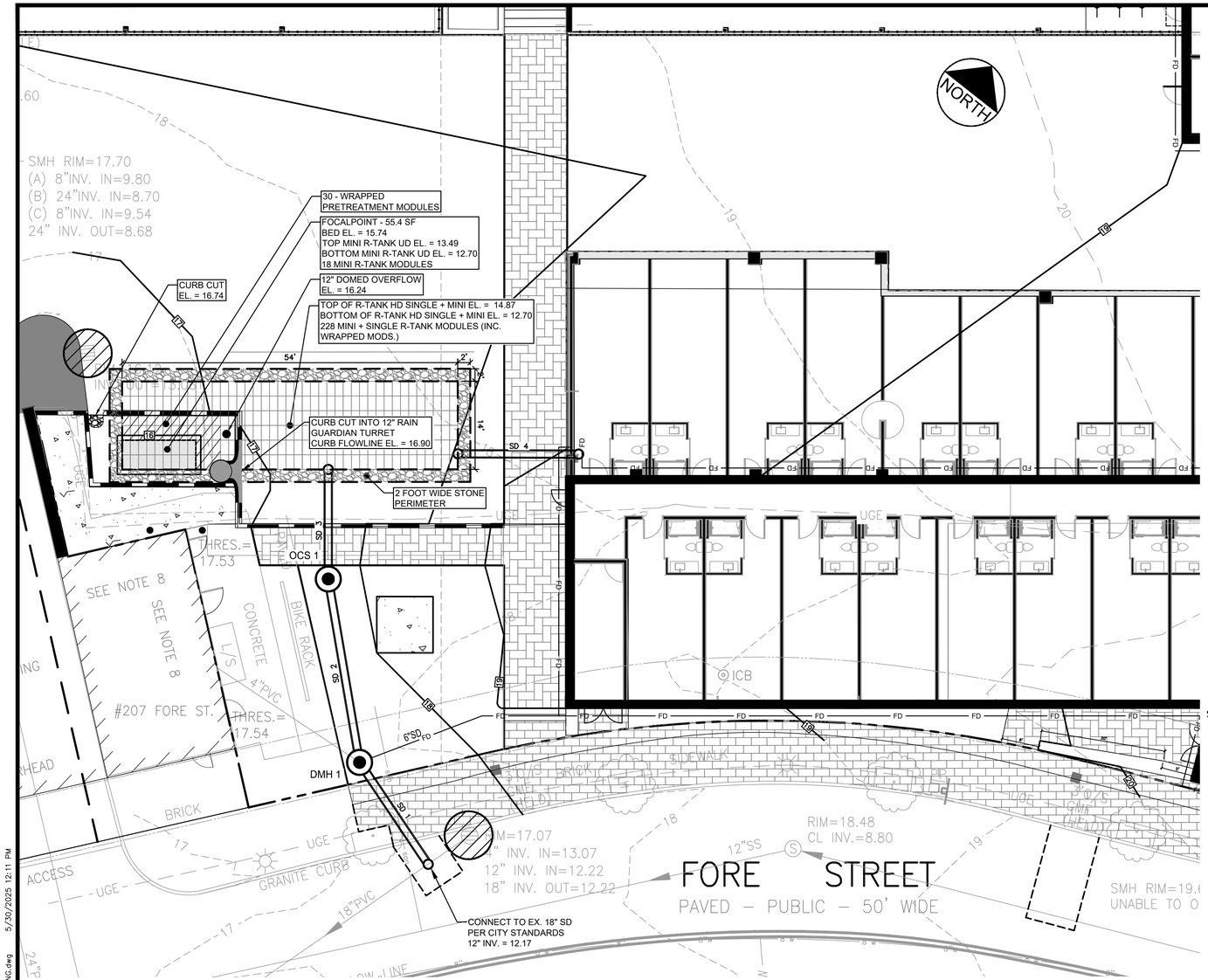
Chatham Portland, LLC
c/o Chatham Lodging Trust
222 LAKEVIEW AVE, SUITE 200
WEST PALM BEACH, FL 33401

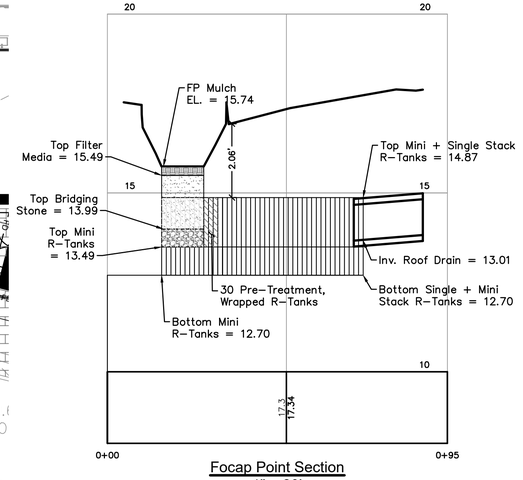
LICENSED LANDSCAPE ARCHITECT
PATRICK J. CARROLL
NO. 127
STATE OF MAINE

Project:
HOME 2 SUITES
203 FORE STREET
PORTLAND, ME

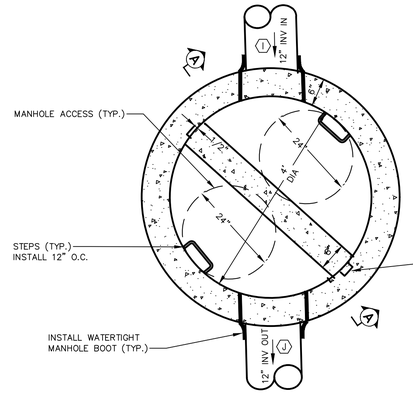
Sheet Title:
LANDSCAPE DETAILS

Sheet No:
L-2.0



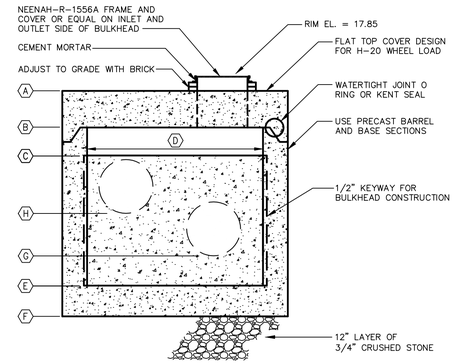


Focap Point Section
1" = 20'



PLAN VIEW

OUTLET CONTROL STRUCTURE PLAN VIEW
SEE SCHEDULE



SECTION A–A

OUTLET CONTROL STRUCTURE SECTION VIEW
SEE SCHEDULE

OUTLET CONTROL STRUCTURE SCHEDULE

	ITEM DESCRIPTION	ELEV. / DIM.
		OCS 1
A	TOP OF STRUCTURE	17.35
B	UNDERSIDE TOP SLAB	16.68
C	TOP OF CONCRETE BULKHEAD	15.50
D	WEIR LENGTH	4'
E	MANHOLE INVERT	12.52
F	BOTTOM OF STRUCTURE	11.85
G	ORIFICE INVERT	13.30
	ORIFICE DIAMETER	6"
H	ORIFICE INVERT	14.35
	ORIFICE DIAMETER	8"
I	PIPE DIAMETER	12"
	INVERT IN	12.52
J	PIPE DIAMETER	12"
	INVERT OUT	12.52

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01–GRADING.dwg		

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(207) 772-2515
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South Portland, ME 04106

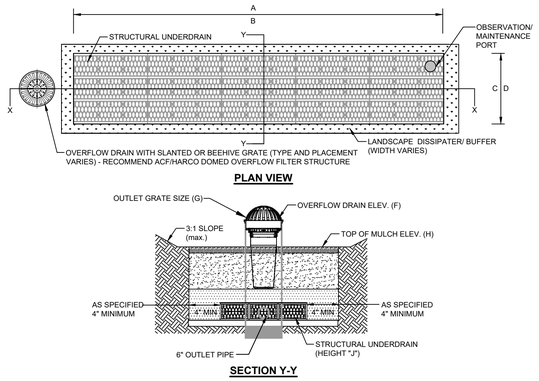
Drawing Name: STORMWATER MANAGEMENT PLAN & DETAILS

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-4.1

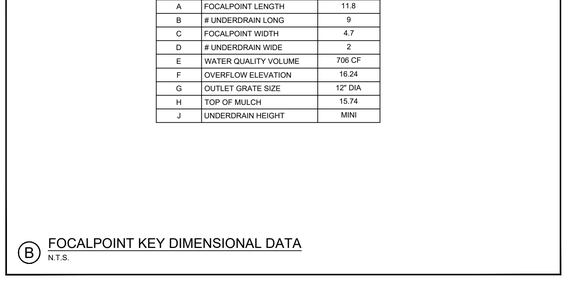
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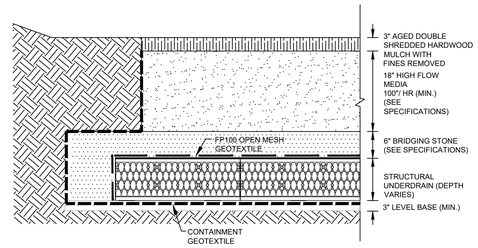
Ⓐ FOCALPOINT CONSTRUCTION GUIDE
N.T.S.

FOCALPOINT KEY DIMENSIONAL DATA		
FOCALPOINT ID		FP-1
A	FOCALPOINT LENGTH	11.8
B	# UNDERDRAIN LONG	9
C	FOCALPOINT WIDTH	4.7
D	# UNDERDRAIN WIDE	2
E	WATER QUALITY VOLUME	706 CF
F	OVERFLOW ELEVATION	16.24
G	OUTLET GRATE SIZE	12" DIA
H	TOP OF MULCH	15.74
J	UNDERDRAIN HEIGHT	MINI

Ⓑ FOCALPOINT KEY DIMENSIONAL DATA
N.T.S.



Ⓒ FOCALPOINT PIPE CONNECTION DETAIL
N.T.S.



FOCALPOINT HP PERFORMANCE SPECIFICATION:

HIGH PERFORMANCE MEDIA

HIGH PERFORMANCE MEDIA MUST MEET A MINIMUM OF 100'PER HOUR INFILTRATION RATE.

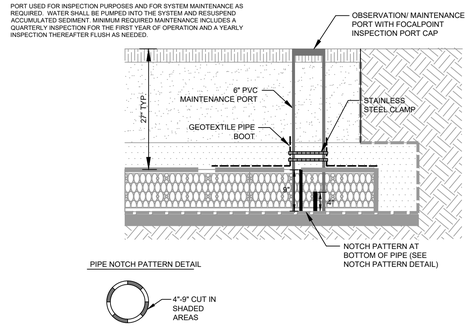
HIGH PERFORMANCE STRUCTURAL UNDERDRAIN

MUST HAVE A MINIMUM OF 19 SQUARE INCHES OF ORIFICE OPENING PER SQUARE FOOT.
MUST MEET H20 LOADING REQUIREMENTS.
MUST BE MODULAR IN NATURE AND ASSEMBLED ON SITE.
MUST HAVE MINIMUM 90% INTERIOR VOID SPACE.

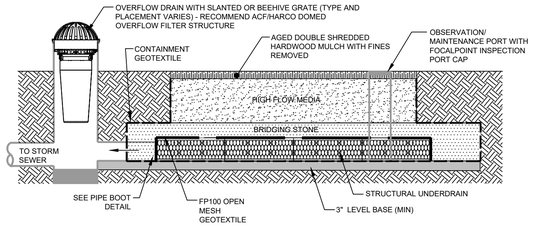
Ⓓ FOCALPOINT DETAILED CROSS SECTION
N.T.S.

OBSERVATION/ MAINTENANCE PORT

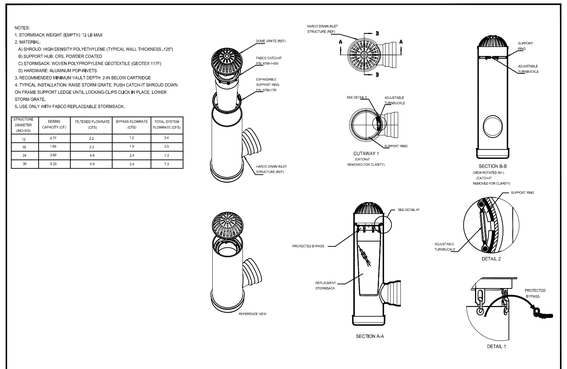
PORT USED FOR INSPECTION PURPOSES AND FOR SYSTEM MAINTENANCE AS REQUIRED. WATER SHALL BE PUMPED INTO THE SYSTEM AND RESUSPEND ACCUMULATED SEDIMENT. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION FOR THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER FLUSH AS NEEDED.



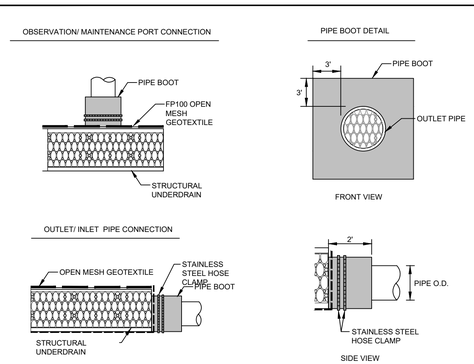
Ⓔ FOCALPOINT OBSERVATION PORT DETAIL
N.T.S.



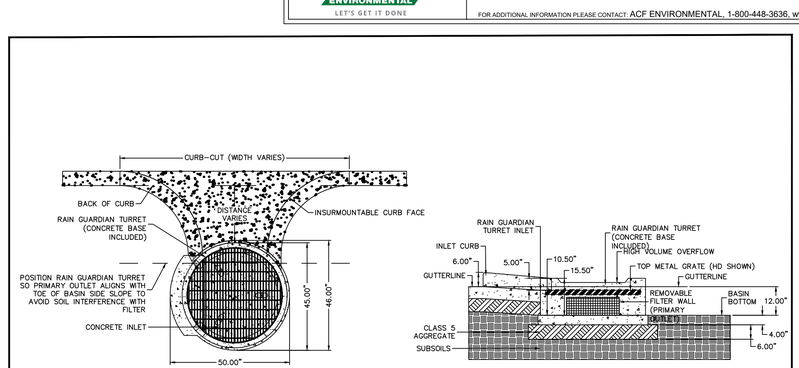
Ⓖ FOCALPOINT SECTION X-X
N.T.S.



Ⓗ ACF/HARCO DOMED OVERFLOW FILTER RISER
N.T.S.



FOCALPOINT WITH R-TANK TREATMENT ROW
N.T.S.



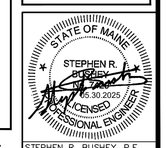
RAIN GUARDIAN TURRET RIGHT SIDE INLET - PLAN VIEW
U.S. PATENT 8,501,016

RAIN GUARDIAN TURRET RIGHT SIDE INLET - CROSS-SECTION

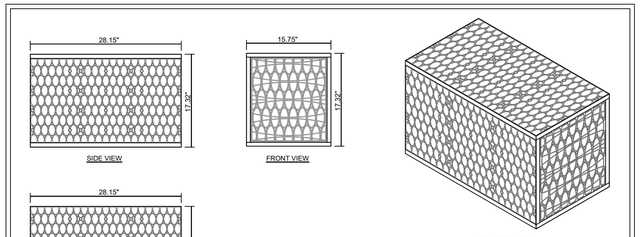
Ⓙ RAIN GUARDIAN TURRET
N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.



STEPHEN R. BUSHEY, P.E.
LIC. #7429



MODULE DATA

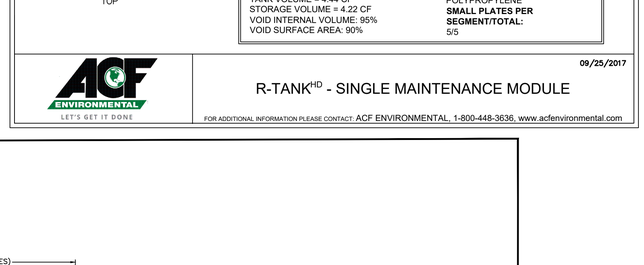
GEOMETRY: LENGTH = 28.15 IN. (715 MM)
WIDTH = 15.75 IN. (400 MM)
HEIGHT = 17.32 IN. (440 MM)
TANK VOLUME = 4.44 CF
STORAGE VOLUME = 4.22 CF
VOID INTERNAL VOLUME: 95%
VOID SURFACE AREA: 90%

LOAD RATING: 33.4 PSI, (MODULE ONLY) HS25, (WITH ACF COVER SYSTEM)
MATERIAL: 100% RECYCLED POLYPROPYLENE
SMALL PLATES PER SEGMENT/TOTAL: 5/5

ACF ENVIRONMENTAL
LET'S GET IT DONE

R-TANK^{HD} - SINGLE MODULE

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, www.acfenvironmental.com 5/16



MODULE DATA

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VOID INTERNAL VOLUME: 95%
VOID SURFACE AREA: 90%

LOAD RATING:
33.4 PSI, (MODULE ONLY)
HS20, (WITH ACF COVER SYSTEM)
MATERIAL:
100% RECYCLED POLYPROPYLENE
SMALL PLATES PER SEGMENT/TOTAL:
5/5

09/25/2017

ACF ENVIRONMENTAL
LET'S GET IT DONE

R-TANK^{HD} - SINGLE MAINTENANCE MODULE

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, www.acfenvironmental.com

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01-GRADING.dwg		

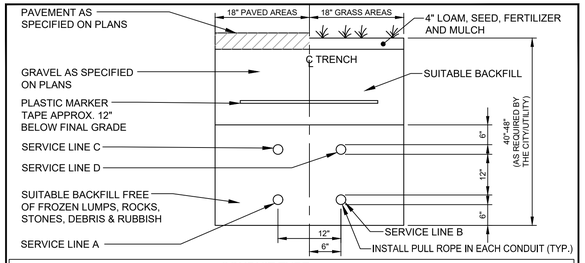
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GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	FOCALPOINT DETAILS
Project:	**Home 2 Suites – 203 Fore Street** Portland, Maine
Client:	**Chatham Portland DT, LLC c/o Chatham Lodging Trust** 222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No.
C-4.2

U:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\Z - CAD\DWG\3904.01-GRADING.dwg 5/30/2025 12:11 PM



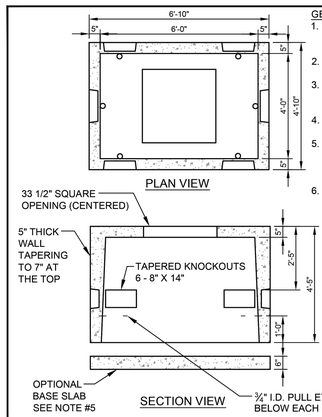
CONDUIT TYPE

SERVICE	CONDUIT SIZE	GRASS AREAS	PAVED AREAS	UTILITY	REMARKS
A	2-6"	SCHEDULE 40 PVC ELECTRICAL GRADE	RIGID GALVANIZED STEEL, ASTM A120*	POWER	SEE NOTE
B	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120*	TELEPHONE	SEE NOTE
C	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120*	COMMUNICATION	SEE NOTE
D	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120*	SPARES	SEE NOTE

*AS REQUIRED BY CITY /UTILITY

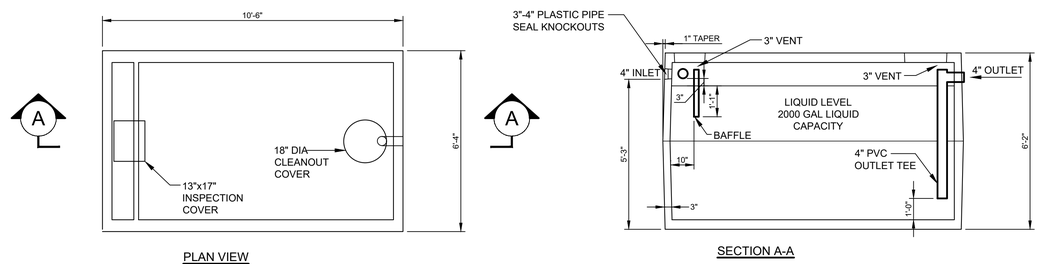
NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10' ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS, COORDINATE WITH ELECTRICAL SITE PLANS BY E.S. BOULOS.
2. IN CITY RIGHT OF WAY, CONDUITS TO HAVE 36" MIN. COVER AND BE ENCASED WITH MIN. 3" CONCRETE ON ALL SIDES.
3. CONDUIT DUCT BANKS SUBJECT TO COORDINATION WITH ALL UTILITY PROVIDERS FOR NUMBER, PIPE SIZE & TYPE AND TRENCHING REQUIREMENTS. THE UTILITY REQUIREMENTS SHALL BE SATISFIED AT NO ADDITIONAL EXPENSE TO THE OWNER.

(A) UTILITY TRENCH - PRIMARY ELEC., TEL. & COMM.
N.T.S.



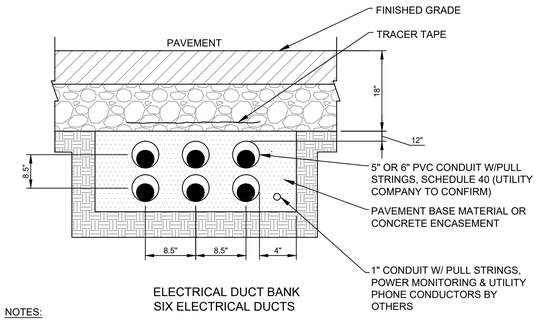
GENERAL NOTES
1. CONCRETE MINIMUM COMPRESSIVE STRENGTH 5000 PSI @ 28 DAYS WITH STEEL REINFORCEMENT
2. OPENINGS SIZED FOR 4" & 6" CONDUITS.
3. MEETS ALL CENTRAL MAINE POWER CO.SPECIFICATIONS.
4. SUITABLE FOR PRIMARY CABLE INSTALLATIONS.
5. IF INSTALLED IN A PAVED AREA, ORDER PRECAST SLAB FOR USE UNDER HANDHOLE FOR H-20 LOADING.
6. ORDER 3 PIECE ETHERIDGE FOUNDRY "TYPE B" CASTING. MINIMUM ONE COURSE OF BRICK TO GRADE.

(D) SPLICE BOX DETAIL
N.T.S.



NOTES:
1. CONCRETE: 4000 PSI AFTER 28 DAYS
2. REINFORCING: 6x6/10x10 W.W.M. & FIBERS
3. HEAVY DUTY SEPTIC TANK TOPS REINFORCED WITH 5/8" REBAR @ 12" O.C.E.W.
4. KEYED JOINT SEALED WITH BUTYL RUBBER.
5. EXCAVATION MUST BE AT LEAST 12" WIDER & LONGER THAN TANK SIZE
6. TOTAL STRUCTURE WEIGHT =12,500 LBS
7. INSTALL APPROPRIATE CONCRETE RISER SECTIONS OVER INSPECTION & CLEANOUT OPENINGS TO BRING COVERS TO GRADE.

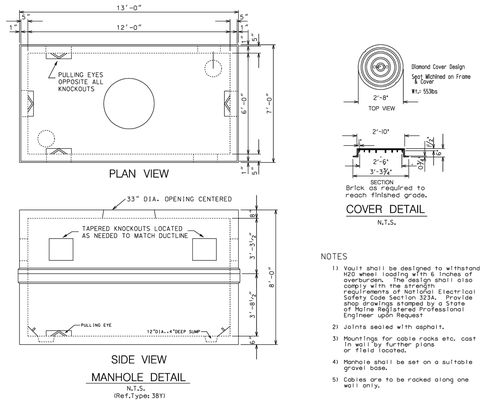
(F) GREASE TRAP DETAIL
N.T.S.



ELECTRICAL DUCT BANK
SIX ELECTRICAL DUCTS

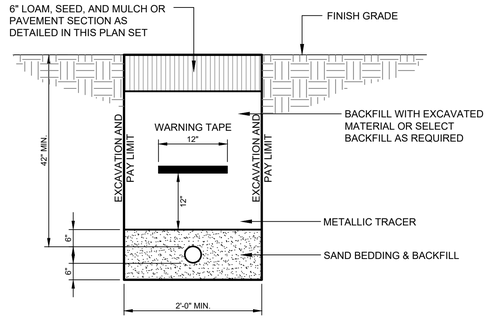
NOTES:
1. CONDUIT BANK WILL EXTEND 5' BEYOND FOUNDATION WALL. CAP ALL CONDUITS.
2. THE NUMBER AND SIZE OF CONDUITS FOR POWER, COMMUNICATIONS AND CABLE SHALL BE COORDINATED WITH THE UTILITY PROVIDERS.

(B) SECONDARY UNDERGROUND ELECTRIC CONDUIT BANK DETAIL
N.T.S.



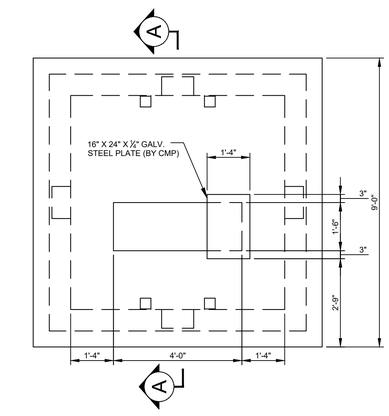
NOTES
1) Vault shall be designed to withstand H20 wheel loading with 6 inches of overburden. The design shall also comply with the strength requirements of National Electrical Safety Code Section 323A. Provide shop drawings stamped by a State of Maine Registered Professional Engineer upon Request
2) Joints sealed with asphalt.
3) Mountings for cable racks etc. cast in wall by further plans or field located.
4) Manhole shall be set on a suitable gravel base.
5) Cables are to be racked along one wall only.

(E) PRECAST CONCRETE 38Y MANHOLE
N.T.S.

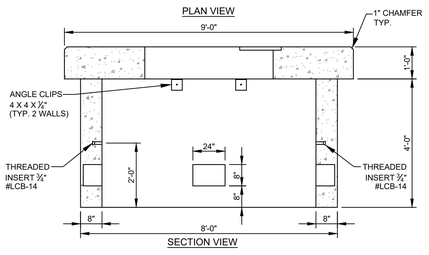


NOTE:
GAS LINE TO BE INSTALLED BY OTHERS. SITE CONTRACTOR IS RESPONSIBLE FOR EXCAVATION AND BACKFILL OF THE GAS LINE AND PLACEMENT OF THE WARNING TAPES AND TRACER.

(G) GAS SERVICE TRENCH SECTION
N.T.S.



(C) 9'-0" TRANSFORMER PAD
N.T.S.



SUBJECT TO CMP REQUIREMENTS

NOTES:
1. CONCRETE MINIMUM COMPRESSIVE STRENGTH 4,000 PSI @ 28 DAYS WITH STEEL REINFORCEMENT.
2. AS PER CENTRAL MAINE POWER COMPANY SPECIFICATIONS.
3. ONE 8" x 24" KNOCKOUT PROVIDED EACH WALL.
4. FOR 750 - 5000 KVA THREE PHASE TRANSFORMER.
5. FINISH GRADE SHALL BE GRADED TO ALLOW SURFACE WATER TO FLOW AWAY FROM THE PAD.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES & SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
STEPHEN R. BUSHEY
05.30.2025
LICENSED PROFESSIONAL ENGINEER
STEPHEN R. BUSHEY, P.E.
LIC. #7429

Rev.	Date	Revision

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Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01–DETAILS.dwg		

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An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: UTILITY & MISCELLANEOUS DETAILS
Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine
Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. C-6.4

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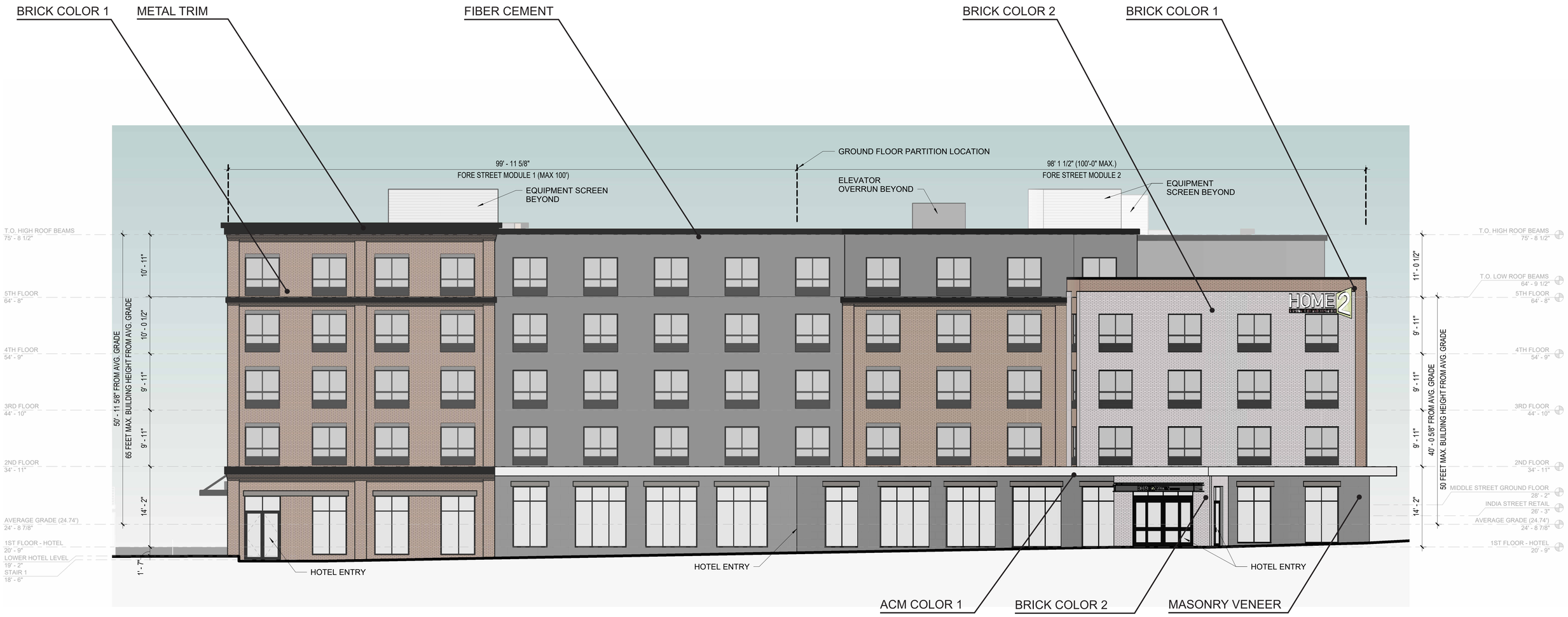
0 8' 16' 32'
SCALE: 1/8" = 1'-0"

OVERALL EAST ELEVATION

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 29 MAY 2025

Dwg. A2.01



PROCON
CONNECT • CREATE • CONSTRUCT

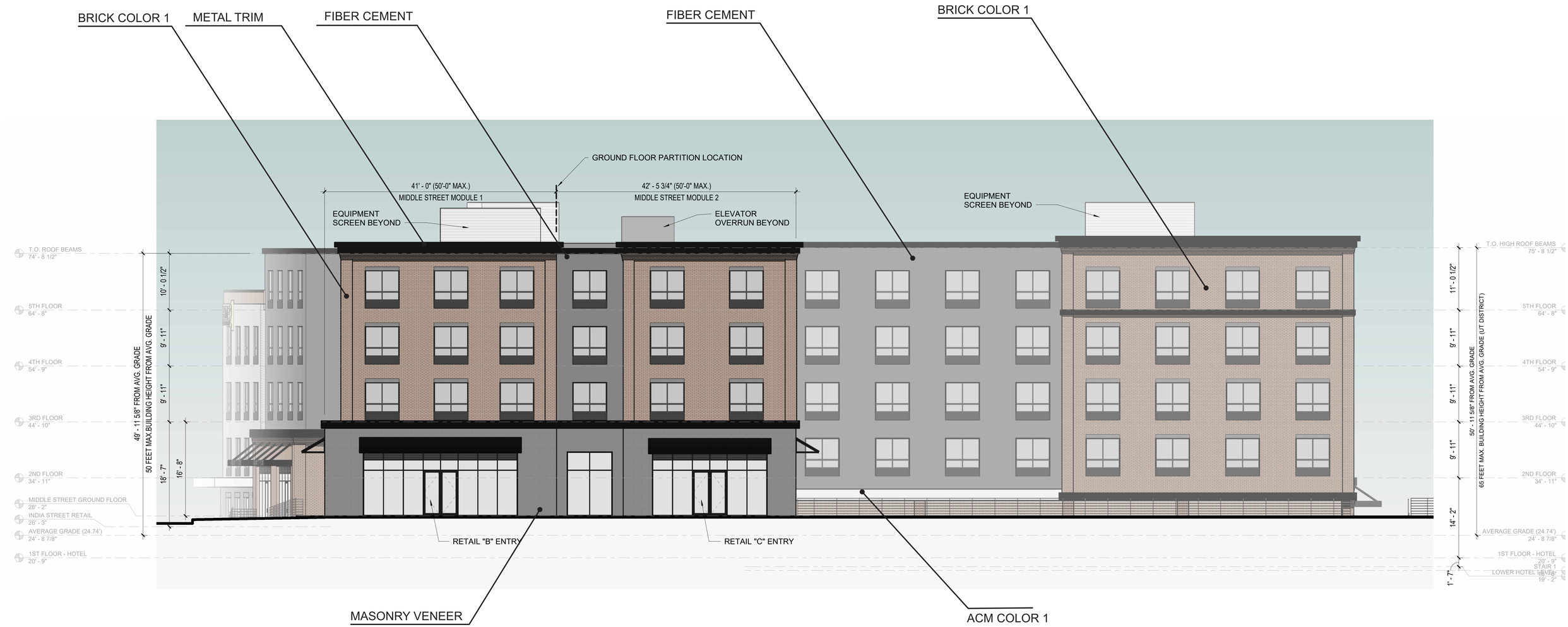
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SCALE: 1/8" = 1'-0"

OVERALL SOUTH ELEVATION

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 29 MAY 2025

Dwg. A2.02



PROCON
CONNECT • CREATE • CONSTRUCT

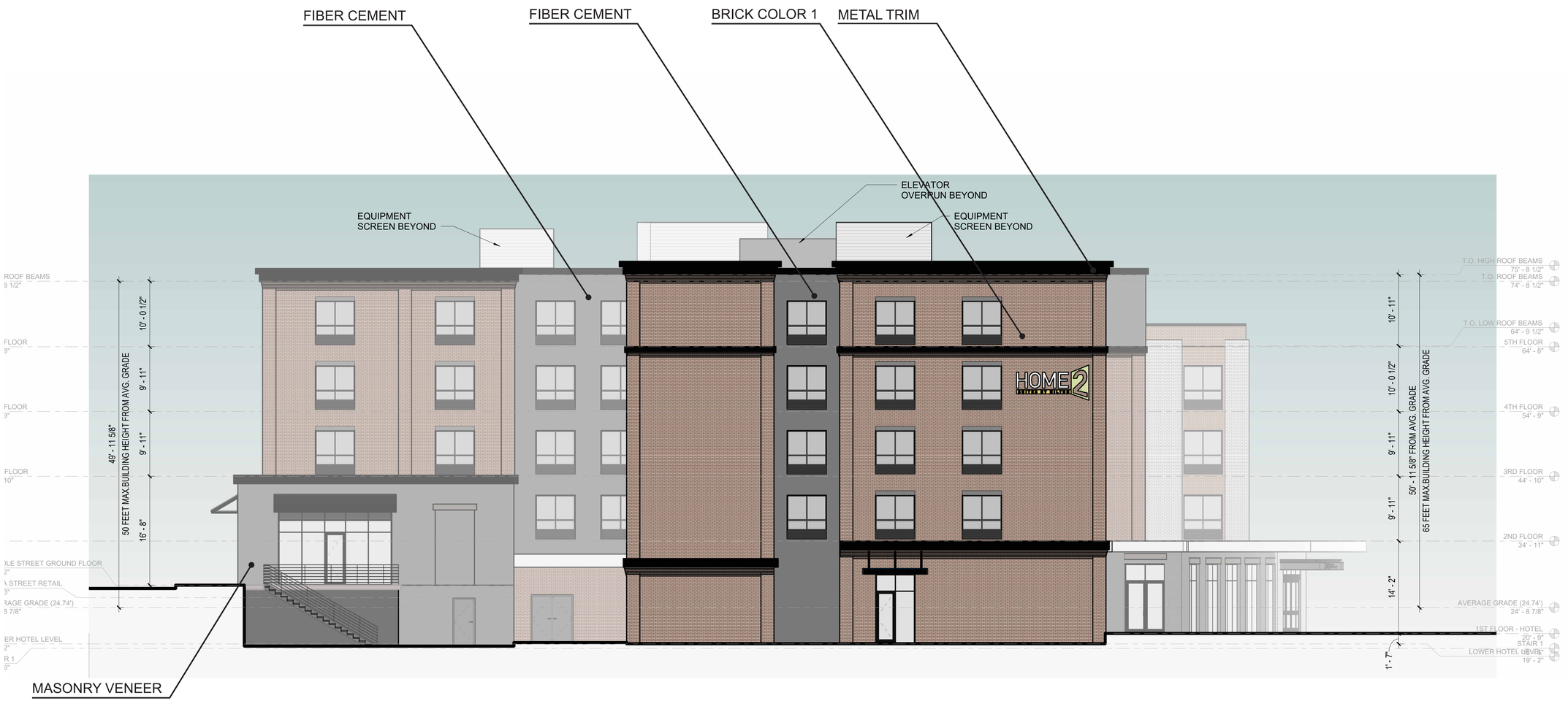
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SCALE: 1/8" = 1'-0"

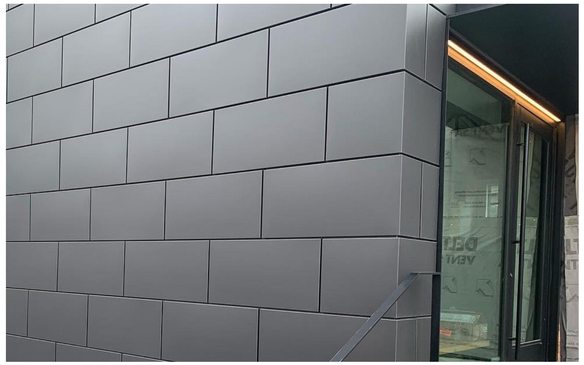
OVERALL NORTH ELEVATION

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

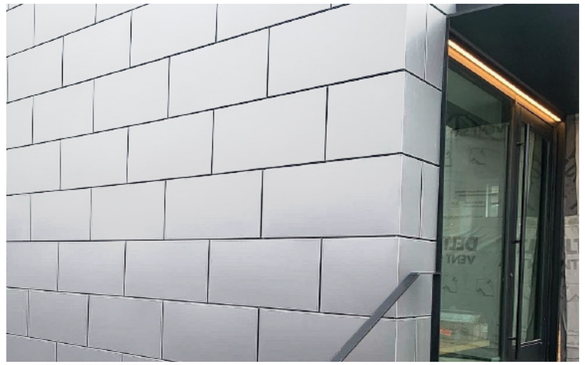
Date 29 MAY 2025

Dwg. A2.03

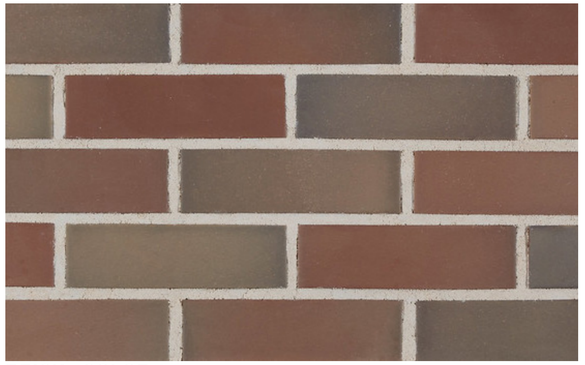

FIBER CEMENT
FIBER CEMENT
BRICK COLOR 1
METAL TRIM
EQUIPMENT
SCREEN BEYOND
ELEVATOR
OVERRUN BEYOND
EQUIPMENT
SCREEN BEYOND
HOME2
ROOF BEAMS
3 1/2"
FLOOR
9"
FLOOR
9"
FLOOR
10"
LE STREET GROUND FLOOR
2"
STREET RETAIL
3"
RAGE GRADE (24.74')
3 7/8"
ER HOTEL LEVEL
2"
R 1
5"
49' - 11 5/8"
50 FEET MAX.BUILDING HEIGHT FROM AVG. GRADE
10' - 0 1/2"
9' - 11"
9' - 11"
16' - 8"
MASONRY VENEER
T.O. HIGH ROOF BEAMS
75' - 9 1/2"
T.O. ROOF BEAMS
74' - 8 1/2"
T.O. LOW ROOF BEAMS
64' - 9 1/2"
5TH FLOOR
64' - 8"
4TH FLOOR
54' - 9"
3RD FLOOR
44' - 10"
2ND FLOOR
34' - 11"
AVERAGE GRADE (24.74')
24' - 8 7/8"
1ST FLOOR - HOTEL
20' - 9"
STAIR 1
LOWER HOTEL LEVEL
19' - 2"
1' - 7"
14' - 2"
9' - 11"
9' - 11"
10' - 0 1/2"
10' - 11"
50' - 11 5/8" FROM AVG. GRADE
65 FEET MAX.BUILDING HEIGHT FROM AVG. GRADE



FIBER CEMENT
MANUFACTURER: TBD
MODEL: TBD
SPECIFICATIONS: TBD



ALUMINUM COMPOSITE MATERIAL - ACM - COLOR 1
MANUFACTURER: TBD
MODEL: TBD
SPECIFICATIONS: TBD



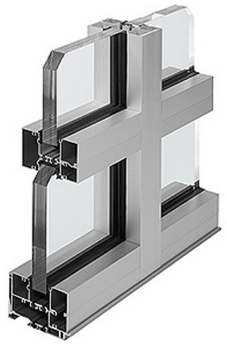
BRICK - COLOR 1
MANUFACTURER: TBD
MODEL: TBD
SPECIFICATIONS: TBD



BRICK - COLOR 2
MANUFACTURER: TBD
MODEL: TBD
SPECIFICATIONS: TBD



MASONRY VENEER
MANUFACTURER: TBD
MODEL: TBD
COLOR: BLACK
SPECIFICATIONS: TBD



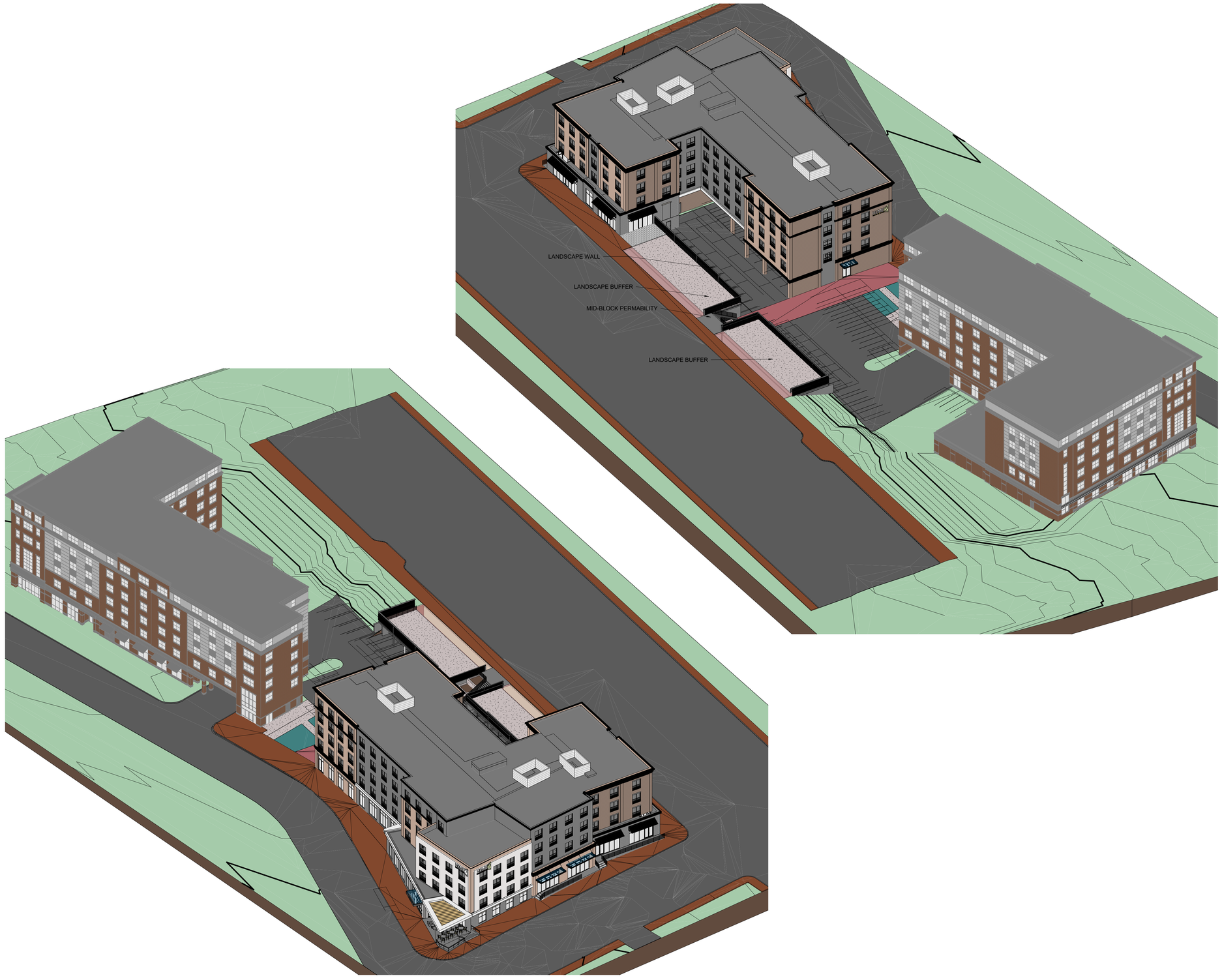
STOREFRONT
MANUFACTURER: KAWNEER
MODEL: TRIFAB 451 UT
COLOR: BLACK FINISH
SPECIFICATIONS:



UNIT WINDOWS
MANUFACTURER: TBD
MODEL: TBD
COLOR: BLACK
SPECIFICATIONS: VINYL COMMERCIAL WINDOW SYSTEM



METAL TRIM
COLOR: BLACK


LANDSCAPE WALL
LANDSCAPE BUFFER
MID-BLOCK PERMABILITY
LANDSCAPE BUFFER



PROCON
CONNECT • CREATE • CONSTRUCT

INDIA STREET & FORE STREET PERSPECTIVE

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 29 MAY 2025

Dwg. A2.07


207 FORE STREET
HOME 2


HOME2
CHATHAM MARKET



PROCON
CONNECT • CREATE • CONSTRUCT

MIDDLE STREET PERSPECTIVE

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 29 MAY 2025

Dwg. A2.10

PROPOSED ALONG MIDDLE STREET AND ADJACENT TO THE MID BLOCK PERMABILITY PEDESTRIAN THRU-WAY ALONG FORE STREET IS TO PROVIDE A COMBINATION OF HARDSCAPE AND LANDSCAPE ELEMENTS TO CREATE SMALL PARK LIKE SETTINGS FOR RELAXATION AND SOCIALIZATION ALONG THESE PUBLIC ACCESS STREETS AS ASSETS FOR THE COMMUNITY. POCKET PARK ELEMENTS SHALL INCLUDE A COMBINATION OF LANDSCAPE AND HARDSCAPE WITH BENCHES, RAISED FLOWER BEDS, PLANTINGS, AND OTHER NATURAL ELEMENTS. IMAGRY SHOWN FOR INFORMATION ONLY. A LANDSCAPE ARHITECT WOULD BE RETAINED TO ASSIST IN THE DESIGN OF THESE SMALL COMMUNITY SPACES.



POCKET PARK SCREEN - OPTION 1



POCKET PARK PRECENDENTS



POCKET PARK PRECENDENTS



POCKET PARK PRECENDENTS



POCKET PARK PRECENDENTS



POCKET PARK SCREEN - OPTION 2



RETAIL ENTRY AWNING - OPTION 1



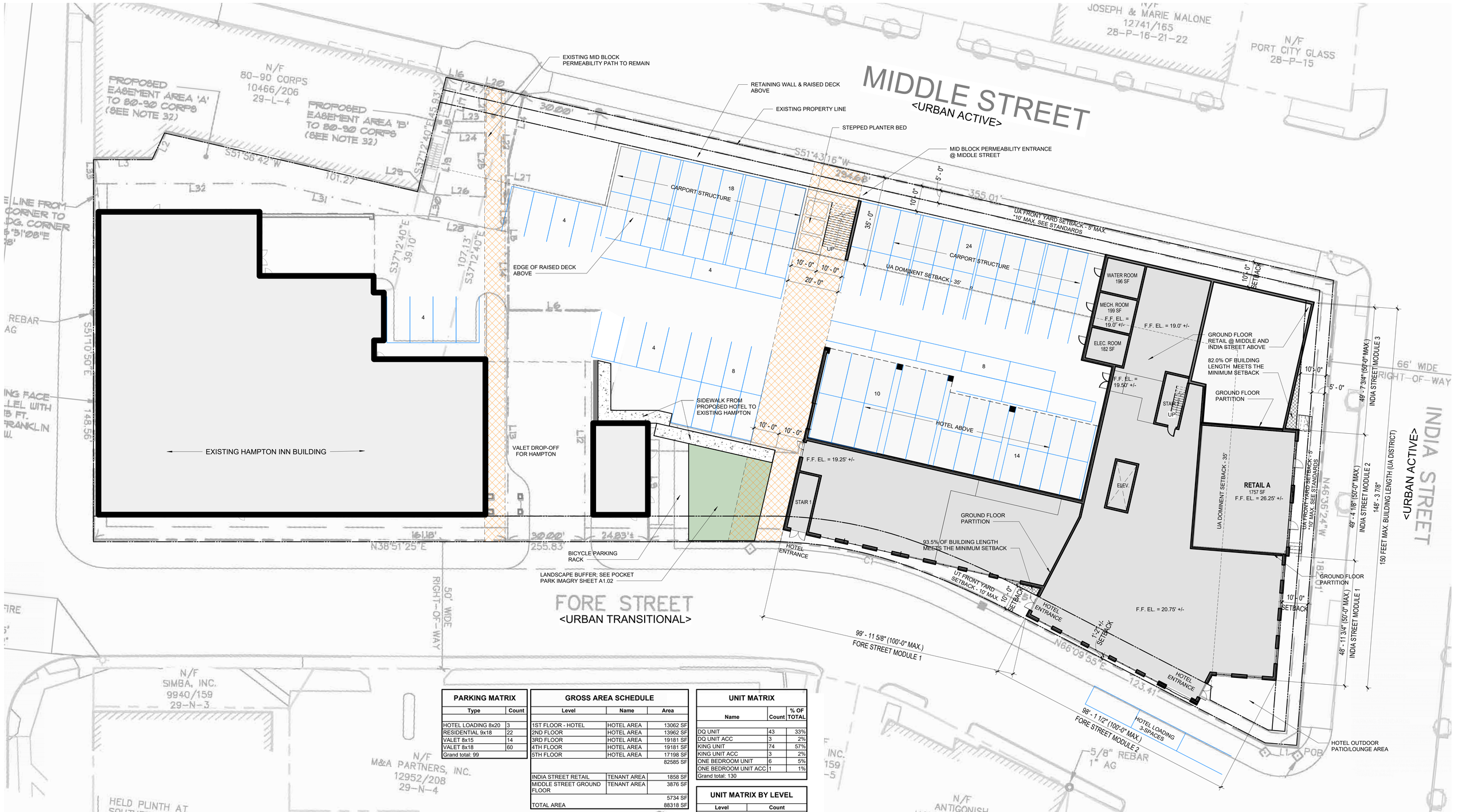
RETAIL ENTRY AWNING - OPTION 2



HOTEL ENTRANCE



HOTEL ENTRY PATIO



PARKING MATRIX	
Type	Count
HOTEL LOADING 8x20	3
RESIDENTIAL 9x18	22
VALET 8x15	14
VALET 8x18	60
Grand total: 99	

GROSS AREA SCHEDULE		
Level	Name	Area
1ST FLOOR - HOTEL	HOTEL AREA	13062 SF
2ND FLOOR	HOTEL AREA	13962 SF
3RD FLOOR	HOTEL AREA	19181 SF
4TH FLOOR	HOTEL AREA	19181 SF
5TH FLOOR	HOTEL AREA	17198 SF
		82585 SF
INDIA STREET RETAIL	TENANT AREA	1858 SF
MIDDLE STREET GROUND FLOOR	TENANT AREA	3876 SF
		5734 SF
TOTAL AREA		88318 SF

UNIT MATRIX		
Name	Count	% OF TOTAL
DQ UNIT	43	33%
DQ UNIT ACC	3	2%
KING UNIT	74	57%
KING UNIT ACC	3	2%
ONE BEDROOM UNIT	6	5%
ONE BEDROOM UNIT ACC	1	1%
Grand total: 130		

UNIT MATRIX BY LEVEL	
Level	Count
2ND FLOOR	26
3RD FLOOR	36
4TH FLOOR	36
5TH FLOOR	32
Grand total: 130	

PROCON
CONNECT • CREATE • CONSTRUCT

0 16' 32' 48'
SCALE: 1/16" = 1'-0"

OVERALL FIRST FLOOR PLAN

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 25 FEB 2025

Dwg. A1.01

EXISTING MID BLOCK
PERMEABILITY TO REMAIN

N/F
80-90 CORPS
10466/206
29-L-4

PROPOSED
EASEMENT AREA 'A'
TO 80-90 CORPS
(SEE NOTE 32)

PROPOSED
EASEMENT AREA 'B'
TO 80-90 CORPS
(SEE NOTE 32)

N/F
JOSEPH & MARIE MALONE
12741/165
28-P-16-21-22

N/F
PORT CITY GLASS
28-P-15

MIDDLE STREET
<URBAN ACTIVE>

STEPPED PLANTER BED
MID BLOCK PERMEABILITY ENTRANCE
COVERED PARKING BELOW
LANDSCAPE BUFFER; SEE POCKET PARK IMAGRY

S51°43'16"W 294.68'
355.01'
UA FRONT YARD SETBACK - 5' MAX.
*10' MAX. SEE STANDARDS
UA DOMINENT SETBACK - 35'

10' - 0"
5' - 0"
10' - 0"
10' - 0"
20' - 0"
25' - 0"
UP

83' - 5 3/4"
150 FEET MAX. BUILDING LENGTH (UA DISTRICT)
42' - 5 3/4" (50'-0" MAX.)
MIDDLE STREET MODULE 2
41' - 0" (50'-0" MAX.)
MIDDLE STREET MODULE 1
10' - 0" SETBACK

APPROX. AREA OF EXT. PATIO FOR RETAIL C

RETAIL C
1616 SF
F.F. EL. = 28.20' +/-

GROUND FLOOR PARTITION

RETAIL B
1984 SF
F.F. EL. = 28.20' +/-
82.0% OF BUILDING MEETS THE MINIMUM SETBACK

ONE BEDROOM UNIT
529 SF

DQ UNIT 414 SF ×4
KING UNIT 343 SF ×8

F.F. EL. = 34.92' +/-

ELEV.
BOH
STAIR 1
CORR.

KING UNIT 343 SF ×10
DQ UNIT 413 SF ×3
DQ UNIT ACC 495 SF

RETAIL A
1757 SF
F.F. EL. = 26.25' +/-
35' - 0"

DQ UNIT
420 SF

KING UNIT 342 SF
KING UNIT 343 SF
KING UNIT 341 SF
DQ UNIT 415 SF

10' - 0"
5' - 0"
50' - 0" (50'-0" MAX.)
INDIA STREET MODULE 3
66' WIDE RIGHT-OF-WAY

GROUND FLOOR PARTITION
49' - 4 1/8" (50'-0" MAX.)
INDIA STREET MODULE 2
148' - 3 7/8"
150 FEET MAX. BUILDING LENGTH (UA DISTRICT)
<URBAN ACTIVE>
INDIA STREET

UA FRONT YARD SETBACK - 5' MAX.
*10' MAX. SEE STANDARDS
48' - 11 3/4" (50'-0" MAX.)
INDIA STREET MODULE 1

N49°36'24"W 182.01'

10' - 0"
SETBACK

99' - 11 5/8" (100'-0" MAX.)
FORE STREET MODULE 1

FIRST FLOOR ROOF BELOW

N66°09'55"E 123.41'

98' - 11 1/2" (100'-0" MAX.)
FORE STREET MODULE 2

5/8" REBAR
1" AG

POB

EXISTING HAMPTON INN BUILDING

LINE FROM
CORNER TO
DG. CORNER
S31°08'E
8'

REBAR
AG

S51°10'50"E
148.56'

NG FACE
LEL WITH
S FT.
FRANKLIN
E

S37°12'40"E
39.10'

107.13'
S37°12'40"E

S37°12'40"E 45.93'

S51°56'42"W
101.27'

30.00'

16.18'
N38°51'25"E
30.00'
255.83'
24.83'±
39.83'±

50' WIDE
RIGHT-OF-WAY

FORE STREET
<URBAN TRANSITIONAL>

N/F
SIMBA, INC.
9940/159
29-N-3

N/F
M&A PARTNERS, INC.
12952/208
29-N-4

HELD PLINTH AT
SOUTHERLY

N/F
ANTIGONISH

INC.
159
-5

TIRE

PARKING MATRIX

Type	Count
HOTEL LOADING 8x20	3
RESIDENTIAL 9x18	22
VALET 8x15	14
VALET 8x18	60
Grand total: 99	

GROSS AREA SCHEDULE

Level	Name	Area
1ST FLOOR - HOTEL	HOTEL AREA	13062 SF
2ND FLOOR	HOTEL AREA	13962 SF
3RD FLOOR	HOTEL AREA	19181 SF
4TH FLOOR	HOTEL AREA	19181 SF
5TH FLOOR	HOTEL AREA	17198 SF
		82585 SF
INDIA STREET RETAIL	TENANT AREA	1858 SF
MIDDLE STREET GROUND FLOOR	TENANT AREA	3876 SF
		5734 SF
TOTAL AREA		88318 SF

UNIT MATRIX

Name	Count	% OF TOTAL
DQ UNIT	43	33%
DQ UNIT ACC	3	2%
KING UNIT	74	57%
KING UNIT ACC	3	2%
ONE BEDROOM UNIT	6	5%
ONE BEDROOM UNIT ACC	1	1%
Grand total: 130		

UNIT MATRIX BY LEVEL

Level	Count
2ND FLOOR	26
3RD FLOOR	36
4TH FLOOR	36
5TH FLOOR	32
Grand total: 130	

PROCON
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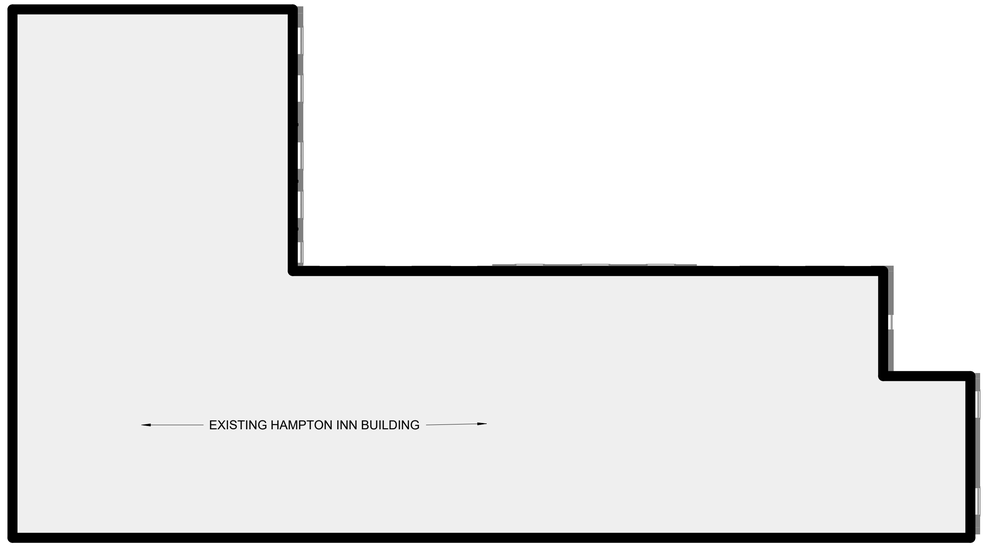
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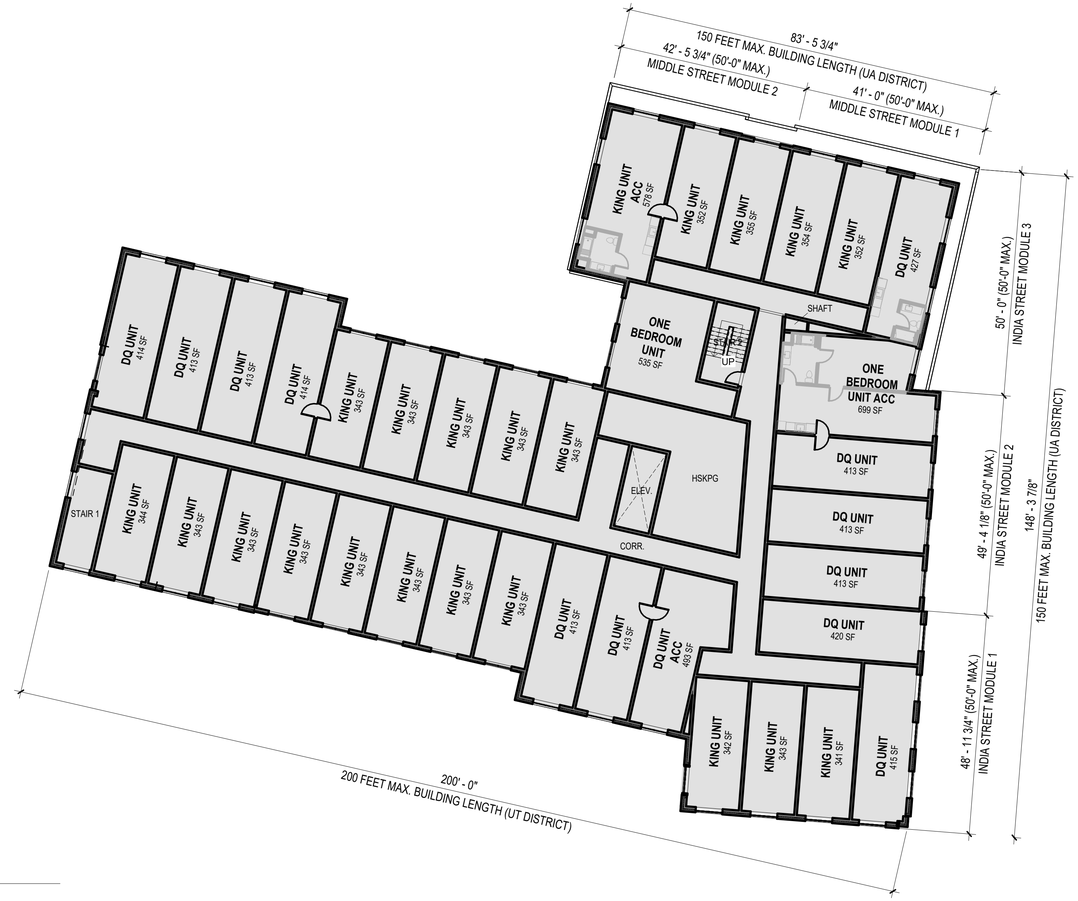
OVERALL SECOND FLOOR PLAN

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 25 FEB 2025

Dwg. A1.02





UNIT MATRIX

Name	Count	% OF TOTAL
DQ UNIT	43	33%
DQ UNIT ACC	3	2%
KING UNIT	74	57%
KING UNIT ACC	3	2%
ONE BEDROOM UNIT	6	5%
ONE BEDROOM UNIT ACC	1	1%
Grand total: 130		

UNIT MATRIX BY LEVEL

Level	Count
2ND FLOOR	26
3RD FLOOR	36
4TH FLOOR	36
5TH FLOOR	32
Grand total: 130	

2 OVERALL THIRD FLOOR PLAN (FOURTH SIM)
SCALE: 1/16" = 1'-0"

PROCON
CONNECT • CREATE • CONSTRUCT

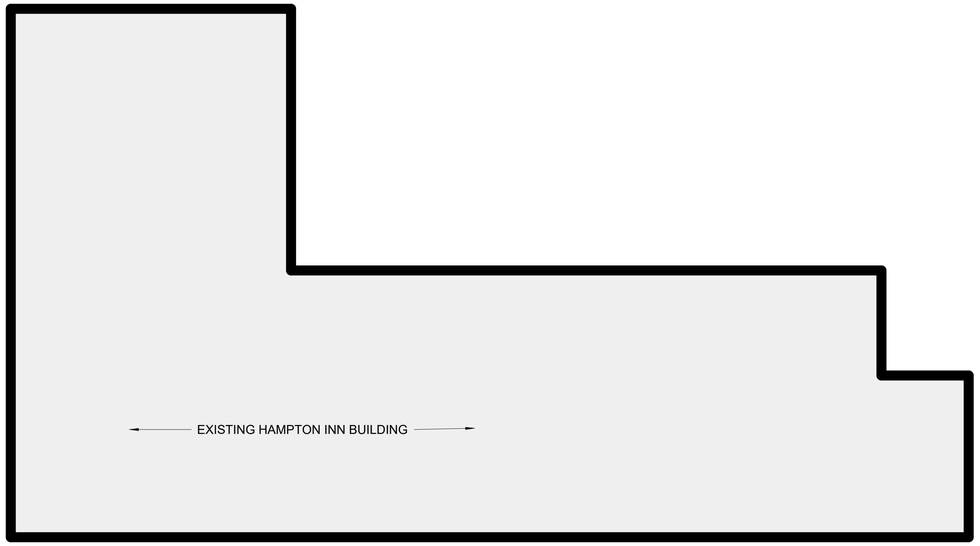
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SCALE: 1/16" = 1'-0"

OVERALL THIRD + FOURTH FLOOR PLAN

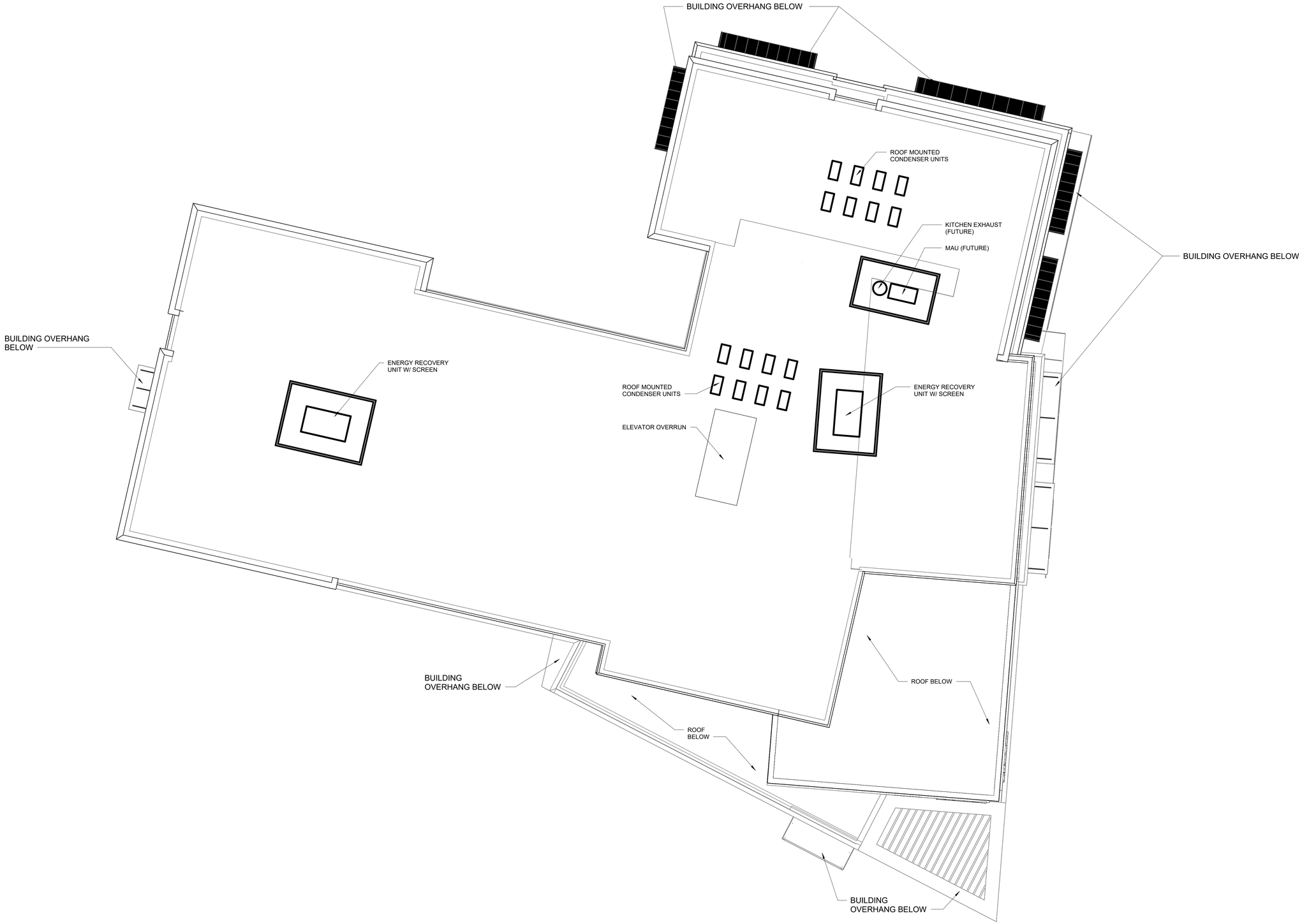
PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 25 FEB 2025

Dwg. A1.03




83' - 5 3/4"
150 FEET MAX. BUILDING LENGTH (UA DISTRICT)
42' - 5 3/4" (50'-0" MAX.)
MIDDLE STREET MODULE 2
41' - 0" (50'-0" MAX.)
MIDDLE STREET MODULE 1
KING UNIT ACC 378 SF
KING UNIT 332 SF
KING UNIT 355 SF
KING UNIT 354 SF
KING UNIT 352 SF
DQ UNIT 421 SF
SHAFT
ONE BEDROOM UNIT 535 SF
UP
ONE BEDROOM UNIT 699 SF
CORR.
DQ UNIT 413 SF
DQ UNIT 413 SF
DQ UNIT 415 SF
DQ UNIT 414 SF
DQ UNIT 413 SF
DQ UNIT 413 SF
DQ UNIT 415 SF
DQ UNIT 414 SF
KING UNIT 345 SF
KING UNIT 345 SF
KING UNIT 345



PROCON
CONNECT • CREATE • CONSTRUCT

0 10' 20' 30'
SCALE: 10" = 1'-0"

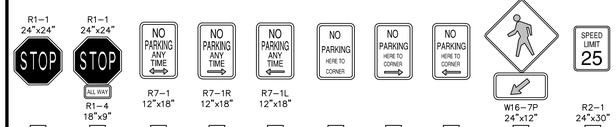
OVERALL ROOF PLAN

PROPOSED HOTEL
203 FORE STREET - PORTLAND, MAINE 04101

Date 25 FEB 2025

Dwg. A1.05

EXISTING SIGN LEGEND:



LEGEND:

B2 EXISTING

B2 PROPOSED

NORTH

NEW SIGN LOCATION B1 (1 SPACE LOST)

ADD 'ALL-WAY' PLATE A B

NEW SIGN LOCATION B2 (1 SPACE LOST)

INDIA STREET

PAVED – PUBLIC – 66' WIDE

EX. CROSSWALK STRIPING TO REMAIN, TYP.

NEW SIGN LOCATION B1 (NO SPACES LOST)

NEW SIGN LOCATION C2 (NO SPACES LOST)

NO CHANGE TO SIGN LOCATION

EX. HYDRANT

REMOVE EXISTING PAINT, TYP.

2:1 TAPER, TYP.

VERTICAL GRANITE CURB, TYP.

CITY STANDARD BRICK SIDEWALK, TYP.

PROPOSED POLE RELOCATION WITH SIGN B1

PROPOSED HOTEL LOADING SPACES

EX. 'INDIA ST' SIGN
EX. 'MIDDLE ST' SIGN

RETAIL A

RETAIL B

RETAIL C

PROPOSED HOME2 SUITES

SEE TO THIS TEXT

STREET

PUBLIC – 66' WIDE

NOTES:

1. THE 20 FOOT MEASUREMENT FOR 'NO PARKING' SIGNAGE SHALL BE MEASURED FROM THE EDGE OF EXISTING OR PROPOSED CROSSWALK.
2. EXISTING 'NO PARKING' SIGNS WITHIN 3' OF 20' MEASUREMENT MAY REMAIN IN PLACE.
3. DRAINAGE IMPROVEMENTS ARE NOT CONTEMPLATED WITH THIS CONCEPT.

20 0 10 20 40

1 inch = 20 ft.

Rev.	Date	Revision

Rev.	Date	Revision
4	2025.05.30	RESUBMITTED FOR LOR #3
3	2025.02.26	RESUBMITTED FOR LOR #2
2	2024.10.08	RESUBMITTED FOR LOR #1
1	2024.08.02	MAJOR SITE PLAN APPLICATION TO CITY

Design: SRB	Draft: CDD	Date: FEB. 2025
Checked: SRB	Scale: AS NOTED	Job No.: 3904.01
File Name: 3904.01–TRAFFIC.dwg		

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An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

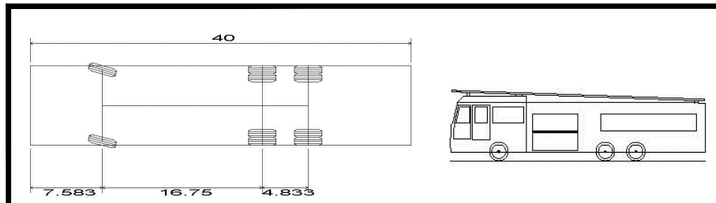
Drawing Name: INDIA STREET TRAFFIC SIGNAGE & CURBING CONCEPT PLAN

Project: **Home 2 Suites – 203 Fore Street**
Portland, Maine

Client: **Chatham Portland DT, LLC c/o Chatham Lodging Trust**
222 Lakeview Avenue– Suite 200, West Palm Beach, FL 33401

Drawing No. -

U:\Chatham Lodging Trust\3904.01_Home 2 Suites Portland Chatham Lodging\Z – CAD\DWG\3904.01–TRAFFIC.dwg 5/30/2025 1:58 PM



E-ONE HP100 Aerial	
Overall Length	40.000ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

NORTH

A STREET

PUBLIC – 66' WIDE

BUILDING

E-ONE HP100 Aerial

R10'

5'

20'

7'

REMOVE EXISTING PAINT, TYP.

2:1 TAPER, TYP.

VERTICAL GRANITE CURB, TYP.

NEW SIGN LOCATION B1
(NO SPACES LOST)

CITY STANDARD
BRICK SIDEWALK, TYP.

NO CHANGE TO
SIGN LOCATION

PROPOSED POLE RELOCATION WITH SIGN B1

PROPOSED HOTEL LOADING SPACES

RETAIL A

PROPOSED
HOME2 SUITES

GRAVEL PARKING

PAVED

20 0 10 20 40

1 inch = 20 ft.

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HOME 2 SUITES

203 Fore Street, Portland, Maine

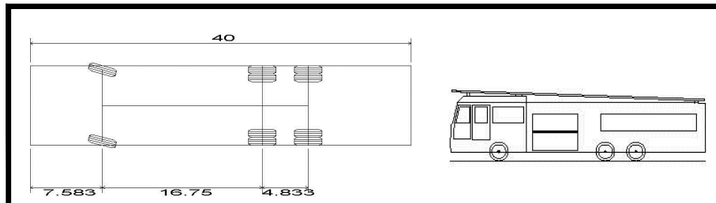
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CDD	SRB	KAB	05.30.2025
DWN.	CHKD.	DSGN.	DATE

Title

HP-100 AERIAL FIRE TRUCK TURNING LEFT

Figure No.

4



E-ONE HP100 Aerial	
Overall Length	40.000ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

NORTH

STREET

PUBLIC – 66' WIDE

BUILDING

E-ONE HP100 Aerial

20'

5'

R10'

NEW SIGN LOCATION B1
(NO SPACES LOST)

REMOVE EXISTING PAINT, TYP.

2:1 TAPER, TYP.

VERTICAL GRANITE CURB, TYP.

CITY STANDARD
BRICK SIDEWALK, TYP.

NO CHANGE TO
SIGN LOCATION

PROPOSED POLE RELOCATION WITH SIGN B1

PROPOSED HOTEL LOADING SPACES

RETAIL A

PROPOSED
HOME2 SUITES

GRAVEL PARKING

PAVED AREA

20 0 10 20 40

1 inch = 20 ft.

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GORRILL PALMER
An LJB Engineering Company

HOME 2 SUITES

203 Fore Street, Portland, Maine

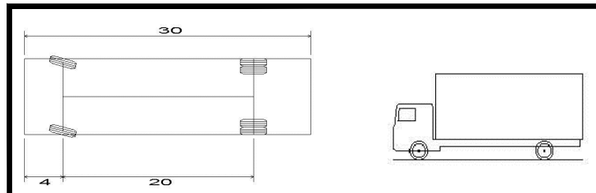
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DWN.	CHKD.	DSGN.	DATE

Title

HP-100 AERIAL FIRE TRUCK TURNING RIGHT

Figure No.

3



SU-30 - Single Unit Truck	
Overall Length	30.000ft
Overall Width	8.000ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.367ft
Track Width	8.000ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	31.80°

NORTH

BUILDING

BIKE RACKS

SU-30 - Single Unit Truck

7'

R10'

5'

20'

REMOVE EXISTING PAINT, TYP.

2:1 TAPER, TYP.

VERTICAL GRANITE CURB, TYP.

A STREET

PUBLIC – 66' WIDE

NEW SIGN LOCATION B1
(NO SPACES LOST)

SU-30 - Single Unit Truck

CITY STANDARD
BRICK SIDEWALK, TYP.

NO CHANGE TO
SIGN LOCATION

PROPOSED POLE RELOCATION WITH SIGN B1

SU-30 - Single Unit Truck

GRAVEL PARKING

RETAIL A

PROPOSED HOTEL LOADING SPACES

PROPOSED
HOME2 SUITES

20 0 10 20 40

1 inch = 20 ft.

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GORRILL PALMER
An LJB Engineering Company

HOME 2 SUITES

203 Fore Street, Portland, Maine

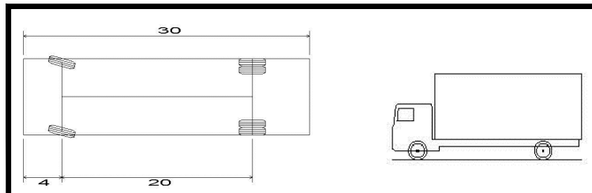
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Title

SU-30 BOX TRUCK TURNING LEFT

Figure No.

2



SU-30 - Single Unit Truck

Overall Length	30.000ft
Overall Width	8.000ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.367ft
Track Width	8.000ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	31.80°

NORTH

A STREET

PUBLIC – 66' WIDE

BUILDING

BIKE RACKS

SU-30 - Single Unit Truck

20'

5'

R10'

NEW SIGN LOCATION B1
(NO SPACES LOST)

14'

7'

REMOVE EXISTING PAINT, TYP.

2:1 TAPER, TYP.

VERTICAL GRANITE CURB, TYP.

CITY STANDARD
BRICK SIDEWALK, TYP.

NO CHANGE TO
SIGN LOCATION

PROPOSED POLE RELOCATION WITH SIGN B1

PROPOSED HOTEL LOADING SPACES

RETAIL A

PROPOSED
HOME2 SUITES

GRAVEL PARKING

PAVED

20 0 10 20 40

1 inch = 20 ft.

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HOME 2 SUITES

203 Fore Street, Portland, Maine

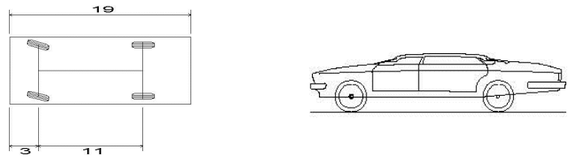
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Title

SU-30 BOX TRUCK TURNING RIGHT

Figure No.

1



P - Passenger Car

Overall Length	19.000ft
Overall Width	7.000ft
Overall Body Height	4.300ft
Min Body Ground Clearance	1.115ft
Track Width	6.000ft
Lock-to-lock time	4.00s
Max Steering Angle (Virtual)	31.60°

NORTH

BUILDING

BIKE RACKS

HOLT FOUND

BRICK SIDEWALK

14'

7'

R10'

5'

20'

REMOVE EXISTING PAINT, TYP.

2:1 TAPER, TYP.

VERTICAL GRANITE CURB, TYP.

NEW SIGN LOCATION B1
(NO SPACES LOST)

P - Passenger Car

20'

5'

R10'

R10'

5'

5'

CITY STANDARD
BRICK SIDEWALK, TYP.

A STREET

PUBLIC – 66' WIDE

NO CHANGE TO
SIGN LOCATION

PROPOSED POLE RELOCATION WITH SIGN B1

GRAVEL PARKING

RETAIL A

PROPOSED HOTEL LOADING SPACES

PROPOSED
HOME2 SUITES

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1 inch = 20 ft.

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GORRILL PALMER
An LJB Engineering Company

HOME 2 SUITES

203 Fore Street, Portland, Maine

File Name:			
CDD	SRB	KAB	05.30.2025
DWN.	CHKD.	DSGN.	DATE

Title

PASSENGER CAR TURNING RIGHT

Figure No.

5

1584 Forest Avenue
Major Site Plan Application
PL-003161-2024
Acre Properties, Applicant

Submitted to:	Portland Planning Board	**Prepared By:**	Eric Freeman
Public Hearing Date:	July 8, 2025	**Date:**	July 2, 2025



Figure 1: Perspective Rendering

I. INTRODUCTION

Gorrill Palmer Engineering, on behalf of Acre Properties, has submitted a Major Site Plan application to facilitate the construction of two, three-story multi-family buildings, each containing 25 dwelling units, along with 50 on-site parking spaces. The proposed project is located at 1584 Forest Avenue in the RN-1 Residential Neighborhood zone, the B-1 Neighborhood Business zone, and the RN-5 Residential Neighborhood zone.

This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 13.6. Additionally, this application is required to meet the City of Portland's inclusionary zoning requirements outlined in Section 17.2 of the City's Land Use Code.

The Planning and Urban Development Department mailed 138 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the June 12th and June 13th editions of the

Portland Press Herald. At the June 24 Planning Board meeting, the Board voted to table the public hearing until July 8, 2025.

Applicant: Acre Properties
Applicant Representatives: Gorrill Palmer Engineering

II. REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 13.6
Inclusionary Zoning	Section 17.2
Multifamily Design Review Standards	Section 9.1 City of Portland Design Manual (I)

Project Data	
Existing Zoning	RN-5; RN-1; B-1
Property Size	66,560 SF
Existing Use	Undeveloped area. Grass and wooded area
Proposed Development Program	Two three-story, 25-unit multifamily buildings with 50 parking spaces and site landscaping.

III. PLANNING BOARD WORKSHOPS

The Planning Board has held two workshops on this application, with the first having been held on April 8, 2025, and the second held on June 10, 2025. Written and verbal in-person public comments were taken at each workshop, all of which were open to the public. The following section contains a synopsis of the two Planning Board workshops, along with an overview of the internal coordination that has occurred since the June 10th workshop.

A. April 8th Workshop

During the first workshop, the Board requested that the City and the applicant explore shifting the vehicular entrance to the proposed development from Belfort Street to the Talbot School driveway. This recommendation was made in order to redirect vehicle traffic generated by the proposed development to the signalized intersection where the school driveway meets Forest Avenue. Additionally, the Board raised questions regarding the ability of the applicant to consider the property's Forest Avenue frontage as the frontage for the property, given the existence of an easement held by Moran's Market which enables the market to use this portion of the 1584 Forest Avenue property for parking or potentially even a future structure. The Board also requested that the proposed private walkway to Forest Avenue be extended to the street and proposed bus shelter, and that the site's grading and stormwater management plan be reevaluated to confirm that the post-development drainage plan would not increase flow rates onto adjacent properties.

A video recording of and materials for the April 8, 2025 Planning Board workshop are available at the following link: https://portlandme.portal.civicclerk.com/event/7569/files/agenda/16058

B. June 10th Workshop

At the June 10, 2025 meeting, staff presented responses to the concerns and questions raised by the Board during its April 8th meeting, and presented the applicant's proposed traffic mitigation plan. Staff confirmed that vehicular access across the Maine Land and Water Conservation Fund (LWCF) easement to the school and community center driveway would be very difficult to pursue, given the complex nature of amending an LWCF easement, and noted that the applicant planned to proceed with their Belfort Street connection. Staff, in coordination with the City's Corporation Counsel, also confirmed that the easement held by Moran's Market did not, from a legal standpoint, impact the applicant's ability to consider Forest Avenue as the property's legal frontage, given that the language within the easement grants Acre Properties access through the frontage in perpetuity.

In terms of traffic mitigation, staff presented the applicant's planned approach, which included the extension of a private walkway between the proposed residential buildings and the Forest Avenue sidewalk, which would connect to a newly proposed public transit stop and covered shelter. The revised plan also showed the closure of an existing curb cut on the Moran's Market property along the north side of Belfort Street, a prohibition on on-street parking along the north side of Belfort Street, the provision of a left-turn lane on Forest Avenue at the intersection of Forest Avenue and Belfort Street, and the redevelopment of a crosswalk across Belfort Street at the intersection of Belfort Street and Forest Avenue.

During the Board's discussion on June 10th, the Board continued to push for additional on-site and off-site improvements to help better integrate the proposed project into the neighborhood, including the provision of a sidewalk from the project site out to Belfort Street; improvements to the crosswalk across Forest Avenue located just east of Belfort Street, and confirmation that the proposed stormwater management infrastructure would function as stated and not adversely impact abutters. The Board also asked that the City's third-party traffic engineer provide a finding related to the applicant's February 25th traffic study, and a determination as to whether the study was acceptable based upon the scope of development and anticipated impacts. Lastly, the Board requested that City staff confirm with Corporation Counsel that the financial capacity letter provided by the applicant met the City's standard.

A video recording of and materials for the April 8, 2025 Planning Board workshop are available at the following link: https://portlandme.portal.civicclerk.com/event/7573/files/agenda/16374

A. Coordination Following June 10th Workshop

Following the June 10th workshop, staff met with the applicant to discuss potential revisions, requesting that the applicant; provide a walkway within their proposed driveway connecting to the public sidewalk on Belfort Street; provide a direct pedestrian connection between the project site and Talbot School if pedestrian access were determined to be acceptable under the LCFW easement held by the State; and

relocate the placement of the proposed stormwater management infrastructure to reduce the likelihood of adverse impacts to abutters.

Staff also met with the City's third-party traffic engineer and the City's transportation systems engineer from the Department of Public Works (DPW) to finalize the City's recommendation for off-site traffic mitigation. The City recommended that the applicant augment their proposed traffic mitigation plan, and relocate the existing crosswalk across Forest Avenue to the west side of the Forest Avenue and Belfort Street intersection. The City also recommended that the applicant develop a center refuge island for pedestrians with pedestrian crossing signals, and close the westerly curb cut to the Riverton Station Pizza, Bar and Grill property, located at 1569 Forest Avenue, to accommodate this new crosswalk.

Additionally, Planning staff met with the City's third-party stormwater engineer and staff from the Water Resources Division at the Department of Public Works (DPW), to discuss the applicant's proposed alteration to the development's stormwater management plan. City staff were supportive of the change, noting that the drip strip proposed at the southwestern corner of the property better aligns with existing drainage patterns and that an existing swale is being utilized to direct stormwater towards existing stormwater infrastructure on City property at the Talbot School.

This coordination is discussed in greater detail below under the relevant sections of this report.

IV. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is located near the intersection of Forest Avenue and Belfort Street in the Riverton neighborhood. The irregular shaped site is bounded to the north by a multifamily home owned by the applicant, to the south and west by single family homes along Belfort Street and to the east by the Talbot School, which also houses the Riverton Community Center, a public recreational facility that includes a branch of the Portland Public Library. The site is currently undeveloped and consists almost entirely of undergrowth and mature trees. There is a portion of an unimproved parking lot and a small amount of grassed open space along the property's Forest Avenue frontage, which is formally used by Moran's Market. The surrounding neighborhood is comprised mostly of single-family homes, small-scale multifamily development and neighborhood businesses including Moran's Market and Riverton Station Bar & Grill.

V. PROPOSED DEVELOPMENT

The proposed development involves the construction of 50 multifamily residential units in two, three-story buildings each containing 25 units. Each building would have a footprint of approximately 7,600 square feet and would feature a lobby area, bike storage for up to 13 bicycles, and shared laundry facilities. Each building would have multiple entrances providing direct access to parking areas and shared open space. In total, there would be 20 one-bedroom and 25 two-bedroom units. Each unit would be provided with one off-street parking space.

Primary vehicular access to the site would be provided via a 20-foot-wide two-way driveway connecting the development with Belfort Street. This drive aisle would lead directly to the 50-space parking area, which

would serve to buffer the two buildings from homes on Belfort Street. A direct pedestrian connection to Forest Avenue would be provided via an ADA-accessible 6-foot-wide walkway. This walkway would be illuminated and would lead to a newly proposed transit stop on the western side of Forest Avenue. A second walkway is proposed along the east side of the Belfort Street sidewalk and would measure four feet in width.

The site would feature a shared patio area located between the two residential buildings. This area would have open seating, tables and landscaping. Additional site landscaping and open space would feature a mixture of existing mature trees, bushes, and low-profile landscaping. Plantings would also be used to help buffer buildings and parking areas from surrounding properties.

The site would be served by a 2-inch domestic water service and a 6-inch fire service connecting to existing stubs on Belfort Street. The site would connect to an existing 8-inch gravity sewer main on Belfort Street. Stormwater treatment would be provided on-site using sand filters and a stone drip edge. The site slopes continuously down from Forest Avenue towards the southern property boundary. Based upon this, the applicant has prepared a post-development grading plan which would convey stormwater to the southern edge of the property, where it would collect in one of two catch basins that direct the stormwater into either a subsurface sand filter, located under the parking lot, or a drip strip, located at the southwestern corner of the property. The drip strip was relocated from the southeastern corner of the property based upon feedback from the Planning Board and the neighborhood, due to the potential that this location could result in an increased flow rate onto the abutting property.

VI. RIGHT, TITLE, & INTEREST

The applicant has demonstrated sufficient right, title and interest to the parcel involved in this application. The subject lot was conveyed together with associated rights and easements to Acre Properties on May 31, 2022. Conveyance of this parcel is recorded in the Cumberland County Registry of Deeds Book 39465, Page 257.

Full Right, Title and Interest documentation is included as Attachment C.

VII. FINANCIAL & TECHNICAL CAPACITY

In response to Planning Board feedback at the June 10th workshop, the applicant has provided an updated letter of support (Attachment D) from Androscoggin Bank indicating that the bank has a relationship with the applicant, and that the applicant is in good financial standing with the bank, and has a proven track-record of fulfilling financial obligations. Androscoggin Bank notes that a full commitment to finance the project would be subject to underwriting, however they note that there is a reasonable level of confidence that the borrower would have financial capacity to undertake the project. This updated letter was reviewed by Corporation Counsel, and found to be consistent with legally established precedent for confirming financial capacity.

Gorrill Palmer Engineering is an established firm that has demonstrated experience working on projects of a similar scale throughout Maine and New England.

VIII. ZONING ANALYSIS

The site is located primarily within the RN-5 Residential Neighborhood zone. Portions of the site are also located within the B-1 Neighborhood Business zone and the RN-1 Residential Neighborhood zone. The report does not detail the project's compliance within these two zones as the proposed development is occurring within the RN-5 portion of the site, except for a portion of the driveway which is located within the RN-1 zone, and the pedestrian walkway and bus shelter, which are partially located in the B-1 zone.

Relevant sections of the RN-5 purpose statement include:

- RN-5: *"To accommodate existing areas of the city characterized by a residential neighborhood environment of multi-family dwellings at relatively high density, exhibiting a pattern of larger lots and setbacks, as well as generally taller building heights"*

As submitted, this application is consistent with the RN-5 zoning requirements. A zoning analysis of the proposed project is provided in the table below:

	Required	Proposed
Lot Size	None	66,560 SF
Maximum Height (ft)	55 ft.	47 ft.
Minimum Street Frontage	50 ft.	72 ft.
Maximum Building Length	180 ft.	140 ft.
Area Per Dwelling Unit	1,200 SF	1,331 SF
Front Setback	25 ft.	29.5 ft.
Rear Setback	25 ft.	36 ft.
Side Setback	16 ft	16.5 ft.
Open Space	30%	43%
Lot Coverage	60%	24%

A. Inclusionary Zoning

As outlined in Section 17.2.3 of the City of Portland's Land Use Code, this application is subject to Inclusionary Zoning standards and is required to provide at least 25% (13) of the units as workforce housing. The applicant has indicated that they intend to provide the required 13 workforce housing units on-site to meet inclusionary zoning requirements, and provided a memo on June 18th indicating that workforce units would be integrated evenly across both buildings, with no notable distinction between market rate and workforce units, either in terms of access to on-site amenities, or in-unit finishes. The memo further details that the development would include 80 bedrooms in total, of which 20 bedrooms would be located within

workforce units. The proposed workforce unit mixture would consist of seven two-bedroom units and six one-bedroom units. The location of these units are detailed within the applicant's latest submission, and demonstrate full compliance with the City's inclusionary zoning requirements.

IX. SITE PLAN STANDARDS (Section 13.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's Site Plan Ordinance, Section 13.6.

1. Transportation Standards (Section 13.6.1)

A. Impact on surrounding street systems

Primary vehicular access to the site is provided via a 20-foot drive aisle connecting to Belfort Street. Belfort Street is a local street with on-street parking currently offered on both sides of the street, measuring 30 feet of paved width. It serves as the only point of access for approximately 75 homes on Belfort, Verrill and Iffley Streets. Belfort Street intersects with Forest Avenue approximately 350 feet northeast of the development's proposed driveway. The intersection of Belfort and Forest is unsignalized.

At the request of Staff, the applicant has provided a traffic study conducted by Gorrill Palmer Engineering (Attachment F). This study focused on the intersection of Belfort Street and Forest Avenue and detailed the following information:

- A trip generation estimate was calculated indicating that the project would generate 28 trips during the highest peak hour. A Traffic Movement Permit (TMP) is not required for this application, as the project falls significantly below the Maine Department of Transportation's threshold, which is triggered when a project is expected to generate 100 or more passenger car equivalent (PCE) trips during the peak hour of traffic generation.
  A capacity analysis was performed at the Forest Avenue/Belfort Street intersection. The analysis indicates that little delay is estimated for vehicles turning onto Forest Avenue, though the exact delay time is not specified.
- A review of safety data indicated two crashes were reported during a three-year period between 2021 and 2023.
- There were 16 pedestrians who crossed Forest Avenue during the 2pm to 6pm study time.
- Sight distance was measured for vehicles turning from Belfort Street onto Forest Avenue. Acceptable sight lines are provided.
- The applicant has noted that driveway and sidewalk conditions along Belfort Street are poor.

The full traffic report is included as Attachment F

In reviewing the traffic study that was prepared by Gorrill Palmer, the City's third-party traffic engineer, Tom Errico, P.E. with T.Y. Lin found the scope and methodology employed in the study to be acceptable, and in coordination with Planning staff and the Department of Public Works

provided recommendations around site and off-site mitigation to limit the impacts of this development on the surrounding neighborhood and street system. (Attachment S3) This would involve the construction of new pedestrian infrastructure within and around the project site, including:

- Walkway with direct connection to a new public transit shelter on Forest Avenue.
- Construction of a sidewalk along the project's driveway and new public sidewalk segment to connect into the existing sidewalk on Belfort Street.
- Construction of a direct pedestrian walkway or path between the project site and the Talbot School property. * Note this is contingent upon State approval of a pathway across the LCFW easement.
- Development of an ADA-compliant crosswalk across Belfort Street at the intersection with Forest Avenue.
- Development of an ADA-compliant crosswalk across Forest Avenue west of the intersection of Belfort Street and Forest Avenue. This crosswalk would include pedestrian signals and a central refuge island for pedestrians.

Additional off-site improvements are also being requested to reduce potential conflicts between vehicles and pedestrians, and to improve vehicle mobility. These include:

- Closure of a curb-cut at Moran's Market immediately adjacent to the Belfort Street and Forest Avenue intersection.
- Closure of the westerly curb cut at Riverton Station Bar & Grill to accommodate the new pedestrian crosswalk.
- Restriping of Forest Avenue to provide a dedicated left-turn lane from Forest Avenue onto Belfort Street.
- Prohibition of on-street parking along the south side of Belfort Street, to improve vehicle mobility along Belfort Street and allow for adequate maneuvering space for emergency vehicle access into the project site.



Figure 2: Belfort Street mitigation

The City has drafted a condition of approval that would require the applicant to finalize the design of their off-site mitigation plan and construct these improvements in coordination with the

Department of Public Works and the Planning Authority, and maintain the existing bicycle facilities within Forest Avenue, as requested by the Planning Board at the June 10th workshop.

Additionally, the City is recommending a second condition of approval, which would require the applicant to complete a speed evaluation of Belfort Street, one year after issuance of a Certificate of Occupancy. The scope of the study would need to be accepted by the Department of Public Works, and would serve as the basis for potential traffic calming measures. In the event that traffic calming is warranted, the installation of traffic calming measures would be the responsibility of the applicant.

Finding of Fact: Based on the submitted application materials, the project's description of components intended to mitigate impacts on the surrounding street system, and the recommended conditions of approval, this standard is determined to be met.

B. Access and circulation

The proposed development would occupy an approximately 1.5-acre parcel of land, which has frontage on both Forest Avenue and Belfort Street. Vehicular access to the development would be provided off of Belfort Street, through a 30-foot wide strip of land that extends between the development site, between two existing single-family homes to Belfort Street. Within this strip of property, the applicant proposes to develop a 20-foot wide driveway which would enable vehicular ingress and egress to the site, along with a four-foot wide walkway, which would connect out to the existing sidewalk along the north side of Belfort Street to Forest Avenue. Staff have drafted a condition of approval requiring the applicant to provide striping between the driveway sidewalk and the building entrances.

Additionally, the applicant is proposing a six-foot wide illuminated walkway between the proposed residential development and Forest Avenue, along the westerly property boundary, running parallel with the Talbot School Driveway. This walkway would provide a direct connection to a newly proposed bus stop with transit shelter, which would provide convenient access for residents to the inbound Route 2 METRO bus. As mentioned under the preceding standard, the applicant would also be responsible for off-site traffic mitigation, which would involve vehicular and pedestrian upgrades along both Belfort Street and Forest Avenue.

Concerning building access, each of the proposed buildings would feature four entrances; a lobby entrance, a parking entrance and two side entrances. Side entrances would provide direct access to the shared courtyard area, parking lot and trash enclosures.

In one of the written public comments received by the Planning Board, a member of the public asked that the City consider relocating the vehicular driveway from Belfort Street to Forest Avenue, through the applicant's property. The City's third-party traffic engineer reviewed this alternative and provided a written comment (Attachment S4.) noting that they would recommend against this alternative. They note in their written comment that a driveway in this location would not comply with the City's requirement that driveways serving a parking area with 10 or more spaces be located a minimum of 100 feet from the nearest intersection (that being the intersection of the Talbot School driveway with Forest Avenue). They also note that the City's technical manual includes a provision which states, "*driveway locations may be rejected based on documentation or anticipated safety or operational concerns*", and in reviewing the alternative against this standard, advised the Board that this would create an unsafe condition, and they therefore, would not be supportive of the driveway in this location.

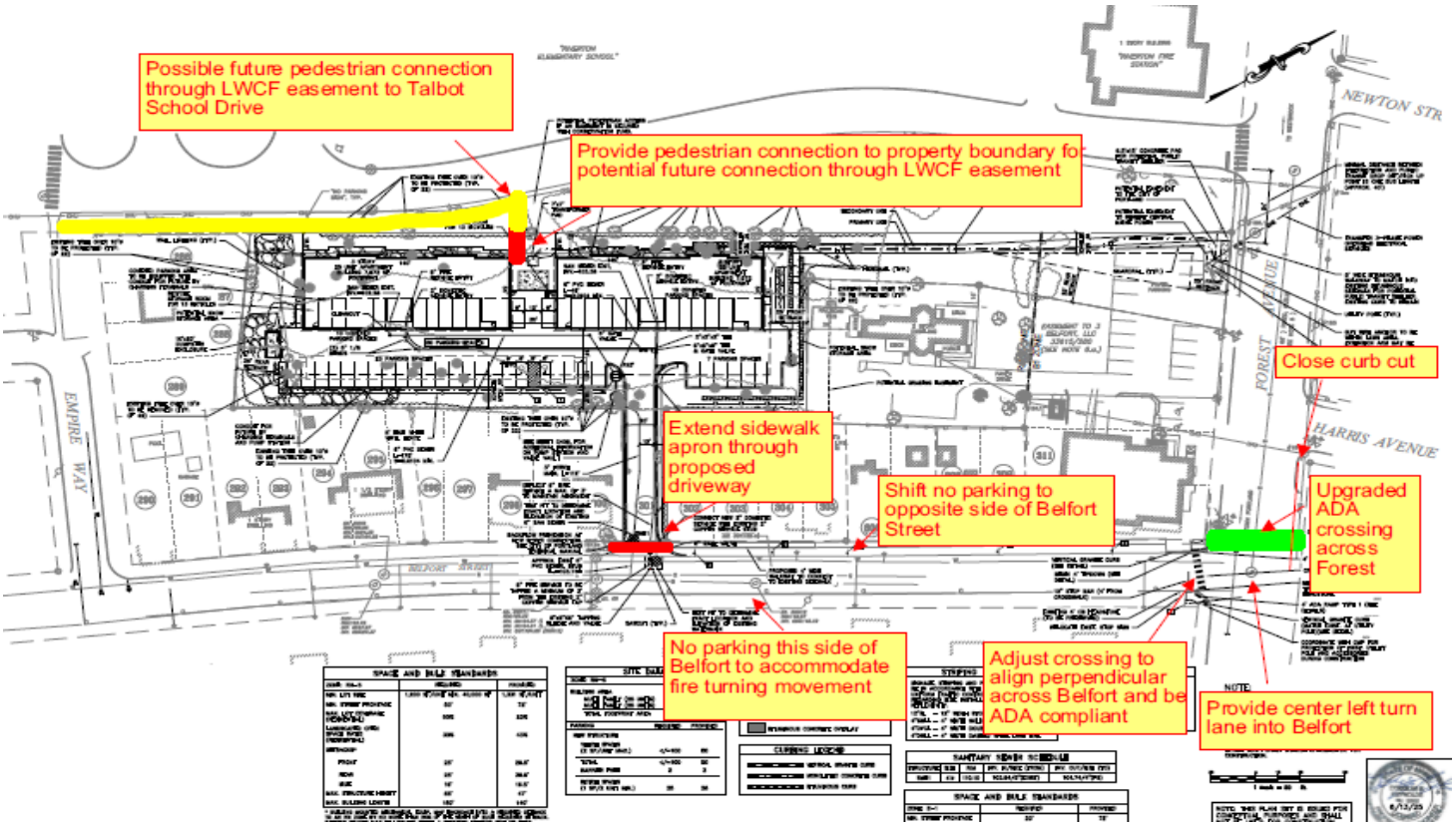


Figure 3: Off-site mitigation and access improvements

Finding of Fact: Based on the submitted application materials, the project's description of components intended to mitigate impacts on the surrounding street system, and the recommended conditions of approval, this standard is determined to be met.

C. Public transit access

This site is directly serviced by METRO's Route 2 along Forest Avenue. The applicant has coordinated with METRO to relocate the in-bound Route 2 stop onto their property's Forest Avenue frontage, and is proposing to install a transit shelter at this location with a direct pedestrian connection to the site. While the development is not subject to the City's public transit access standard, due to its location being less than a quarter of a mile from a fixed-transit stop with transit shelter, the City is supportive of the Applicant's steps to accommodate a shelter at their property, and support this improvement as part of the applicant's off-site traffic mitigation plan and as a parking demand management strategy.

Finding of Fact: Not applicable.

D. Parking

As outlined in Section 18.1.2 of the Land Use Code, off-street vehicle parking is not required. Table 18-A of the Land Use Code establishes parking maximums, which for residential dwellings is two spaces per dwelling unit. This application would provide 50 off-street surface parking spaces and intends to allocate one space per residential unit. Each building would have 10 covered parking spaces on the ground floor. Parking areas would be screened from surrounding properties by fencing and plantings.

As outlined in Table 18-A of the Land Use Code, this application is required to provide one bicycle parking space per two dwelling units (25 spaces). This application proposes storage for up to 26 bicycles, with a secure bike room located on the ground floor of each building.

A total of 10 parking spaces will be equipped with Level-2 EV chargers, with 25 additional spaces served with conduits for future EV charging equipment as needed. This provision satisfies the City's electric vehicle charging requirement as detailed in Section 1 of the Technical Manual, which requires that 20% of proposed off-street parking be equipped with Level-2 chargers, and that an additional 50% of spaces be EV-Ready, as defined in the technical manual.

Finding of Fact: Based on the submitted application materials and description presented above this standard is determined to be met.

E. Transportation demand management (TDM)

As outlined in Section 13.6.1.E this application does not require a TDM Plan.

Finding of Fact: Not applicable.

2. Environmental Quality Standards (Section 13.6.2)

A. Preservation of significant natural features

This application is subject to the City's low-impact development (LID) standard, and the applicant has prepared a narrative detailing the project's compliance with Section 3 of the City's Technical Manual, and has completed an LID scorecard (Attachment M) for the project, which as presented exceeds the required 80 points. The development as proposed avoids impacts to wetlands and or streams, and provides a soil survey, which was utilized to inform the site layout and placement of stormwater management infrastructure. Additionally, the applicant has made design choices which minimize the overall development footprint and amount of new impervious area, for example, utilizing minimum driveway aisle widths and providing off-street parking at a ratio beneath the City's maximum allowable parking requirement as detailed in Article 18.

The applicant has also provided a report from the Maine Ecological Services Field Office of the Department of the Interior, which states that the site does not feature significant wetlands or critical habitat for endangered species.

The City's Water Resources Division with the Department of Public Works provided review comments on the applicant's LID scorecard and narrative (Attachment S5.), and disputed some of the points that the applicant took credit for. For example, the applicant claimed full points for the use of structured parking, where the majority of off-street parking is provided in surface parking spaces. Additionally, the applicant claimed credit for the use of innovative stormwater management practices, and for the implementation of water quality control measures specifically designed to benefit water quality within an urban impaired stream watershed. If taken together, these disputed points, if subtracted, brought the applicant's LID score to well beneath the 80-point requirement. In the City's review comments, staff identified point categories that the applicant was already eligible to take advantage of, which they did not claim, such as the option to claim five points for developing on a site without slopes with a gradient of 15% or more. Additionally, there were multiple additional LID strategies that staff identified, which the applicant could have employed to achieve additional points, such as a commitment to till soils to a certain depth prior to revegetation, or a commitment to low-impact winter maintenance activities as part of the applicant's stormwater maintenance agreement. These strategies, if agreed to, would provide the applicant with a passing LID score. After the City conveyed these comments, the applicant updated their LID scorecard based on the staff's feedback. Staff, in reviewing the applicant's updated scorecard, found the updates to be acceptable.

The application also proposed to maintain 22 existing trees greater than 10 inches in diameter at breast height (DBH) around the perimeter of the development, which complies with the City's requirement that 30% or more of feature mature trees be preserved within setback areas. The Board had requested at the June 10th workshop that the applicant provide a detailed tree preservation plan with associated details addressing how existing trees were to be protected during the course of construction. The applicant has provided a note on their site plan outlining their proposed tree protection measures, which have been deemed appropriate by staff.

Finding of Fact: Based on the submitted application materials, description presented above, and associated condition of approval, this standard is determined to be met.

B. Site landscaping and buffers

The site will feature a mixture of new trees, bushes and low-profile plantings. New trees will be planted along the perimeter of the site and parking area to provide additional screening from surrounding homes. The shared courtyard area will feature perennial plantings and bushes to provide privacy for residents utilizing the space.

The site plan standard requires that a project provide shade trees at a ratio of one tree per every 5,000 square feet of lot area. The City also permits alternative plantings to satisfy this requirement, such as a combination of shrubs, perennials and/or ornamental grasses. The development site totals 66,560 square feet, and would therefore be required to provide 13 shade trees or equivalent alternative plantings in order to meet this standard. The landscape plan that was provided depicts eight shade trees along with numerous additional plantings, that exceed the City's site landscaping requirement.

With regards to street trees, the project is required to provide street trees at a ratio of one tree per every 25 to 35 feet of street frontage. The development site features 102 feet of street frontage, and is therefore required to provide a minimum of three street trees. Given the placement of the proposed transit shelter within the project's Forest Avenue frontage, and the minimal right-of-way width for the proposed driveway into the site off of Belfort Street, the applicant is unable to provide any viable street trees, and will therefore be required to provide a fee in-lieu of the required trees, at a ratio of $400 per tree, as detailed in Sec. 4 of the Technical Manual. This has been drafted as a condition of approval.

The City's parking lot landscaping requirement requires that there be one shade tree for every 750 square feet surface parking area. The applicant provides a total of 13 trees in close proximity to the surface parking area, including five existing mature trees totaling 10-inches DBH or greater, which accounts for 9,700 square feet of surface parking lot. The parking area totals approximately 13,800 square feet, accounting only for surface parking areas and driveway aisles. The applicant intends to pay a fee-in-lieu for the remaining five required trees. This has been drafted as a condition of approval for the Board's consideration.

Concerning buffers and screening, the applicant proposes a screening strategy along the edge of the proposed parking area, consisting of a six-foot-high white vinyl privacy fence, with new trees planted along the southerly property boundary to screen the parking area from adjacent homes. The applicant also proposes to maintain numerous mature trees along the edge of their property adjacent to the Talbot School.

Finding of Fact: Based on the submitted application materials, description presented above, and associated condition of approval, this standard is determined to be met.

C. Water quality/storm water management/erosion control

The project results in the creation of more than 1,000 square feet of new impervious surface and is required to provide for stormwater management in accordance with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. The applicant has submitted a full stormwater management plan demonstrating compliance with both Section 5 of the Technical Manual and Maine DEP chapter 500 standards. This application will result in the creation of approximately 37,177 square feet of new impervious area.

Stormwater treatment would be accomplished using a subsurface sand filter and stone drip strips to manage stormwater on the site. Per the stormwater management report, these systems have been sized to provide the required level of treatment on the site and would manage flows to prevent an increase in the post-development discharge of stormwater onto adjacent properties.

At the June 10th workshop, the Board heard several public comments regarding the applicant's proposed stormwater treatment, particularly the placement of the stone drip strip at the southeastern corner of the property immediately adjacent to the property at 57 Belfort Street. Staff had similarly raised concerns regarding the placement of this stormwater treatment best management practice (BMP), noting that the placement of this BMP in this location would redirect stormwater to a new location on the property, and may concentrate discharge onto the adjacent property during significant rainfall events.

In response to the concerns raised by staff and the Board, the applicant shifted the location of the stone drip strip to the southwestern corner of the property, closer to the Talbot School, which is more reflective of the current drainage patterns on-site. Staff support the proposed change and have found that the updated plan fully complies with Maine DEP Ch. 500 stormwater management requirements, and the City's local stormwater regulations contained within Sec. 5 of the Technical Manual. The City, in its review, did note that the drainage catchment area servicing the covered parking spaces would need to be collected separately from the rest of the parking lot, and run through an oil water separator and directed to the sanitary sewer system as opposed to the separated drain system in order to comply with the City's Sewers and Storm Drains standards, contained within Section 6 of the Technical Manual. A draft condition of approval is included for the Board's consideration to address this required modification.

Additionally, the applicant's stormwater report does not evaluate site conditions at the Talbot School, where the stormwater would ultimately discharge to, once treated by the proposed stormwater BMP at the southwesterly corner of the site. In light of this, the City recommended that the applicant monitor conditions within the existing drainage channel on the City's property on an annual basis, and be responsible for repairing any erosion or other impacts to the Talbot

School property due to the project's stormwater flow. The applicant has since updated their draft stormwater maintenance agreement and are committing to regular inspections of the area downstream of the site and as necessary, repairing any erosion stemming from this discharge point.

Finding of Fact: Based on the submitted application materials and the description presented above this standard is determined to be met subject to the conditions of approval detailed above.

3. Public Infrastructure and Community Safety Standards (Section 13.6.3)

A. Consistency with City Master Plans

There are no City Master Plans that apply to this application. The project is consistent with the City's Comprehensive Plan, which encourages higher density residential development in locations which are walkable, bikeable, and proximate to public transit, with convenient access to services and amenities. Furthermore, Portland's Plan calls for a mixture of housing options and types within the City's neighborhoods, and for housing that serves households at various income levels.

Finding of Fact: This application is not subject to other master plans, and has been found to comply with the zoning which is directly informed by the Comprehensive Plan.

B. Availability and capacity of public utilities

The site will be served by a 2-inch domestic water service line extending from an existing stub on Belfort Street. Sewer service will be provided by a connection to an existing 8-inch gravity sewer main on Belfort Street. As required by this standard, solid waste will be stored within two separate trash rooms on-site, and will be removed regularly by a third-party waste removal operator, which shall not pick up waste earlier than 7:00 AM.

The applicant notes in their application that they have entered into an agreement with Revision Energy to provide solar-generated power to the development. Documentation from Revision Energy and Central Maine Power is included as Attachment Q

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

4. Site Design Standards (Section 13.6.4)

A. Massing, ventilation, and wind impact

The proposed buildings are sited well beyond existing abutting residential developments. The development is proposed to be well-screened to mitigate the visual impact of the project from abutters, and HVAC equipment is located at ground level, to the rear of the proposed residential buildings along the Talbot School driveway, away from abutting residential properties.

This site plan standard also requires that residential projects with nine or more units be designed such that a minimum of 75% of the roof area meets the 'cool roof' solar reflectivity index (SRI) requirement detailed in Sec. 13.6.4.A.3 in the Land Use Code. The applicant has demonstrated that the proposed roof materials have an SRI of between 25 and 28. The proposed roofing materials meet SRI standards.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

B. Shadows

The shadow standard applies to development measuring over 65 feet in height that is adjacent to or near a publicly accessible open space. The height of the proposed buildings is 47 feet, and therefore, this standard would not apply.

Finding of Fact: Not applicable

C. Snow and ice loading

The location of the two residential buildings is not anticipated to impact snow and ice clearing on abutting properties or public rights-of-way. The applicant has detailed snow storage locations on the included plans which provide adequate space for on-site snow storage. The site layout and building design would prevent snow or ice from falling onto or accumulating on adjacent properties or public ways.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

D. View corridors

This application is not within a protected view corridor.

Finding of Fact: Not applicable.

E. Historic resources

This application is not within a historic district, nor is it known to contain any significant archaeological or historic resources. In the event that historic or archaeological resources are identified during the course of construction, the applicant will be required to follow the protocols outlined under this standard.

Finding of Fact: Not applicable.

F. Exterior lighting

The proposed development includes full cutoff / dark sky-compliant light fixtures to minimize light trespass and adverse impacts to ambient light levels. Each building would feature side-mounted lights in the parking lot area. The pedestrian walkway to Forest Avenue would be illuminated with overhead lights. The provided photometric plan (Attachment N) demonstrates that proposed light levels fall within an acceptable range as detailed in Section 8, Table 8-A in the City's Technical Manual, and that there would be no light trespass on abutting property or onto the public right of way. Additionally, both pole-mounted and wall-mounted lights would be installed at heights not exceeding the maximum fixture heights detailed in Section 8, Table 8-D.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

G. Noise and vibration

HVAC, air handling units, and other necessary equipment would be installed at the rear of the property away from abutting homes. Given the location of the proposed buildings, the placement of HVAC generators and other equipment is not anticipated to interfere with abutting residential properties.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

H. Signage and wayfinding

Each building would feature unilluminated mounted lettering above each front doorway to delineate the entrance to each building. Staff find the proposed signage to be appropriate. No wayfinding signage is proposed as part of this application.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met

I. Zoning-related design standards

This application is subject to a design review as outlined in the City of Portland Design Manual section (i) (*two-family, multi-family, lodging houses, bed and breakfasts and emergency shelters*) design standards, and the application has undergone three separate design reviews by City staff, led by the City's Urban Designer, Sean King, and participated in by Planner Eric Freeman and Senior Planner, Natasha Kypfer. For the most recent design review, please see Attachment S2.

The City's multifamily design standards include five separate standards, which are listed below for the Board's reference.

1. *The exterior design of the proposed structures, including architectural style, façade materials, roof pitch, building form and height, window pattern and spacing, porches and entryways, cornerboard and trim details, and facade variation in projecting or recessed building elements, shall be designed to complement and enhance the nearest residential neighborhood. The design of exterior facades shall provide positive visual interest by incorporating appropriate architectural elements.*
2. *The proposed development shall respect the existing relationship of buildings to public streets. New development shall be integrated with the existing city fabric and streetscape including building placement, landscaping, lawn areas, porch and entrance areas, fencing, and other streetscape elements;*
3. *Open space on the site for all multi-family development shall be integrated into the development site. Such open space in a multi-family development shall be designed to complement and enhance the building form and development proposed on the site. Open space functions may include but are not limited to buffers and screening from streets and neighboring properties, yard space for residents, play areas, and planting strips along the perimeter of proposed buildings;*
4. *The design of proposed dwellings shall provide ample windows to enhance opportunities for sunlight and air in each dwelling in principal living areas and shall also provide sufficient storage areas;*
5. *The scale and surface area of parking, driveways and paved areas are arranged and landscaped to properly screen vehicles from adjacent properties and streets;*

The Planning Board, at their April 8th and June 10th workshops, requested that staff discuss the project's compliance with the applicable design requirements, particularly given the juxtaposition of a larger-scale multi-family development within a predominantly single-family neighborhood. As noted in the June 10th workshop, the City's design standards do not supersede zoning space and bulk requirements, and do not require that a development be scaled down to be comparable in scale, massing, or design to its surrounding context. Design standards are intended as a framework to help integrate new development of varying scales and typologies into an existing context. Staff's design memo openly acknowledges that the proposed form deviates from the prevailing pattern of single-family and small-scale multi-family development, however notes that the design of the proposed buildings is generally compatible, and designed to complement the existing context through such elements as a pitched roof, similar façade materials and trim detailing that delineates the lower and upper floors, and the variation of the roofline through the use of eaves and trim detailing, which helps to reduce the building's massing as observable from surrounding properties. Staff also note that the building is setback well away from abutting residential property, and that a variety of screening elements are utilized to buffer the development from surrounding property.

As noted in the June 18th design memo, staff found that the application met all applicable design criteria, with the exception of the first standard, noting in the design memo that the applicant should

enhance the visibility of the primary building entrances, which are located on the side of each building, fronting the proposed courtyard. The applicant has since modified the design of the primary entrance to include unilluminated signage above the front door of each building to better delineate main entrances. Staff found that this proposed treatment adequately addresses staff's comment from the June 18th design review memo.

Finding of Fact: Based on the submitted application materials and description presented above, this standard is determined to be met.

X. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on February 5, 2025 at 5:30 PM. The in-person meeting was held at the Talbot Community School at 1600 Forest Avenue. A total of 40 members of the public were in attendance. Public comment generally centered on:

- Traffic on Belfort Street
- The intersection of Belfort Street and Forest Avenue
- Landscaping and vegetative screening from surrounding homes
- Massing and visual impact

A full sign-in sheet and meeting minutes are included as attachment T.

As of the writing of this report, the City has received a total of 77 public comments. Key themes that emerged from public comment included concerns about the anticipated impacts that this development would have on traffic patterns and pedestrian safety along Belfort Street and Forest Avenue; the potential to connect via the Talbot School access road; the potential for stormwater impacts associated with this development on abutting property; the potential for on-street parking impacts within the surrounding residential neighborhood; and the scale of the development being considered incompatible with the nearby single-family homes. Others expressed support for the proposal, emphasizing its location near a school, community center, and Forest Avenue, a priority corridor identified in the City's Comprehensive Plan, as well as its proximity to services and access to public transit. These topics are addressed throughout this Planning Board report. Furthermore, several members of the public raised concerns about the applicant accessing the property via the Talbot School access road through the LWCF easement area. The City, including Corporation Counsel, informed the applicant that they do not have the legal right to access the property through the conservation easement. The applicant must cease using the access road, or the property owner may be subject to enforcement under Sections 1.5.1 and 1.5.2 of the Land Use Code.

XI. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning & Urban Development Department staff recommends that the Planning Board find that the major site plan application for 1584 Forest Avenue (PL-003161-2024) meets the applicable standards of Portland's Land Use Code.

XII. PROPOSED MOTIONS

A. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on July 8, 2025 for Application PL-003161-2024 at 1584 Forest Avenue relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the site plan standards of the land use code, subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall modify their stormwater management plan to provide an oil-water separator to collect runoff from covered parking areas before discharge into the sanitary sewer.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

2. The applicant shall prepare an updated off-site mitigation plan with design details for all off-site mitigation improvements recommended by the City's Third Party Traffic Engineer in their June 18th review comments. This plan shall be reviewed and approved by the Planning Authority and the Department of Public Works.
3. The applicant shall coordinate with the Planning Authority, Department of Public Works, and Corporation Counsel to finalize and execute the stormwater maintenance agreement for the development.
4. The applicant shall enter into an affordable housing agreement (AHA) with the City of Portland, and shall file this agreement as covenant to the 1584 Forest Avenue property deed with the Cumberland County Registry of Deeds.
5. The applicant update their site plan to provide a delineated walkway through the parking lot area between the Belfort street walkway and the building entrances.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

6. The applicant shall construct all off-site mitigation improvements and coordinate with the Department of Public Works to have all off-site improvements inspected and accepted by the City.

7. The applicant shall provide a financial contribution of $1,200 into the City of Portland Tree Fund for the three required street trees and $2,000 for the five additional required parking lot landscaping trees
8. In the event that the applicant elects to provide a fee in-lieu of providing a portion or all of the required workforce housing units on-site, the applicant shall pay into the City's Jill C. Duson Housing Trust Fund at a ratio of $182,830 per required workforce unit, as required under Ch. 14, Sec. 17.2.3.C.6.
9. If found to be acceptable by the State, the applicant shall be responsible for coordinating with the Planning Authority to design and construct a direct pedestrian pathway to the Talbot School.

MONITORING CONDITION

10. The applicant shall conduct a traffic calming monitoring study one-year after full occupancy of the project. The study shall include the collection of speed, traffic volumes, and crash data. The final scope of work and data collection shall be coordinated with the Department of Public Works. If the study identifies unacceptable speed conditions, the applicant shall be responsible for the development of plans for approval by DPW and full implementation of improvements.

XIII. PLANNING BOARD DECISION

On the basis of the findings, conclusions and recommendations contained in the Planning Board report for the public hearing on July 8, 2025 related to application PL-003161-2024 for 1584 Forest Avenue, which is attached to the draft approval letter and incorporated therein, the Planning Board **[adopts/does not adopt]** the approval letter as drafted as the Planning Board's decision for application PL-003161-2024, and authorizes the Planning Board Chair to sign the approval letter as drafted.

ATTACHMENTS

Public Comment

PC1. Comments Received before April 8, 2025
PC2. Comments Received before June 10, 2025
PC3. Comments Received after June 10, 2025

Report Attachments

S1. June 20, 2025 Staff Comments
S2. May 19, 2025 Staff Design Memo
S3. Traffic Review and Mitigation Comments
S4, Forest Avenue Intersection Opinion from Tom Errico
S5. June, 18 2025 LID Scorecard City Review

Applicants Submittal

A. Cover Letter
B. Site Plan Checklist
C. Evidence of Title, Right, or Interest
D. Financial Capacity
E. Applicant Response to Comments June 27 2025
F. Traffic Study
G. Erosion Control Report
H. Stormwater Management System Operation and Maintenance
I. Stormwater Management Maintenance Checklist
J. Sample Stormwater Inspection Logs
K. Stormwater Maintenance Agreement
L. Stormwater Report
M. Low Impact Development Scorecard
N. Photometric Plan
O. Conservation Easement
P. Moran's Market Easement
Q. Electrical Ability to Serve
R. Wastewater Capacity Authorization
S. PWD ability to serve
T. Neighborhood Meeting

Plans

1. Cover Sheet
2. Survey
3. Site and Utility Plan
4. Grading and Erosion Control Plan
5. Drainage Plan
6. Landscaping Plan
7. Pedestrian Circulation Plan
8. Building Floorplans and Elevations
9. Roofing Material Details
10. Utility and Site Details
11. Utility and Site Details 2

Att. S1

Dear Alex Coupe,

The Planning & Urban Development Department has reviewed the latest application materials for the Major Site Plan at 1584 Forest Avenue. Comments are provided below, outlining the outstanding items and identifying the responsible parties for each.

Please resubmit the revised materials once all updates have been completed.

If you have any questions or need further clarification, don't hesitate to reach out.

Eric Freeman

Outstanding Review Items

Standard	*Comments*	*Finding*
Stormwater	Required Update: With the adjustments to the stormwater system design the applicant shall update the stormwater maintenance agreement to include a provision requiring annual inspections of the area immediately downstream of the southwesterly discharge point. The applicant shall be responsible for addressing any erosion or other impacts to the Talbot School property resulting from the project's stormwater discharge.	Update required (applicant)
Inclusionary Zoning	Required Updates: In accordance with Section 17.2.3.C.3, workforce housing units must be integrated into the overall development and share a common entrance with market-rate units. The current application materials do not identify which units are designated as workforce units. The applicant must update the building floor plans to clearly indicate which units will be designated as workforce housing. Please note that these units must be distributed throughout the building and may not be clustered in a single location.	Update required (applicant)

LID Scoresheet	Overview: The applicant submitted a revised LID scoring sheet on Wednesday, June 18, in response to City comments. City staff has received the updated scoring sheet and is currently reviewing the revisions.	City staff is conducting a final review to confirm compliance. (City)
HVAC Screening and fencing	Overview: The applicant's rendering dated May 22, 2025 depicts a white vinyl fence installed along the property line abutting the Talbot School, while the site plan dated May 22, 2025 does not reflect the fence. The applicant shall update the site plan to either include the fence along the property boundary with the Talbot School, or alternatively, incorporate a shorter section of fencing specifically to screen the HVAC units, rather than extending the fence along the entire length of that side of the property.	Update Required (Applicant)
Solar Reflectivity index	Required Update: In accordance with Section 13.6.4.A.3, proposed buildings with an aggregate roof area greater than 2,000 square feet (measured horizontally) and, for residential projects, more than nine residential units, must ensure that at least 75% of the roof area meets the following "cool roof" Solar Reflective Index (SRI) standards: • **Roofs with a slope less than 2:12**: SRI of 82+ (initial) / 64+ (3-year aged) • **Roofs with a slope greater than 2:12**: SRI of 25+ (initial and 3-year aged) Roof areas shaded by structures with an SRI of 39+—including photovoltaic panels—are exempt from the roof area calculations under this standard. The current application materials do not specify how the project complies with this requirement. The site plan must be updated to clearly demonstrate compliance.	Update Required (Applicant)
Tree planting	Required Update: As outlined in Section 13.6.2.B.1.3.a, one tree planting is required for every 750 square feet of uncovered asphalt paved parking area (including drive aisles). Based upon the square footage of the surface parking lot in the provided plans, the applicant will need to provide six additional tree plantings along the	Update Required (Applicant)

	perimeter of the parking area or on the site. If additional trees cannot be planted the applicant may choose to pay a fee-in-lieu to the tree fund.	
Tree Preservation Plan	Required Update: **The applicant shall provide a tree preservation plan within the construction management plan demonstrating how on-site trees being preserved will be protected during the course of construction. This plan should provide specific recommendations for preservation for trees in close proximity to work areas.**	Update Required (Applicant)
Design Standards	Required Revision Each building's primary entrance should feature a portico supported by columns or other architectural distinctive feature to provide covered access, create a defined transition between the exterior and interior, and emphasize the entrance as a focal point—consistent with the surrounding context. The current entrance design appears understated, making it unclear where visitors should be directed upon arrival. Its minimalist and secondary nature does not align with the scale or the traditional character reflected in the overall building design. An example of a larger multifamily building incorporating an entrance with a traditional residential design is provided below for reference. 	Update Required (Applicant)

Design Review
Planning and Urban Development Department

Subject:	1584 Forest Avenue
Zone:	RN-5 Residential Zone
Date of Review:	Friday, May 16, 2025
	Land Use Code Chapter 13.6.4.l Design standards
Reviewer(s):	Eric Freeman (Planner); Natasha Kypfer (Senior Planner); Sean King (Urban Designer)
Project ID:	PL-003161-2024

I. INTRODUCTION

The project at 1584 Forest Avenue for 50 residential units was reviewed according to the *City of Portland Design Manual* section ***(i)*** *two-family,* ***multi-family****, lodging houses, bed and breakfasts and emergency shelters* design standards.

II. STAFF RECOMMENDATIONS FOLLOWING PLANNING BOARD WORKSHOP – APRIL 8th, 2025

Following the Planning Board Workshop held on April 8, 2025, Staff recommends that the Applicant revise design-related comments and resubmit materials at their earliest convenience in advance of next Planning Board agenda item. Staff finds that the scale of the building and primary entrances can be further articulated to enhance the residential character of the proposed buildings.

Staff recommends a more prominent building entrance at the east elevation into the Lobby and recommends that the Applicant explore a porch, canopy, and/or other architectural element incorporated into the building design. Figure 1 is an example of precedent for the Applicant's consideration.



Figure 1: Stacy M. Symbol Apartments in Westbrook, Maine

In addition, Staff recommends the Applicant incorporate additional façade variation at the south elevation and requests the Applicant explore Staff suggestions from the design review memo dated January 22, 2025 related to the exterior design of the proposed structures. Specifically, the Applicant is requested to provide greater articulation through façade detailing, such as trim that reinforces the gable ends sections, façade projections, material variation and/or other architectural elements to reduce the building's scale.

III. DESIGN REVIEW COMMENTS: bold text denotes recent updates met, **red** text denotes standards not met which require resubmission.

Section (i) Multi-family.

1. *The exterior design of the proposed structures, including architectural style, façade materials, roof pitch, building form and height, window pattern and spacing, porches and entryways, cornerboard and trim details, and facade variation in projecting or recessed building elements, shall be designed to complement and enhance the nearest residential neighborhood. The design of exterior facades shall provide positive visual interest by incorporating appropriate architectural elements;*

Staff comment: Staff finds the proposed three-storied multi-family building design is compatible with the nearest residential neighborhood that includes variation in roof pitch, arrangement of windows and trim detailing. Staff recommends additional façade variation with building projections along the south (Belfort Street) elevation for Building A and B to provide greater articulation for this prominent façade facing abutting properties and the street. In addition, Staff requests that the applicant provide exterior façade materials and label onto the architectural elevations.

Staff recommends the relocation of Lobby A in Building A that would provide building entry access at the shared courtyard to provide greater visibility of primary building entries. In addition, Staff recommends the relocation of Building A bike room at the east facade and accommodate a door entry to allow pedestrians to access at proposed walkway. Staff recommends a door entry along the west façade of Building B allow pedestrians to access at proposed walkway.

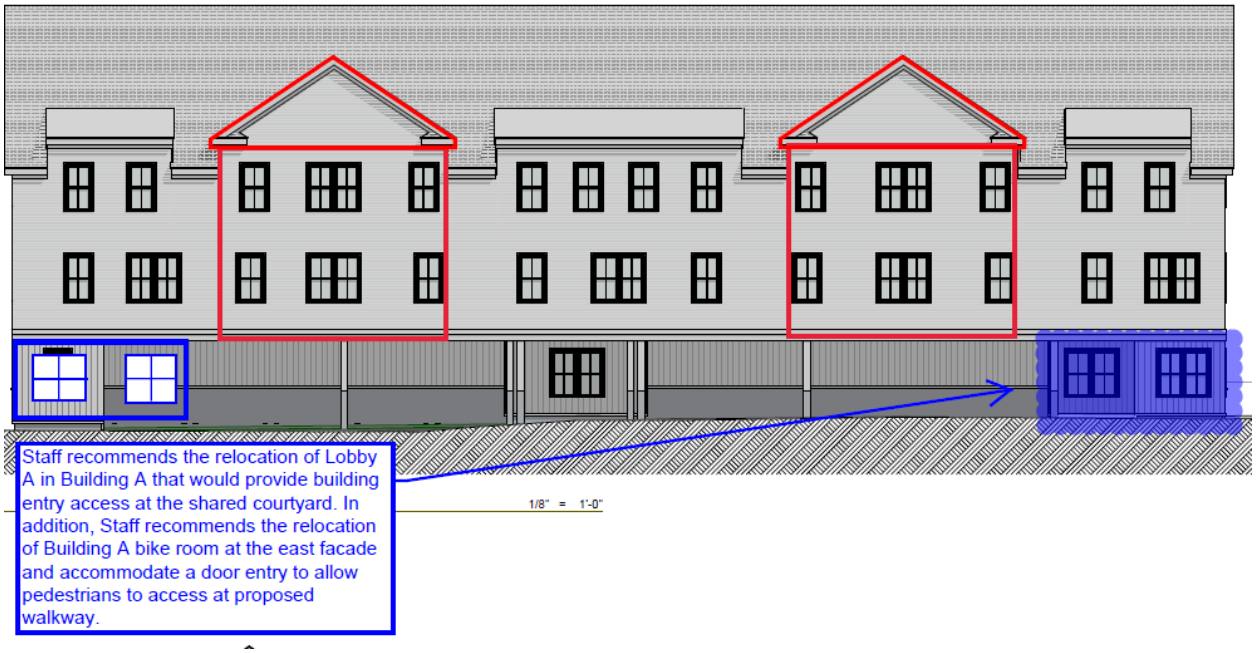


Figure A – Staff diagram onto south (Belfort Street) elevation

2. *The proposed development shall respect the existing relationship of buildings to public streets. New development shall be integrated with the existing city fabric and streetscape including building placement, landscaping, lawn areas, porch and entrance areas, fencing, and other streetscape elements;*

   Staff comment: The proposed development with two multi-family buildings are significantly setback from the street due to the existing lot configuration. Staff prefers that the applicant provide an accessible route with additional site lighting to connect pedestrians to Forest Avenue. An alternative approach to be verified and acceptable by Dept. of Public Works is to shift proposed drive aisle to construct a walkway and extend the sidewalk at Belfort Avenue.

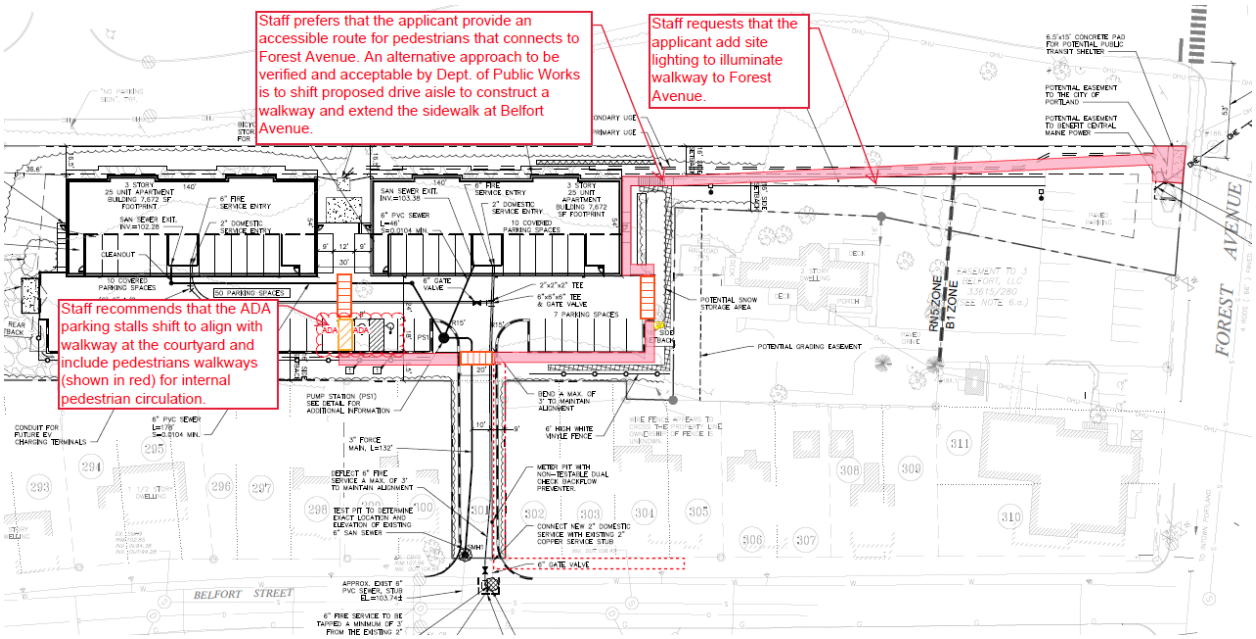


Figure B – Staff diagram onto Site and Utility plan to include areas in red as new walkways for internal circulation, orange as crosswalks, and yellow as ADA stalls

3. *Open space on the site for all multi-family development shall be integrated into the development site. Such open space in a multi-family development shall be designed to complement and enhance the building form and development proposed on the site. Open space functions may include but are not limited to buffers and screening from streets and neighboring properties, yard space for residents, play areas, and planting strips along the perimeter of proposed buildings;*

   Staff comment: Staff finds that open space is integrated into the site by the shared courtyard with seating and landscaping around portions of the site's perimeter. Staff recommends additional screening at the HVAC units located at the rear of the property abutting the public schoolyard property. In addition, Staff requests that the applicant consider a pedestrian walkway to connect residents to the abutting public schoolyard property.

4. *The design of proposed dwellings shall provide ample windows to enhance opportunities for sunlight and air in each dwelling in principal living areas and shall also provide sufficient storage areas;*

   Staff comment: Staff finds that the proposed dwellings provide ample windows and sufficient storage areas within each unit.

5. *The scale and surface area of parking, driveways and paved areas are arranged and landscaped to properly screen vehicles from adjacent properties and streets;*

   Staff comment: Staff finds that the 6-feet white vinyl fence provides sufficient screening for parked vehicles and sufficient landscape screening at the parking lot drive lane from adjacent properties.

Att. S3

Eric Freeman <efreeman@portlandmaine.gov>

1584 Forest Avenue - Final Traffic Review Comments

Tom Errico <thomas.errico@tylin.com> Wed, Jun 18, 2025 at 8:44 AM
To: Eric Freeman <efreeman@portlandmaine.gov>, Matt Grooms <mgrooms@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Kristoffer DeVolder <kdevolder@portlandmaine.gov>
Cc: Kevin Kraft <kkraft@portlandmaine.gov>

Draft for review – let me know if I need to expand or add/edit this. Thanks

Hi Eric – I have reviewed the application materials and have the following final traffic review comments.

- The applicant shall conduct a traffic study with the following scope:
  - An evaluation of conditions at the Forest Avenue/Belfort Street intersection. This shall include an evaluation of traffic operations, safety conditions, pedestrian conditions, sight distance and access management conditions.

Status: The applicant conducted the requested Traffic Evaluation. A summary of each task is presented as follows.

- A trip generation estimate was performed, and the project will generate 28 trips during the highest peak hour. A Traffic Movement Permit is not required.
- A capacity analysis was performed at the Forest Avenue/Belfort Street intersection. The analysis indicates little delay is estimate for vehicles turning onto Forest Avenue. In my experience, heavy peak hour volumes can create long wait times exiting side streets on Forest Avenue. With that said, options are limited for improving traffic mobility (see below for access management improvements – that may simplify turning movements).
- A review of safety data indicated two crashes were reported during the three-year period 2021 – 2023.
- There were 16 pedestrians that crossed Forest Avenue during the 2-6pm afternoon time.
- Sight distance was measured for vehicles turning from Belfort Street and acceptable sight is provided
- The applicant noted that driveway conditions in the Belfort Street intersection area is poor. I concur that driveways conditions are poor and likely contribute to difficulty turning to and from Belfort Street and contribute to a poor environment for pedestrians and bicyclists. It is my recommendation that the applicant develop an improvement plan that addresses non-compliant driveway conditions and include in the plane upgrades to pedestrian facilities to meet ADA standards.

Final Status: I find the contents and methodologies used in the March 3, 2025, Traffic Evaluation prepared by Gorrill Palmer to be acceptable. I would note the following:

- **Traffic counts for the project were performed on February 25th and 26th 2025. While it is the general practice not to perform traffic counts in the winter, Forest Avenue does not exhibit significant seasonal variation. I would note the evaluation did increase traffic volumes by 20% to account for seasonality. It should be further noted that it is important that the counts be conducted when school is in session, and for this location a July or August traffic count would not be relevant. In my professional opinion the traffic volumes used in the evaluation are reasonable and traffic counts performed in**

non-winter times would not alter the recommended improvements identified for the project.

- **The nearby traffic signal at the School Driveway/Newton Street can impact traffic operations at the Forest Avenue/Belfort Street intersection. This influence is likely to increase vehicle delay for vehicle turning to and from Belfort Street. With that said, the inclusion of the School Driveway/Newton Street traffic signal in the analysis would not alter the recommended improvements for the project**

- An evaluation of the pros and cons of providing an access directly to the Riverton School driveway so that access to the traffic signal on Forest Avenue should be performed. The alternatives analysis shall include access scenarios including access only to Belfort Street, access only to the school driveway and access to both the school driveway and Belfort Street.

  Status: Outstanding, although the applicant notes an easement would be required, which it is unclear if this prevents a connection (vehicular or pedestrian) from being feasible. I would note that there currently is an accessway to the Riverton School driveway from the site.

  Final Status: Planning staff has been working with the State on rights for providing a direct connect to the Riverton School. Refer to Planning Staff comments on this issue.

- The following are comments regarding the site plan.
  - The project needs to account for pedestrian activity towards Belfort Street and destinations to the Riverton school campus. I'm assuming DPW is providing comments on this. I would note the sidewalk to Forest Avenue should extend to the Forest Avenue sidewalk.

    Status: Refer to DPW comments on providing a sidewalk connection to Belfort Street.

    Final Status: The proposed plan includes a 4-foot sidewalk from the site to Belfort Street and providing a continuous sidewalk connection along Belfort Street to Forest Avenue. Additionally, the city is working with the State for obtaining an easement from the rear of the project site directly into the school campus. The project would be required to implement this connection if the easement can be obtained. I find these improvements to be acceptable.

  - It is my assumption that all parking spaces interior to the building meet dimensional standards. This should be confirmed. Also, if building columns impact parking space accessibility, this should be noted.

    Status: The applicant shall provide a turning template for one of the proposed parking spaces that have a building column constraining access. The plans shall include dimensions for the covered parking spaces.

    Final Status: Outstanding.

New Comments

- **Please review to DPW comments, but the following improvements shall be implemented by the applicant prior to building occupancy. Final design plans shall be provided to DPW for review and approval.**
  - **The applicant shall implement parking restrictions on Belfort Street per DPW details.**
  - **The applicant shall relocate the crosswalk on Forest Avenue at Belfort Street to the outbound side of the intersection. The crosswalk shall be ADA compliant, and include: a median refuge**

island, warning signs, formal closure of the commercial driveway on the east side of Forest Avenue and any changes to infrastructure to accept this relocated crosswalk.

- **The applicant shall install a left turn lane on outbound Forest Avenue to Belfort Street.**
- **The crosswalk across Belfort Street shall be upgraded to be fully ADA compliant.**
- **The driveway to the Moran's Market located on Belfort Street shall be closed.**
- **The applicant shall conduct a traffic calming monitoring study 1-year after full occupancy of the project. The study shall include the collection of speed, traffic volumes, and crash data. The final scope of work and data collection shall be coordinated with DPW. If the Study identifies unacceptable speed conditions, the applicant shall be responsible for the development of plans for approval by DPW and full implementation of improvements.**

Please contact me if you have any questions.

Best regards,

Tom Errico, P.E.
NE TRAFFIC ENG. DIRECTOR
T +1 207.347.4354
M +1 207.400.0719

TYLin

12 Northbrook Drive
Building A, Suite One
Falmouth, ME 04105, United States

TYLin.com

Att. S4

Eric Freeman <efreeman@portlandmaine.gov>

1584 Forest Ave Public Comment

Tom Errico <thomas.errico@tylin.com> Wed, Jun 18, 2025 at 10:44 AM
To: Kevin Kraft <kkraft@portlandmaine.gov>
Cc: Matthew Grooms <mgrooms@portlandmaine.gov>, Eric Freeman <efreeman@portlandmaine.gov>, Andrew Graminski <agraminski@portlandmaine.gov>

I have reviewed the project as it relates to providing a direct vehicle connection to Forest Avenue along their 72.60 feet frontage. The city's standard for driveway design includes a requirement that for residential developments with greater than 10 parking spaces 100 feet of separation is required between a driveway and an intersection. In this case the intersection is the signalized intersection of the School Driveway/Newton Street. Accordingly, this driveway alternative does not meet city standards for adequate separation. I would further note that there is a provision in the city's technical standards that "driveway locations may be rejected based on documented or anticipated safety or operational issues". In my professional opinion, a driveway located just inbound of the school driveway, would create unsafe conditions, and therefore would not support it.

Tom Errico, P.E.
NE TRAFFIC ENG. DIRECTOR
T +1 207.347.4354
M +1 207.400.0719

TYLin

From: Kevin Kraft <kkraft@portlandmaine.gov>
Sent: Wednesday, June 18, 2025 9:58 AM
To: Tom Errico <thomas.errico@tylin.com>
Cc: Matthew Grooms <mgrooms@portlandmaine.gov>; Eric Freeman <efreeman@portlandmaine.gov>; Andrew Graminski <agraminski@portlandmaine.gov>
Subject: 1584 Forest Ave Public Comment

Tom, would you be able to share your thoughts or provide a comment for Eric regarding the public comment about a potential connection directly along Forest Avenue?

1. WHY NOT MAKE THE DRIVEWAY DIRECTLY ON FOREST AVENUE?

We are all completely baffled as to why the developer who owns 50 ft. of road frontage on Forest Ave. would rather place the vehicle access to this site on Belfort St. If the reason is too much "congestion" - his own words - then how does moving that congestion to Belfort St. make any sense? **It does not.** He probably doesn't want the expenditure of re-configuring that 50 ft. road frontage to create vehicle access there, and this is just not a good enough answer. To disrupt and forever alter the flow of our neighborhood for expedience and cost savings to his plan, is simply not an acceptable choice. As a planner, you must look at the logic of his decisions and his options with respect to the existing neighborhood. We have a community here - please consider how this community functions in its current configuration. Please do not disregard our concerns and write us off as "NIMBY". We understand that the planning department has a job to do, and

you have goals to meet. We are not asking for NO DEVELOPMENT. We are asking for some reasonable modifications so that our "life as we know it" isn't completely shattered. It's not too much to ask. We need you to represent us as much as you appear to be focused on the housing goals for the city.

--

Kevin Kraft, AICP
Director Planning & Urban Development Department

389 Congress Street
Portland, Maine 04101

Phone: 207.874.8430

kkraft@portlandmaine.gov

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

City of Portland ME: Low-Impact Design Requirements				
Owner / applicant name:	Acre Properties			
Representative name:	Alex Coupe			
Project address:	1582 Forest Avenue			
Project CBL:				
Application ID (if known):				
	Maximum Points	**How to Apply**	**Points Awarded**	**LID Standard / Approach**
CORE METHODS: Wetlands, Streams, & Drainage				
Protect natural drainage paths	Required			
Shoreland Zoning	Required			
Meeting DEP and ACOE standards for stream crossings	Required			
Protect wetlands	12	Select one option	12	Select a site that does not have wetlands or vernal pools = 12pts
				Project maintains a 50' set-back / no-disturb buffer to all wetlands = 10pts
				Project maintains a 25' set-back / no-disturb buffer to all wetlands = 7pts
				Project does not place structures in wetlands and avoids wetlands impacts from construction and stormwater discharges = 5pts
				Project replicates impacted wetlands elsewhere on site or within watershed = 3pt
				Project pays wetlands impact fee = 0pts
Permanently protect stream (intermittent and perennial) and riparian buffers *(exclusive of approved stream crossings; must include a no-disturb zone with markers installed and deed restriction recorded at registry of deeds)*	12	Select one option	12	Select a site with no streams = 12pts
				Permanently protect all 100ft shoreline buffers = 10pts
				Permanently protect all 75ft shoreline buffers = 7pts
				Permanently protect all 50ft shoreline buffers (intermittent streams) = 6pts
				Permanently protect all 50ft shoreline buffers (required minimum for perennial streams) = 5pts
				Permanently protect all 25ft shoreline buffers (required minimum for intermittent streams) = 5pts
Stream crossings	12	Select one option	12	Select a site with no streams = 12pts
				Avoid any stream crossings = 10pts
				All stream crossings use a bridge or open bottom culvert structure sized at 1.2 times the bank full width of the stream = 10pts
				All stream crossings use Maine Stream Smart Principles to preserve natural pre-development drainage pathways = 6pts
CORE METHODS: Natural Areas & Habitat				
Preserve threatened or endangered species habitat	Required (Beginning with Habitat Maps at a minimum)			
Protect 30% of trees over 10" DBH	Required (Tree survey required)			
Protect intact, contiguous forests and native trees over 10" DBH	8	Select one option		All development and land disturbance outside of existing wooded/forested areas (no site clearing in prior 10 years) = 8pts
				Protect 50% of trees over 10" DBH = 6pts
				Protect 40% of trees over 10" DBH = 4pt

CORE METHODS: Soils & Slopes				
USDA Web Soil Survey	Required (provide details how soil limitations will be mitigated)			
Avoid steep slope disturbance	5	Select one option		Selecting a site without slopes 15% or greater = 5pts
				Maintain >20' undisturbed vegetated buffer to all slopes 15% or greater = 3pts
				Maintain 10-20' undisturbed vegetated buffer to all slopes 15% or greater = 2pts
				Maintain 1-10' undisturbed vegetated buffer to all slopes 15% or greater = 1pt
			0	Disturbance of any slope 15% or greater = 0pts
Protect soils	5	Select one option		Redevelopment sites = 5pts
			5	Detailed, site-specific soil survey; preparation of a Soil Management and Protection Plan; protect highly permeable soils = 5pts
Limit site disturbance and earthwork	8	Select one option		Redevelopment limits disturbance to existing footprint = 8pts
				New development disturbs less than 50% of existing undeveloped site area = 8pts
				New development disturbs less than 75% of existing undeveloped site area = 6pts
			0	New development disturbs greater than 75% of existing undeveloped site area = 0pts
Soil preparation & minimizing compaction	6	Select all options that apply		Till soils to a depth of at least 10" prior to revegetation = 3pts
				Organic matter amendments as needed based on soil tests = 3pts
CORE METHODS: Landscaping				
Low-Impact Landscaping	6	Select all options that apply		Redevelopment sites reduce lawn area by 50%, provided no increase in impervious area (lawn becomes landscaping) = 2pt
			2	New development results in >50% non-impervious developed area is landscaping = 2pt
				Use only native vegetation for landscaped areas = 2pts
			2	Using only locally-sourced landscape materials = 2pt
CORE METHODS: Impervious Area & SW Management				
Meeting City's stormwater management standards	Required			
Reduce impervious and increase permeable surfaces	10	Select all options that apply, up to a maximum of 10 points		50% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 6pts
			2 X	Minimize parking impervious area by using only the minimum required number of parking spaces, the minimum required parking lot dimensions, maximizing compact spaces and utilizing low-turnover standard parking space width reductions = 4pt
				25% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 3pts
			2	Minimize roadway impervious area by developing roadways and driveways at the minimum width and using minimum number of curb cuts = 2pt
			2	Reducing the number of driveways by using a shared driveway design = 2pt
			2	Providing transportation alternatives (such as bike share, car share, or similar) = 2pt
Use GI / natural stormwater treatment systems	12	Select all options that apply		Treatment requirements and conveyance achieved through vegetated systems = 6pts
			3	No more than 1-acre of drainage per treatment system = 3pts
				Increase time of concentration on site (1" 25 year storm event) = 3pts
Limit / eliminate salt use	4	Select one option		Detailed winter maintenance agreement, with annual reporting requirement, limiting chloride use (required in UIS watersheds) = 4pts

Proposing 50 spaces - which is less than max - award partial points

OK with 5 points for structured parking

Bonus Points				
Bonus points are offered for strategies that may go above and beyond typical approaches; may offer particularly innovative site design or engineering ; or may help achieve the larger goal of low-impact development on a regional scale.	10		5 x	Utilizing structured parking = 10pts
	10			Utilizing a green roof for at least 50% of a newly developed or redeveloped building roof = 10pts
	10			Restoration of previously disturbed natural resources (minimum 500 square feet of restoration) = 10pts
	10		x	BMPs designed for known water quality impairment within watershed = 10pts
	10			Connecting to City sewer from a site >200 ft from existing City infrastructure = 10pts
	6		6	Detention of 1.5 times the required volume = 6pts Need calculations showing this
	6			Treatment for 1.5 times the required water quality volume = 6pts
	6		x	Innovative LID site design and/or stormwater improvement = 6pts
	10			Establishing a Traffic Demand Management plan for projects under 50,000ft = 10pts
	Total Possible Points 178		Total Points Awarded d 65	Minimum points required for approval of LID strategies and techniques 80

Do not agree with the points claimed for pollutant-specific BMPs nor innovative site design

PC1

"Belfort Landing" Development

1 message

'adam pelletier' via Planning Board <planningboard@portlandmaine.gov> Tue, Apr 1, 2025 at 4:17 PM
Reply-To: adampelletier@yahoo.com
To: "efreeman@portlandmaine.gov" <efreeman@portlandmaine.gov>, "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>

Dear Members of the Planning Board,

I am writing to raise my concerns about the proposed development of "Belfort Landing." Our community is experiencing significant overdevelopment, leading to increased traffic congestion, inadequate parking, and a shortage of green spaces. I believe that adding a 50-unit development will only worsen these existing issues and set a precedent for further exploitation by developers. We must prioritize the well-being of our community and draw a line at what is acceptable.

Thank you for considering my concerns.

Adam Pelletier

Carter Frank <cfrank@portlandmaine.gov>

Belfort Landing project

1 message

Alison Cameron <aecameron7@gmail.com> Wed, Feb 26, 2025 at 10:23 PM
Reply-To: aecameron7@gmail.com
To: planningboard@portlandmaine.gov, efreeman@portlandmaine.gov

I am writing to express my opinion regarding the proposed Belfort Landing project. This project has many flaws and does not belong in our community. I can appreciate the need for housing in Portland, however this is not the place for a project of this nature. One of the major issues is parking. I don't see how it's feasible to think that a 50 unit building of 1-2 bedroom apartments can be functionable with only 50 parking spaces. The proposed access to the development is also positioned in a place that is a natural blindspot that will only worsen because of the overflow parking that will happen on Belfort. This road does not have sidewalks and will place people/children who are walking in danger. I feel that before this project moves forward a traffic study is imperative to keep our community safe. The issues of increased traffic, parking, safety concerns and the general upkeep of this housing project are just a few issues that would cause this project to be detrimental to our neighborhood. Please strongly consider stopping this from happening.
Alison Cameron
80 Verrill St

Carter Frank <cfrank@portlandmaine.gov>

Letter of Reference, Don Law, Chairman of Live Nation

1 message

Aleksandra Tugbiyele <ATugbiyele@baafdn.org> Tue, Apr 1, 2025 at 12:10 PM
Reply-To: atugbiyele@baafdn.org
To: "Planningboard@portlandmaine.gov" <Planningboard@portlandmaine.gov>

Good afternoon Members of the Planning Board, City of Portland,

I am reaching out on behalf of Denella J. Clark, President and CEO of the Boston Arts Academy to share a reference for Don Law, Chairman of Live Nation. Attached, please find Ms. Clark's letter of reference, and her direct contact information for any questions.

Thank you for your time and consideration.

With kind regards,

Aleksandra Tugbiyele

Aleksandra Tugbiyele (2-B-L-A), she/hers

Chief of Staff and Board Clerk

Boston Arts Academy Foundation

(617) 943-9209 * atugbiyele@baafdn.org

BOSTON ARTS ACADEMY FOUNDATION

126 Brookline Avenue, 3rd Floor, Boston, MA 02215

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D. Law Reference to Planning Board from Denella J. Clark.pdf
252K

David Orrico <david.e.orrico@icloud.com> Mar 1, 2025, 11:13:57 AM (2 days ago)
to planningboard@portlandmaine.gov

Good day, my wife and I are 47 year resident s of Belfort Street. We recently attended a public meeting regarding a proposed 50 unit apartment complex with access from Belfort Street and bordering rhe Riverton school access road, While we am keenly aware the city needs additional housing, we are against this project for the following reasons:

- We were advised the project has one parking space per unit and were told this confirms to zoning requirements. We did ask about overflow parking and was told none was included in the plan. Another resident asked about parking on the access road from Belfort Street into the development and were assured by the developer nobody would park on this roadway. We were also advised public transportation was to be encouraged. Our concern is that Belfort Street residents will have to contend with at least 50 additional car exiting and entering the development daily. We would expect the number to be significantly higher given the number of cars per household, currently at more than one, for existing homes on the street as an example. We also feel cars will be parked wherever there is space, and that includes the development access road and Belfort Street as well. There are no sidewalks on Belfort Street and there is already significant pedestrian traffic. While public transportation might be encouraged, it's wishful thinking, given the current level of use, that this will reduce the vehicular traffic.
- The access to the development is near the crest of the hill at the top of Belfort Street in an area where traffic entering Belfort Street and traffic coming up the hill to exit Belfort Street are all merging. This area is literally an accident waiting to happen when factoring in traffic entering and exiting the Belfort Street side of Moran's Market, current cars parked along both sides of Belfort Street and the narrowing of the street due to snow in the winter. Regardless of the time pf year, when entering Belfort Street it's virtually impossible to see what traffic, vehicular and pedestrian, is exiting Belfort Street until one is at the crest of the hill, which is the exact area access to the development is slated for.
- Finally, one meeting attendee asked about access to the development from the Riverton School access road (to make use of the existing traffic light)as well as from 1569 Forest Ave, which the developer also owns. The meeting was told routing the traffic through 1569 Forest Ave would not be workable. The meeting was also told that due to how the land for the Riverton School was deeded, access to the proposed development from the school road was not permitted. AND YET, by his own words, the developer states he uses the school access road to reach the rear of the property he owns at 1569 Forest Ave rather than using access he already owns. He freely admitted to be in violation of the existing rules simply because it's easier for him. We cannot state forcefully enough we have no faith that he will not as carelessly disregard other rules when nobody is looking

Thank you for your time in reading our comments and your service to the city

David and Malinda Orrico
139 Belfort St
Portland, ME 04103

Carter Frank <cfrank@portlandmaine.gov>

concerned resident - Belfort Landing Project

1 message

Erica Berry <eberrypr@gmail.com> Mon, Feb 10, 2025 at 10:50 AM
Reply-To: eberrypr@gmail.com
To: efreeman@portlandmaine.gov
Cc: planningboard@portlandmaine.gov, friendsofbelfort@gmail.com

Hi Eric,

My name is Erica Berry, we had spoken a couple of weeks ago about the Belfort Landing project--thanks again for taking my call and answering my initial questions.

I attended the neighborhood meeting for the Belfort Landing project and have a lot of concerns about the proposed project by Alex Coupe--including safety risks due to increased traffic on a small residential street and lack of parking for the number of residents. 50 units and only 50 on site parking spots means the overflow will be on Belfort Street which is a small residential street with no sidewalks. How will fire trucks, plows, anything larger than a car fit down Belfort Street when cars are lined on either side? It's going to cause major traffic issues, it's going to be unsafe for pedestrians. We have children who walk up Belfort Street to catch the bus for school.

The small 20' wide entrance for the proposed complex and its location in the middle of a slope on Belfort poses safety issues for both residents of the complex and residents of Belfort. There is going to be a traffic jam getting out onto Forest Ave. With Moran's Market there, there's already a cluster of cars parked at the top of the street, plus trucks from a local plumber. Add 50 additional households onto our small street and it's going to be dangerous. There will be accidents, people will get hurt. **Will a traffic study be done? And if so, is this commissioned and paid for by Alex Coupe? Why can't the vehicular entrance be on Forest Ave if he owns the property? Will the city conduct their own traffic study? If so, who will pay for this?**

I'm also concerned about privacy and the integrity of the plans.

The renderings presented by Alex Coupe are misleading, and I am concerned that these drawings are going on the record and being considered accurate. The backyard as shown in the renderings will not exist, as that space is actually the existing Talbot School entrance road; nor will the greenery in the front of the building, as that is the backyard of Belfort Street residents.

The renderings also do not show or take into account the land grade of 8 feet, plus the height of a two and a half story building. This will tower over the houses on Belfort Street--shining headlights, parking lot lights, and people's eyeballs directly into backyards and windows. Two and a half stories is taller than any house on Belfort Street, which does not even allow a duplex in its zoning. Given the character of the neighborhood--single family homes--**how is it possible this land was rezoned for this high density?** Belfort Street has only 52 houses, adding this mega complex this will instantly double the residents in a .25 acre space.

Given the sheer size (two mega complexes) and dramatic changes to the land (ie: the 8 foot grade) **how will the city ensure this proposed development won't negatively impact adjacent lots--flooding backyards, basements, etc.? And if it does, how do we get remediation?** According to the site plan, there is a lot of water that's going to be displaced--those numbers below. A house by Alex Coupe at 154 Belfort Street has caused flooding in the basements of the homes on either side of it, something neither homeowner had experienced before, and one resident has lived there for 20 or so years.

- **Total Existing Impervious Area (sf):** 3610
- **Total Impervious Area After Construction (sf):** 37787

During the neighborhood meeting Alex Coupe said it was not lawful for an easement to his proposed complex be allowed on Talbot School road. **If that is the case--is that legal casework public record, and where can I find it? And if that is the case, why is Alex Coupe then currently using the Talbot School entrance road to access the property?** If Alex Coupe is already skirting the system I am greatly concerned what will happen when he's left in charge of a 50 unit mega complex, a scale he's never even come close to managing before. Alex Coupe's largest complex is a 10 unit. He is unproven and putting our neighborhood in danger.

When is the first workshop for the Belfort Landing project proposal?

How do I sign up for notices about changes and updates on the plan? https://selfservice.portlandmaine.gov/EnerGov_Prod/SelfService#/plan/d7216bad-00f8-488a-bb23-9adfd2a1cecd

Have there been any variances on this project?

How would a project like this impact our property values?

Any project should not only benefit the new residents, but also the residents of its surrounding existing neighborhood. Alex Coupe's proposal does not fit with the current character of Belfort Street, and provides absolutely no benefits for the current residents. Alex Coupe's plan is irresponsible and unreasonable for this location. A development of this scope and size will negatively change our neighborhood forever.

I look forward to hearing from you.

Thanks,
Erica

Belfort landing Development

1 message

Geoff Wahome <gwahome@une.edu> Thu, Apr 3, 2025 at 10:13 AM
Reply-To: gwahome@une.edu
To: "efreeman@portlandmaine.gov" <efreeman@portlandmaine.gov>, "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>

Geoff Wahome
60 belfort street
Portland, ME,04103
Gwahome@une.edu

To the Members of the Planning Board,

I am writing to express my deep concern regarding the proposed 50-unit apartment complex planned for 1584 Forest Avenue (Plan Number: PL-003161-2024).

As a resident of Belfort Street, I am particularly troubled by the fact that the primary access point for this high-density development is proposed to be through our street. Belfort Street is not a through street—it is part of a small, residential neighborhood consisting of just four streets: Belfort, Empire Way, Verrill Street, and Iffley Street. This is a quiet, family-oriented area that has recently welcomed eight new families with newborns—a testament to the safe and close-knit environment we all value and work hard to preserve. The **safety** of our children and the integrity of our community are paramount.

Compounding this concern is the congestion we already experience. A plumbing business located at the top of the street generates regular commercial traffic and has no designated parking, forcing vehicles to occupy on-street spaces. Additionally, parents frequently park along Belfort Street to drop off their children at the Talbot School to avoid traffic on school grounds. As a result, mornings and afternoons are especially chaotic and dangerous, with cars rushing to get to work or exit onto Forest Avenue.

Parents from adjacent neighborhoods also walk their children to school through Belfort and are often seen flagging down motorists and business vehicles, urging them to slow down. We even had to ask a sheriff who lives on our street to place a speed radar board during school hours in an effort to curb speeding. The addition of a 50-unit apartment complex, with minimal parking, will only force tenants and their visitors to park along Belfort—further increasing the likelihood of another pedestrian being hit.

For me and many of my neighbors, this is not a housing issue—it is a **safety** issue. A building of this magnitude would significantly increase congestion and further endanger pedestrians, cyclists, and families. I know this firsthand: I was struck by a motorist while biking to work. The driver—who had just dropped off a child at the school—was rushing and not paying attention. That incident underscores just how dangerous congestion already is, especially during school and business hours, and highlights why the added pressure of 50 additional units is simply too much.

While I understand the need for more housing and am not opposed to development, a project of this scale is not appropriate for this location. Our roads, infrastructure, and neighborhood layout were never designed to handle this level of density.

Adding to these concerns are statements reportedly made by the developer, Alex, who has claimed that he “has the city in his pocket,” and that the city is offering incentives to push projects like this forward. Whether

true or not, this kind of rhetoric only fuels public distrust and raises real concerns that the voices of residents and the long-term health of our community are being overlooked in favor of aggressive development.

I respectfully urge the Planning Board to reconsider the scale of this project. A smaller, more thoughtfully designed development—perhaps half the size—would better reflect the character of our neighborhood and help preserve the **safety** and quality of life for the families who live here.

Thank you for your time and attention.

Sincerely,
Geoff W

This e-mail may contain information that is privileged and confidential. If you suspect that you were not the intended recipient, please delete it and notify the sender as soon as possible.

Carter Frank <cfrank@portlandmaine.gov>

Development at 1582 Forest Ave

1 message

'grantc_1221' via Planning Board <planningboard@portlandmaine.gov> Tue, Feb 25, 2025 at 10:54 AM

Reply-To: grantc_1221@yahoo.com
To: planningboard@portlandmaine.gov

To Whom it May Concern,

I am writing in regard to the proposed 'Belfort Landing' development at 1582 Forest Ave in Portland. I know you've already heard from several of my neighbors, and I share many of their concerns about this proposed project. In addition to permanently changing the character of a hundred year old neighborhood, I have serious concerns about the increase in traffic and pedestrian safety after the addition of 50 housing units/apartments on our quiet, little side street.

My biggest concern personally is parking/traffic, so I will start there. The proposed development will feature only 50 parking spaces for 50 units, despite 30 of these units being two bedrooms. This is simply insufficient and will force overflow parking directly on to Belfort Street, which is not equipped to accommodate it. While many current residents park on the street from time to time, this development will likely lead to the segment of Belfort directly in front of my property (34 Belfort) to be lined on both sides with cars that do not fit in the development's 50 parking spaces. This is both a traffic and safety concern. Several neighbors got together on a recent Saturday and parked on both sides of Belfort to simulate what it would be like with the influx of new vehicles and the results were terrible (see attached pictures). This was done with some snow on the ground, but well before our total snowfall doubled over the course of 10-14 days in mid-late February, shrinking the roadway even further. With vehicles parked on both sides of the road, the result was a single lane that was only 9-10 feet wide. While this is passable for a regular passenger vehicle, larger vehicles like delivery trucks, city plows and first responders (fire trucks and ambulances) may or may not fit through this gap depending on how well people parked. I live on the slope of Belfort; if the road isn't properly plowed I likely will not be able to get out of my driveway and up the hill.

Additionally, there is no light at the top of Belfort (intersection with Forest), which makes turning left onto Forest Ave a challenge at certain times of day. Adding 50-100 more vehicles to the mix will only exacerbate this issue. At peak travel times, it's quite likely the traffic waiting to turn onto Forest from Belfort will stretch down Belfort back into the area that will be the primary overflow parking for this development. This will make the road essentially impassable for anyone turning onto Belfort from Forest.

This overflow parking is also a safety concern, for the same reason it is a traffic concern. There are no sidewalks on Belfort, save for the first 50 feet on one side. But we have significant foot traffic, including a large amount of children walking to and from Talbot School multiple times per day. If Belfort becomes a single lane due to the overflow parking, these children will be forced to share this 9-10 ft wide strip of road with vehicles travelling in both directions. Outside of the safety of these school children, roughly 75% of the homes on Belfort St, Verrill St, Iffley St and Empire Way have dogs. Walking your dog on the Belfort loop has always been a very safe option compared to Forest Ave and the surrounding area because Belfort is not a through street so traffic is limited. The combination of the influx of traffic and the increased amount of on-street parking will make the street much less safe for pedestrians of all ages.

I strongly urge the city to require the developer to pay for a traffic study to assess the true impacts the massive influx of vehicles will have on the neighborhood. While I know this property has been zoned for even more units than are actually planned for this development, even the proposed 50 units is way too much for this small side street to accommodate. I also understand there is little the neighborhood can actually do to prevent this development as long as the developer follows all applicable laws and codes, but I would encourage the City to consider at least scaling this project back to ensure that the development will have sufficient parking onsite making overflow parking on Belfort rare to non-existent.

Finally, I'd like to address the character of the neighborhood and the negative impact this development will have on that. Again, I understand that the development site has been rezoned for multi-unit expansion, but the entirety of Belfort St, Iffley St, Verrill St and Empire Way are single-family homes. The proposed 3-story structure will be built on a raised, back-filled lot and will completely dominate the landscape of the entire neighborhood. I believe it will be in full view from literally every house on all of Belfort, Iffley, Verrill and Empire. There simply is no design aesthetic that will prevent this from being anything but an eyesore for the entire neighborhood. The proposed structure will be particularly intrusive for the several properties that abut it directly. Because the lot will be raised prior to construction, the new structure will tower 20-30 feet over houses that sit within 50 feet of it. This new aesthetic, along with the parking situation are likely to drive down property values, especially for those houses in the immediate vicinity of the proposed build (those within a few hundred feet).

In conclusion, this proposed development is simply too large for the area in which it will be built. I understand cancelling the project entirely is probably unrealistic, but I urge the City to consider at least requiring it to be scaled back (to 25 units or fewer) in order to minimize the negative impacts on the surrounding community. I also request that the developer be required to pay for a traffic study to more fully understand the impact this project will have on this quiet side street.

Sincerely,

Grant Chamberlain

34 Belfort St

-------- Original message --------
From: grantc_1221 <grantc_1221@yahoo.com>
Date: 2/25/25 10:47 AM (GMT-05:00)
To: efreeman@portlandmaine.gov
Subject: Development at 1582 Forest Ave

Mr. Freeman,

I am writing in regard to the proposed 'Belfort Landing' development at 1582 Forest Ave in Portland. I know you've already heard from several of my neighbors, and I share many of their concerns about this proposed project. In addition to permanently changing the character of a hundred year old neighborhood, I have serious concerns about the increase in traffic and pedestrian safety after the addition of 50 housing units/apartments on our quiet, little side street.

My biggest concern personally is parking/traffic, so I will start there. The proposed development will feature only 50 parking spaces for 50 units, despite 30 of these units being two bedrooms. This is simply insufficient and will force overflow parking directly on to Belfort Street, which is not equipped to accommodate it. While many current residents park on the street from time to time, this development will likely lead to the segment of Belfort directly in front of my property (34 Belfort) to be lined on both sides with cars that do not fit in the development's 50 parking spaces. This is both a traffic and safety concern. Several neighbors got together on a recent Saturday and parked on both sides of Belfort to simulate what it would be like with the influx of new vehicles and the results were terrible (see attached pictures). This was done with some snow on the ground, but well before our total snowfall doubled over the course of 10-14 days in mid-late February, shrinking the roadway even further. With vehicles parked on both sides of the road, the result was a single lane that was only 9-10 feet wide. While this is passable for a regular passenger vehicle, larger vehicles like delivery trucks, city plows and first responders (fire trucks and ambulances) may or may not fit through this gap depending on how well people parked. I live on the slope of Belfort; if the road isn't properly plowed I likely will not be able to get out of my driveway and up the hill.

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This overflow parking is also a safety concern, for the same reason it is a traffic concern. There are no sidewalks on Belfort, save for the first 50 feet on one side. But we have significant foot traffic, including a large amount of children walking to and from Talbot School multiple times per day. If Belfort becomes a single lane due to the overflow parking, these children will be forced to share this 9-10 ft wide strip of road with vehicles travelling in both directions. Outside of the safety of these school children, roughly 75% of the homes on Belfort St, Verrill St, Iffley St and Empire Way have dogs. Walking your dog on the Belfort loop has always been a very safe option compared to Forest Ave and the surrounding area because Belfort is not a through street so traffic is limited. The combination of the influx of traffic and the increased amount of on-street parking will make the street much less safe for pedestrians of all ages.

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Sincerely,

Grant Chamberlain

34 Belfort St

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4 attachments



IMG_4361(1).png
172K



IMG_0017.png
329K



IMG_0014.jpeg
421K



IMG_4361.png
172K

James Spear <jamesspear99@gmail.com> Feb 15, 2025, 7:40:15 PM (3 days ago)
to Eric Freeman, planningboard@portlandmaine.gov, friendsofbelfort@gmail.com, Liz Berg

My name is James Spear,

My home is 111 Verrill St, Portland, ME 04103.

As I am not 500 feet from the proposed Belfort Landing, I was not alerted to the public's information meeting at Riverton Center. Thankfully, word or mouth from concerned citizens allowed me to block out time to attend.
If there were proponents of the development at the meeting they were mute.
The rest of the room was vocal and opposed, as am I.

I realize there are correct political and legal steps to curtail, oppose, and defy a new development within a community. **Let this letter register myself as a concerned citizen against building Belfort Landing.**

50 apartments with 50 parking spaces with one egress, leading to and from a blind access point half way down a hill, leading to a neighborhood proud of the security in their streets for themselves and their children is not in the interest of this tight knit community.

I understand, with the hope to preserve public safety, and as the first initial avenue of opposition, **a traffic study must be performed**. This is my first request. Please request a detailed traffic report, and provide thorough evaluation for all concerned citizens so we may know what to expect.

With this information we will take the next steps to thwart the next step in the path to the future development of this property, and will continue to do so ad infinitum.

I implore you to recognize the implications of said development; Not just on the 500 feet left and right of the proposed "driveway", but also on the broader effects that will occur on Forest Avenue and the surrounding community. Belfort Ave flows into Forest Avenue one traffic light away from the Fire Station and access to the The Gerald E. Talbot Community School.
I work on Commercial Street in downtown Portland. Turning left onto Belfort Ave is already a nightmare - regardless of the time of day. Traffic impeding my access to my home's neighborhood was the one concern I had to justify when purchasing my house in 2012. I bit the bullet and have been happy with the decision ever since. However, if Belfort Landing had been in place when I was searching for a home for my family, I would have kept looking and you would not be receiving this letter from me.

We all suffer enough through Morril's Corner, and then again through Woodfords Corner, and have subjugated ourselves to being powerless to the traffic snarl occuring every morning at Starbucks & Reed St. ... Adding another congestion point directly next to vital community services at the juncture of Forest + Belfort + Harris + Morrans Market + Riverton Gas Station + The Gerald E. Talbot Community School access road + the traffic light, and many other junctures serves no one except one contractor for profit. ... Yes he himself may have a family to feed, but he will not do it freely without the educated diplomacy from the affected neighborhood...

Start first with a traffic ordinance please, and then suffer through every ordinance that must be passed.

The community's collective opposition will be forceful and determined at every turn. We realize it is not going to be easy for us, and are prepared to make it uneasy through the decision process at every turn to create the change we can all agree upon. Most importantly, we want to make it a public record that we have been heard and are not delegated to the casualties of "progress". Singularly I sign this with the backing of a community I may or not know by name, but the result is the same. Save everyone lots of wasted time and money. Prevent the development of "Belfort Landing", and make it easy for everyone with an accurate traffic study that details the absurdity of the proposition.

Insisting,
James Spear
111 Verrill St. Portland ME 04103

Carter Frank <cfrank@portlandmaine.gov>

Proposed Belfort Street Apartment Complex

1 message

Jeannie Dorr <jsd84834@gmail.com> Sat, Feb 8, 2025 at 2:32 PM
Reply-To: jsd84834@gmail.com
To: "efreeman@portlandmaine.gov" <efreeman@portlandmaine.gov>
Cc: Planningboard@portlandmaine.gov

I am very concerned about this new proposed apartment complex and here are some of my thoughts about this proposal.

Sincerely,
Jeannie Dorr

Planning Board-Portland.docx
14K

I am contacting the Planning Board regarding the proposed 50 unit apartment building with access onto Belfort Street. This property would add 50 to 100 cars to Belfort Street and their access onto Forest Ave. The neighborhood is already overcrowded with traffic from the Talbot School. Many of these families park on Belfort St. and Empire St. to drop off and pick up their children because of lack of parking at the school. The increased traffic from this complex would cause a danger to all of the children walking to the Talbot School each and everyday. The lack of sidewalks on Belfort Street just magnifies this issue.

The City of Portland needs to take a closer look at this project and the hazardous impact it would have on our neighborhood children's safety as they walk to and from school. Is the City of Portland so desperate for rental housing it would allow this too large a project in a very small space to be developed?

I have a couple of questions regarding the access road onto Belfort Street. I would like to know just what the setbacks are for the space between this road and the two houses along side it. Does the developer have to build a buffer zone between the access road and these two houses? Is there going to be a buffer zone between all the houses surrounding this total project? Is there enough space to build this zone with all the parking spaces they will need for 50 to 100 cars plus any overflow? Does this complex have enough space to do winter plowing without moving many of these cars onto Belfort Street?

I attended the initial meeting at Talbot School on Feb. 5th. I wish that the Planning Board had been represented at this meeting and perhaps they would have had a true picture of the impact this development would cause to our neighborhood and their children. All of the voices at this meeting were loud and strong against this project.

Carter Frank <cfrank@portlandmaine.gov>

Belfort landing development

1 message

'Lisa Coha' via Planning Board <planningboard@portlandmaine.gov> Mon, Feb 24, 2025 at 8:32 AM
Reply-To: lcoha3@icloud.com
To: efreeman@portlandmaine.gov
Cc: planningboard@portlandmaine.gov

Dear Mr Freeman
I live down the road behind Belfort street and am very concerned about this new 50 unit development project. If not for my community I wouldn't have even heard of it since I received no prior info. As things stand right now Belfort has issues with incoming and outgoing cars. It is next to
Impossible at times to make a left hand turn on to Forest Ave. There is a heating/plumbing co right on the corner of Belfort where they park their multiple large vans since their parking area is very small and they share it with a barber shop. Moran's market is on the other side of Belfort where customers exit out of on to Belfort to access Forest Ave. Belfort is not a wide enough street especially when there is snow piled up in the winters. This planned development of 50 units will create a disaster. Most families have multiple cars so with one parking space per unit, the cars will overflow on to Belfort to park. It would than be impossible for emergency vehicles to even get down the street not to mention oil trucks and other large vehicles. We need to have a traffic study done first and foremost before moving forward with this housing project. Please look at all angles before rushing in to this project. Belfort is also a street without sidewalks where kids access the school that is right there as well. Thank you for taking my concerns seriously
Sent from my iPhone

Liz Berg <lbfmgt@yahoo.com> Feb 6, 2025, 7:23:32 PM (13 hours ago)
to planningboard@portlandmaine.gov

To Eric Freedman,

I learned of the subject development plan only this week although I live on Verrill St. We received no prior notification. I learned of the project through the neighborhood grapevine.
This development does not belong in the proposed location. Adding 50 households to a neighborhood of 72 single family homes, an increase of 70 % in density would impact the neighborhood in many unintended ways. If the transportation infrastructure could handle this increase, I would be surprised. Belfort has no sidewalks. School children walk up and down to or from Forest Ave. constantly as they are dropped off at the intersection by school buses. Neighborhood kids ride their bikes up and down the street as well. There simply is not enough road shoulder to absorb the added traffic without some very predictable negative consequences. Pedestrian-vehicle accidents, snow plow accidents/damage to vehicles, fire truck failures due to the narrow passageway between parked vehicles, to name only a few.

Please do not support this development in its current form. It needs to be scaled back to fit the neighborhood in its present condition.

Thank you for your consideration.

-Liz

Liz Berg 111 Verrill St. Portland, Me
Landlord's Best Friend Property Management
cel. 207.272.2922
www.landlordsbestfriend.com

Melissa Blanchard <joelmissy1968@gmail.com> Feb 19, 2025, 9:14:44 PM (11 hours ago)
to Eric Freeman, planningboard@portlandmaine.gov

Dear Eric Freeman and Planning Board Members,

My name is Melissa Blanchard and I live at 144 Belfort Street. I am very concerned about the project, Belfort Landing, that Alex Coupe wants to build on Belfort Street.

I understand that the land has been rezoned to build on; however that does not make Belfort Street a suitable place to build this enormous 3 to 4 story building for many reasons.

First and foremost; the traffic flow will increase and overflow parking will be on the side of Belfort and Verrill Street.

We now have several group homes on Belfort and Verrill Street. These group homes sometimes require several staff members to care for the residents.

Their cars are often parked on the side of the street. During snow storms, parked cars on the street are often not moved; thus the city plows can't plow the street properly.

The fact that this proposed development only has one parking space per unit and no overflow parking is very alarming. How many people are allowed per unit in a low-income apartment in

the City of Portland? If individual families move in, with more than one car; where will their second car be parked? This is a huge development and Alex Coupe could not give

us a comparison to other projects of this scale because he said he has not built a project of this size before.

I am not opposed to development but this project is too big for our small street. Single family homes on that land would be most better suited for Belfort Street. At the neighborhood

meeting, Alex Coupe said he did not have enough footage to build single family homes. I would ask that he be given an exception to build single family homes; which would be more

reasonable, and comfortable for the tax paying citizens who live here.

I strongly believe the Planning Board members should require Alex Coupe to pay for a traffic study to determine how a 50 unit, 3 to 4 story, apartment complex would increase traffic on

Belfort, and Verrill Street and Forest Ave.

I have to leave for work earlier than required in order to get out of Belfort Street in the morning. Taking a left to go to work is frustrating because of the traffic on Forest Ave. Even if Alex

Coupe puts a traffic light at the top of Belfort, I still believe the cars trying to get out onto Forest Ave would be too great.

Homeowners walk their children to school, and others drive their children to school, others, like myself, have to turn left every morning to go to work. If I don't turn out by 7 am, traffic

picks up significantly.

Other concerns I have are with the amount of people that potentially could live at the Belfort Landing complex. There is potential for an increase in crime and cars speeding up and

down Belfort and Verrill Street.

Since the homeless shelter was built on Riverside Street several neighbors on Verrill and Belfort have had their cars ransacked and money and computers stolen. I had money

stolen out of my car. Video was taken of a hooded man, near my house, and a stolen computer was traced to the Homeless Shelter on Riverside Street.

Currently, there are people speeding up and down the street; while neighbors are walking their dogs, strolling their babies in baby carriages, walking alone. Also, children ride their bikes and

walk on Belfort and Verrill Street to go to school at Talbot Elementary. It would seem that 50 units with an unknown number of people living in each apartment would increase traffic

on Verrill and Belfort Street significantly; making it a risk to walk on Belfort Street alone, or with dogs and children.

Elected officials of the Planning board, I would ask that you would please come out to our neighborhood and speak with the neighbors on Belfort Street and Verrill street. Discuss with

the residents that live here, what our concerns are, and what we witness living here.

I have lived on Belfort Street since 1969, when my parents built their house at 163 Belfort Street. My grandparents also bought the only house on Verrill Street in 1947 for $5000 dollars.

I have seen many changes on Belfort Street since the 1970's when I was in elementary school, at Riverton School. I was in third grade in 1977, when Riverton school first opened.

I witnessed Verrill Street being developed in 1995 with single family houses after growing up on Verrill with only one house, my grandparents on Verrill Street. I have seen

group homes move into the neighborhood, and now several homes are being rented out. Alex Coupe even built a large house next to my 936 square foot house on Belfort Street.

I can adjust to these changes; however, to put a complex of that size on Belfort Street would be devastating for the tax paying citizens who bought their homes in this neighborhood because

of the way Belfort and Verrill Street are now.

The other concern is flooding. We have clay soil here. My basement has flooded out so many times that in the fall of 2023 I had to spend $18,000 dollars to get mold out of my basement.

When I found out Alex Coupe was going to build a house beside my house, the first thing I discussed with the key City of Portland person in charge was I did not want my basement to flood

out and needed to make sure there was proper drainage.

What is left is standing water; a small pond of water between my house and my neighbors house. I was disappointed that standing water was left in a pond with rocks as a drainage method.

Other questions I have are:

1. What environmental studies have been conducted to assess the impact of this development on local ecosystems, waterways, or wildlife?
2. How do you plan to address increased stormwater runoff and potential flooding issues caused by this development?
3. What sustainable design features exist in the building: Energy conservation; water efficiency; low-impact sustainable material procurement; How will heat and air conditioning be powered?
4. What environmental protection measures will be mandated for construction? And how long will construction go on (duration)?

Infrastructure and Community Resources

4. How will this project impact traffic in the neighborhood? Have traffic studies been conducted?
    a. How is the proposed development going to handle all the extra traffic on Belfort Street? Without a stoplight, it's already tough to turn left onto Forest, and this will make the congestion even worse.
    b. How is the proposed development going to impact when school is in session during the mornings and afternoons when Forest already gets backed up
    c. How is the proposed development going to impact when school is in session during the mornings and afternoons when Morrill's Corner is already overwhelmed with traffic
5. How do you plan to accommodate the increased demand for utilities like water, sewage, and electricity?
6. Have you considered the strain this development might place on local schools, emergency services, or healthcare facilities?

Zoning and Compliance

7. How do you justify the scale or density of this project given the character of the surrounding neighborhood?

Economic and Social Impact

9. What guarantees do you offer that this development will benefit current residents and not just new ones?
10. How do you plan to mitigate potential increases in property taxes or housing costs for existing residents?

Transparency and Accountability

11. What feedback from the community have you incorporated into your plans so far?
12. How will you keep the neighborhood informed about changes or issues during construction?

Aesthetic and Quality of Life

13. How will you ensure this development aligns with the aesthetic and character of the neighborhood?
14. What steps will you take to minimize noise, dust, light and trash, and disruption during construction?
15. What steps will you take to minimize disruption after construction?
    a. **Lighting**: How will the lights from the development parking lot stop from shining in the windows of residents?

i. The plan discusses lights that are in accordance with Portland zoning regulations. Many multi-unit facilities choose wide-arc LED lighting that operates at a very high "color temperature". These "Daylight" levels would be inappropriate for the existing neighborhood. We ask that you ensure exterior lighting for parking lots, door entrances and perimeters to be closer to the 3000-3500K range to minimize the impact of lighting on the bordering properties.

b. **Privacy**: How will the development ensure privacy for Bellfort Street residents? Very close proximity and higher rise than the houses.
c. **Noise**: with a parking lot abutting Belfort Street neighbors, how will the development stop traffic noise at all hours of the day and night?
d. **Smoking**: is there a designated smoking area? How will you ensure folks will not loiter in the parking lot blowing smoke into neighbors yards.
e. **Trash**: how will the development be sure trash does not accumulate and cause stink/littering/animal issues, etc.

Alternatives

15. Have you considered alternative designs, scales, or uses for the property that might meet the scale and density of the existing neighborhood?

Carter Frank <cfrank@portlandmaine.gov>

Major concerns with 50 unit apt. complex going up on Belfort Street.

1 message

Melissa Blanchard <joelmissy1968@gmail.com> Wed, Apr 2, 2025 at 3:14 PM
Reply-To: joelmissy1968@gmail.com
To: planningboard@portlandmaine.gov

Dear Planning Board,

I respectfully urge you to reconsider your decision regarding the proposed construction of a 3-story, 50-unit apartment complex on Belfort Street.

Have any of you had the opportunity to view Belfort Street during peak hours, when cars are parked along both sides of the road? This makes it incredibly difficult to safely exit onto Forest Avenue, especially during the busy morning hours. At times, two vehicles are parked on opposite sides of Belfort Street, forcing me to wait for one of them to move so I can squeeze by. Additionally, business trucks servicing Mietta's Plumbing, located at the top of Belfort Street, further complicate the situation.

My primary concern lies with the lack of parking for the proposed 50-unit complex. With only one parking space allocated per unit, it seems highly insufficient, particularly considering the possibility of multiple occupants per apartment. For instance, could there be as many as 7 occupants per rental unit, as is sometimes allowed in the City of Portland? If each unit holds two occupants with two cars each, this could add up to 100 additional cars, all of which would need parking. The overflow from this would likely spill over onto Belfort Street, worsening the already limited parking situation.

Furthermore, we are already dealing with the impact of two group homes on Belfort and Verrill Streets, which add to the parking congestion due to the numerous staff members required to care for the residents. With these additional vehicles, the current parking shortage is further exacerbated.

Lastly, I am deeply concerned about the increase in traffic that this project will bring. The higher volume of vehicles presents a serious risk to the safety of young children who walk to Talbot Elementary School.

In light of these concerns, I ask that you carefully reconsider the implications of this development on our neighborhood and if the project must go through, please limit this project to single family homes only which is in character with our current neighborhood.

Thank you for your time and consideration.

Sincerely,

Melissa J. Blanchard

Melissa J. BLanchard
144 Befort Street
Portland, Maine 04103

Carter Frank <cfrank@portlandmaine.gov>

1584 Forest Ave Development (PL-003161-2024)

1 message

Mitchell Thomas <mitchell.t.sacks@gmail.com> Tue, Apr 1, 2025 at 2:25 PM
Reply-To: mitchell.t.sacks@gmail.com
To: efreeman@portlandmaine.gov
Cc: planningboard@portlandmaine.gov

Dear Planning Board,

As Riverton residents – specifically Verrill St – we have been following along with the proposed 50-unit, two-building residential development of 1584 Forest Ave (Plan Number: PL-003161-2024). While we hesitate to add to the "not in our backyard" rhetoric, we want to make our concerns clear to the Planning Board that this proposal, as currently planned, is a bad idea for the Riverton neighborhood and a bad idea for our city. As Portland continues to grow, we recognize the need for increased housing, however we urge the Planning Board to think long-term, strategically, and how development can either hurt communities or strengthen them – on outer Forest Ave, specifically, an opportunity exists to create community development welcomed, celebrated, and enjoyed by EVERYONE. Sacrificing long-term pain for short-term gain (i*n the form of high-density, unappealing, cheaply designed housing*) is not the answer.

With the density being proposed at 1584 Forest Ave, there are a number of negative consequences the residents of Belfort, Verrill, Empire Way, Iffley St and surrounding streets will endure. Below are a few points noting the most critical consequences of this development.

On-Property and Street Parking:

The proposal is for a 50-unit multi-building footprint consisting of **twenty (20) 1-bedroom and thirty (30) 2-bedroom apartments** with only 50 on-property parking spaces. An apartment complex of this footprint could yield **100 residents, if not more.** With certainty, 50 parking spaces will not support the volume of residents living or visiting the proposed complex causing both residents & guests to subsequently park along our neighborhood streets – streets where residents walk dogs, jog, kids ride bikes and play, and people enjoy. These streets cannot support the expected volume of cars that will ultimately **clog our streets, diminish our privacy, and eliminate the quiet enjoyment of our properties**. Furthermore, these streets are **utilized by CHILDREN** walking and riding bikes, often unaccompanied by adults, to the Talbot Elementary School & Riverton Community Center from not just our neighborhood, but many neighboring areas. Without appropriate infrastructure such as wide streets, independent raised sidewalks and bike lanes this development will without doubt jeopardize the safety of these children.

Attached I have included a picture (*Belfort_Congestion.jpg*) showing what will become the norm on Belfort St if the proposed complex is approved as is. This picture was taken during a recent holiday get-together at a household on Belfort. As you can see, parking along both sides of the street will create dangerous congestion on a dead-end neighborhood street.

Other concerns include the following:

- On-property snow removal: Will cars be instructed to leave the lot for snow plowing? If so will they park on neighboring streets and impact the ability of snow removal on streets?
- Emergency service vehicles such as firetrucks and ambulances will not be able to access households within the neighborhood if there is significant on-street parking along Belfort, Empire, and Verrill Streets.

Traffic and Safety:

The density proposed at 1584 Forest Ave will create a significant increase to local traffic on Belfort St and Forest Ave, leading to increased congestion, noise pollution, and safety risks. At peak hours during morning & afternoon commutes and school drop-off/pick-up at the Talbot Elementary school, Forest Ave between Riverside Industrial Parkway and the junction to Stevens Ave becomes a near standstill. From Belfort St, it is already often nearly impossible to make a left-hand turn with the traffic heading towards Portland and the congestion that forms at the redlight for cars making a left turn into Talbot Elementary School.

Further, infrastructure does not exist along outer Forest Ave to support alternative forms of transportation such as bike-commuting that could alleviate congestion. Yes, bike lanes exist along this section of Forest Ave, however they were not designed to promote bike safety. As an avid cyclist who has ridden over 20,000 miles over the last few years across New England and Canada, I am most afraid of riding on Forest Ave than any other place in Maine – it's a commuter route with high traffic, high speed, has many intersecting streets in/out of neighborhoods, and poorly designed bike lanes. I am worried that increased density will diminish pedestrian safety for myself, my family, fellow cyclists, and our community.

We urge the planning board to conduct a **NEEDED** traffic study along Forest Ave at peak hours, including but not limited to:

The Belfort St and Forest Ave junction
The entrance to Talbot Elementary and Forest Ave
From the junction of Riverside Industrial Parkway and Forest Ave to the junction of Forest Ave and Warren Ave

Economic Loss:

As a homeowner in the vicinity of the proposed development, the introduction of a large-scale building in a residential neighborhood will have significant negative consequences on property values. Research has shown that the proximity of high-density developments to single-family homes leads to a decrease in home values. This can occur for various reasons, including changes to the neighborhood's aesthetic,

increased traffic congestion, strain on local infrastructure, and potential concerns about overcrowding or overdevelopment. These factors could alter the character of the neighborhood and deter prospective buyers from purchasing homes nearby. Furthermore, residents who have made significant investments in their homes could find that the return on those investments is compromised by the increased density and accompanying changes to the community's overall appeal. I urge the Planning Board to take into consideration the economic ramifications this development may have on property values. In addition to the immediate impact on home values, there is also the long-term effect of reduced equity for homeowners who could face difficulty selling their properties in the future.

Proposed Development Architecture and Aesthetic:

The neighborhoods along Forest Ave largely consist of single-family Cape style homes, including our neighborhood. The proposed 50-unit complex fails to meet the architecture and character of the area. It is clear from the proposed renderings of the complex that no attempt to implement modern, aesthetically pleasing design elements that mimic the character of our city or neighborhood were considered. Rather, it is clear to us that the only goal of the developer is to build the quickest, cheapest complex possible to maximize their profit. There are some really fantastic examples of "development done well" across New England, however this is not one of those cases. We hope that the planning board and developer can take a community approach to any development being proposed at 1584 Forest Ave so something really great for our community can be created – a residential complex that architecturally blends with the neighborhood, as opposed to an eye-sore monstrosity.

Developer Comments at February 5th Community Meeting:

At a February 5th community meeting regarding the development of 1584 Forest Ave, the developer Alex Coupe (ACRE Properties) failed to address concerns from residents of the community – most concerns or questions were unprofessionally "shrugged off" or unanswered. It was clear that Alex Coupe and ACRE Properties has no interest in making Portland a better place, but rather maximizing his own profits at the expense of our community. Further, I'd like to make the Planning Board of two comments made by Alex. These are:

- Noted that overflow apartment parking will be on the streets
- Noted that "Nothing is stopping him" from using the apartment complex as overflow housing for the sober group home on the adjacent property

We decided to make Verrill St our home because of the low-density, proximity to the Talbot Elementary School & Riverton Community Center, and the character of the neighborhood. We hope this neighborhood can continue to be a desirable place to live, work, and enjoy – we know that the inclusion of a 50-unit apartment complex will negatively forever change the neighborhood we love and its community.

If this proposal for development is ultimately approved, we urge the Planning Board to force the developer to incorporate changes proposed by the community to ensure this will be a win-win for all parties affected.

Sincerely,
M. Sacks
Verrill St, Portland

--
Mitchell T. Sacks



Belfort_Congestion.jpg
180K

Carter Frank <cfrank@portlandmaine.gov>

Proposed Belfort St development

1 message

Nicola Kerley <nicolaakerley@gmail.com> Mon, Feb 24, 2025 at 4:19 PM
Reply-To: nicolaakerley@gmail.com
To: planningboard@portlandmaine.gov

Hello,

I own a property on Iffley St with entry through the Belfort and Verril St

I am very concerned about the size, lack of proposed parking, and building time for the proposed development.
I do not wish for this development to negatively effect my tennents and neighbors.
This new proposed residence, even just on paper, does not seem decent for new incoming tennents of the proposed development, as it is proposed to have the absolute minimum parking allotment per unit with only one entrance and exit at the top of Belfort st. Effecting the whole block with a dangerous amount of traffic.
The last time a building proposal was made in the area of this scale, it was turned down due to ground stability.
This new developer has done a private study, that I do not trust, based on living through that early 2000s proposal's denial.
I worry about possible flood and collapse of something to that scale down the line.

This proposed development is also directly in front of the Gerald E. Talbot Community School (formerly Riverton Elementary). Which would be fine, if the building time wasn't a proposed 18 months straight. Effecting the learning of every child that attends that elementary school for two school years, in a time where these kids are still getting their test scores up from the pandemic.

As a kid who grew up on Iffley St; in the past, houses construction was only done in the summer. I remember a house taking a couple of years to build on Verril St, because they only did construction outside of the school year.
At that time our test scores as a state were in the top 5 of the country. We're circling the bottom now. So why would we actively, as a city, work to curb the education further by creating a distraction to these kids for more than one full school year?

I am also very concerned that this proposed development is being touted as "lower income housing" (something the state truely does need), but will cost individual units pay more than the two story house I currently own and rent out.
How are people in lower income ever be able to afford 800 sqft units, if the rent is more expensive than the rent of a two story house on the same block?
Why should anyone pay more for a 800 sqft unit than a two story house?
Why should anyone pay more for a 800 sqft unit in Portland, ME than I do in the San Francisco Bay area, CA? (I am not on any lower income housing in Califonia, and the proposed rent for a single unit is more than my apartment rent where the minimum wage is CONSIDERABLY higher)

I say this, as I love my home city and i care for my tenants. I do not see simply being a landlord or property owner as a job to earn from. Their rent goes directly to property tax, stormwater, etc. It is only my responsibility to ensure that my tenants are comfortable and content with their residence, until I personally come back home and retire there. No one that actually lives in the area is happy with the size or proposed construction of the development, let alone my tenants who will be directly effected by the construction and traffic created by said proposed development.

In the attached photos, is example of how clogged the street can already get without this new development.

I urge for a unbiased traffic study to be done at the corner of Belfort St and Forest Ave, and an unbiased soil test.

If possible, even a decibel reading from the classrooms of the school to construction sounds of where the development is proposed.

I personally, would be okay with a 5-10 unit development- less risk for building, construction, and would make it easier to charge less for rent- more possibility to have a least two parking spots per unit and/ or guest parking- good for any possible tenants of a state that snows- and an exit route to ALSO be on to Forest Ave - to relieve traffic from Belfort St-

The developer took these suggestions as a personal affront, instead of any form of compromise.
Stating, "I don't care, the state will pay me."

Overall leaving a horrible impression for my tenants, old & newer current neighbors, and myself. Especially since the properties were mostly bought off of our deceased and/or widowed neighbors to essentially create personal issue for those alive, instead of creating actual support to those who could actually use it.
That's like if I had jacked up the rent of my property, and removed the driveway just because my parents are dead. And said, "I don't care, I'll have more money."
I could. Legally. It would only be unconscionable.

I beg for your and the planning board's consideration on this matter.

All the Best,
Nicola Kerley

PL-003161-2024

1 message

Rachelle Lambert <friendsofbelfort@gmail.com>
Reply-To: friendsofbelfort@gmail.com
To: efreeman@portlandmaine.gov, planningboard@portlandmaine.gov

Tue, Apr 1, 2025 at 10:41 AM

Dear Planning Board,

I am writing to express my deep concern with the Belfort Landing development proposal. (PL-003161-2024)

My husband and I moved into this neighborhood 5 years ago because it is quite, safe and away from the congestion of city life. We had a baby last year, as did several other neighbor/friends on this street. The appeal of this in particular neighborhood, is that it is low traffic, not a through street and safe. Approving this proposal as is, would be detrimental to life as we know it here.

The developer, Alex Coupe, during the proposal meeting was arrogant and dismissive of our concerns and there are many. He also called us NIMBY's which I find both snide and to be gaslighting.

1. This developer is severely underestimating the affects of his no parking plan for such a large number of units. He is proposing 50 units and ONLY 50 parks spots!!! That's insane! Majority of families have at least 2.5 cars, I confirmed that with our home insurance company, State Farm.
2. a. while using public transportation would be ideal, it's unrealistic to think enough people will use it instead of their cars and even if they do, they'll be leaving their cars parked on Belfort and Verrill.
   b. there will be, on the very low end, at least 50 additional cars piling onto Belfort St and that's just for the tenants, let alone their family and friends visiting.
   c. Adding additional traffic and cars is an accident waiting to happen! There are a ton of kids, families and dogs here. Also numerous families who walk their kids to school.
3. We got together as a neighborhood and parked an additional 25 cars at the top of the street and chaos ensued!! Please see the attached photos.
4. a. many people who didn't know we were doing this were overwhelmed by the number of cars and how our street became a single lane road. People had to pull over into someone's driveway to make space for another vehicle to pass.
   b. If you allow well over 50 cars (that's just tenants) to park along our street, that will eliminate any parking for our friends and family who visit.
   c. We don't have side walks.

d. Our neighborhood was not designed with the foresight to accommodate the parking needs of multi-family complexes, it will make navigation a nightmare.

3. i. We will need signage and where will all those cars go during snow storms. The plow is 11 ft, and the distance between 2 cars with snow on both sides of the street is 9 ft. Plows won't be able to plow properly. Where will all those cars go???? there's no parking lots around here.

d. plows, fire trucks and delivery trucks will not be able to pass easily as it will be a long single land road, leading to longer response times.

e. The traffic at the top of Belfort street is already tough, especially at rush hours. There are multiple businesses, so at times, there could be 6-7 cars waiting to pull out of Moran's, the plumber/barber shop, Harris St, Riverton Station, the gas station and the school driveway. Adding so many more cars to come out of a non-through street will be endangering the safety of that area.

5. We already have a problem with vehicles outside the neighborhood driving too fast up and down our street.

6. a. we've had radar speed signs on our street in the past

b. several neighbors have used the Fix-It app to request speed bumps to try and reduce speeding.

7. Noise pollution

8. a. The trees currently buffer the noise from the school and fire station and from the very busy Forest Ave, adding at 50 unit will increase the noise immensely.

9. He has to elevate the land by 8 feet, then build a 3 story building! Talk about invasion of privacy for those of us in front of and across from the monstrous building. Please see the attached photo from a rendering of what it would look like.

10. a. High-density multi-family units mean more people. This translates to increased pressure on existing infrastructure like roads, sewage systems, and public utilities.

11. The walking path on Empire that leads to the school used to be called Wirt St. It was closed due to an increase in traffic and the neighborhood found it too dangerous so they turned it into a walking path instead. Why would we invite such a large number of cars to congest our street again when it was already deemed dangerous. And that was just for school/community center traffic.

12. The developer already admitted he is illegally using the conservation easement on the school driveway to enter the property. He laughed and called himself a 'pirate' due to the piracy of the illegal act. If he's already pulling that, our trust in him is already low.

13. His rendering are very misleading! There will very limited green space and trees left. They don't adequately show the height in comparison with the surrounding cape style homes. Please again, see the rendering.

14. where will the snow go? in the winter he'll have to plow the snow somewhere and that again will eliminate even more parking spots, causing more cars onto our street.

15. The homeless are also a concern for our neighborhood. With the addition of 100 more cars on our street, it makes for an easy target for those experiencing homelessness to attempt car break ins. We have had numerous car break in's in our neighborhood

16. My husband was also hit by a car while riding his bike to work. He was hit right around the corner from Belfort St, on Forest Ave. He suffered immense bruising to his abdomen, thankfully nothing was broken. Receiving that phone call was unbelievably scary and I don't want that to happen to anyone because that could have ended very differently.

Please reference the photos we took of what only 25 cars looks like, imagine 50-100 more!
This project is wreckless, dangerous and irresponsible.

In conclusion, just because something is suddenly re-zoned, doesn't make it the right choice for the area. Approving this project will be an absolute detriment to our livelihood as we know it. You would be approving an irresponsible project that does not benefit current residents, you would be endangering the lives of our children and families. We live here for the quiet and safety that it currently offers. We are already priced out of Portland, most of us cannot afford the current home prices so we will be stuck having to choose between enduring this project or moving. out of Portland completely, which none of us want to do.
He seems to think he has the planning board in his back pocket so I implore you to consider a heavy revision of this proposal and make it reasonable and realistic for what would better suit our neighborhood. He built a 9 unit in Westbrook, that would fit just fine because he can use the rest of the space for parking, like all other apartment complexes in the area offer.

Regards,

Rachelle Lambert

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5 attachments



Belfort Commons_Original.jpeg
241K



School View_Original.jpeg
283K



IMG_8632.jpeg
461K



IMG_8633.jpeg
276K



IMG_1674.jpeg
5058K

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Tue, Feb 18, 2025 at 11:45 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Topic: Small Space for Large Buildings

Anyone with a social conscience is aware that the City of Portland has a housing shortage and understands the need to correct this problem. However, the “Belfort Landing” project proposed by Alex Coupe is not a realistic solution.

A 50 unit development on a two acre parcel needs to be intensely scrutinized before any approvals are granted. The “Landing” would have 25 one bedroom units and 25 units with two bedrooms which would conceivably accommodate over 150 residents, but with parking for less than 50 cars. The remaining estimated 100 would be parked on Belfort Street.

This is a laudable project which could help to relieve some of Portland’s housing crisis, but not in this limited space. It needs to be built in a location suited for the amount of people it’s trying to serve.

My numbers are not exact, but an independent study is definitely warranted. The board should also require a comprehensive traffic study before any approvals go forward.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Ave

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Wed, Feb 19, 2025 at 7:57 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Traffic Study

The neighborhood has been testing the impact of “The Belfort Landing” project on the traffic flow of Belfort Street. With the developer’s limited vehicle accommodation, this street is the obvious alternative for a possible 100 plus cars left without places to park.

It was a telling experiment as drivers tried to maneuver in both directions while Verrill Street traffic tried to merge. With an experiment using only 16 parked cars lining both sides, only a single lane was available for two lane travel. Presently, with just casual parking, drivers have to be courteous to each other to allow safe passage.

The Planning Board needs to require a comprehensive traffic study before any approvals go forward.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

Emergency Vehicles

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Thu, Feb 20, 2025 at 9:28 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

In February, "Belforters" created a mini scenario to demonstrate the effects of a possible 100 plus vehicles being forced to park on narrow Belfort Street. Because of the lack of adequate parking at the proposed “Belfort Landing Project” there will be no alternative but this street.

With just 16 cars lining both sides of the street, the snarl of cars piled up in front of my house was very concerning, I quickly realized that anyone with health problems, including myself, should be alarmed. I imagined an ambulance trying to fight if’s way through that sort congestion.

This long existing neighborhood is a mixture of cultures, ages and lifestyles. We deserve the same considerations of all other neighborhoods.
The Planning Board needs to require a comprehensive traffic study before any approvals go forward.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Fri, Feb 21, 2025 at 9:02 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Fire Safety

If the proposed “1582 Forest Avenue Development” comes to fruition, with it's limited parking, there will be no other alternative but for more than 100 overflow vehicles to park on each side of Belfort Street. Our city and the Fire Department should be very concerned about the access to our only fire hydrant and for the ability of emergency vehicles to function effectively on a tightly-parked street.

The Planning Board needs to require a comprehensive traffic study before any approvals go forward.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Sat, Feb 22, 2025 at 9:32 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Traffic to Forest Avenue

As a Belfort Street resident and as a driver, I experience the irritation of trying to turn left onto Forest Avenue on a regular basis.
Adding just half the 150 drivers from the proposed “1582 Forest Avenue Development” to an already difficult situation and there will be extreme frustration for everyone.
Imagine the morning chaos when cars parked on the right, facing downward, trying to turn against the flow of cars heading upward to exit onto Forest Avenue; not to mention the Verrill Street drivers trying to merge.

The Planning Board needs to conduct a comprehensive traffic study before any approvals go forward.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Mon, Feb 24, 2025 at 9:31 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Traffic Survey

The City of Portland needs to support family neighborhoods and the safety of its citizens to maintain its integrity.
The “1582 Forest Avenue Development” has proposed a 50 unit project with possibly 150 residents who would be driving vehicles. It is essential that the Portland Planning Board conducts a comprehensive Traffic Study before any approvals go forward.

Belfort Street will obviously be the parking ground for any and all cars that can’t park by their own units. This will easily be a 100 plus vehicles over-flowing onto a narrow two lane roadway with no sidewalks.

"Belforters" conducted an informal study which proved that this excessive street parking will result in utter chaos.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Tue, Feb 25, 2025 at 10:11 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Like Housing

My house is a hip roof colonial with two and half stories. It backs up to the “1582 Forest Avenue” lot and seems to be the one that the developer is using as comparative housing. However, this house does not have a car port under it or a full third story. No way does the style, size or impact compare to a 50 unit complex; which will tower over the entire neighborhood.

On a clear day it might be seen from the Observatory on Munjoy Hill. Yes, I'm exaggerating.

Portland needs to support family neighborhoods to maintain the integrity of the city.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Wed, Feb 26, 2025 at 12:25 PM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Public Transportation?

At the informational meeting held by the “1582 Forest Avenue Developer” in early February, he announced he would be holding educational sessions to inform his new occupants about the benefits of Public Transportation. The audience laughed and so did he.
Out of the estimated 125 people present, only one person was counted as having ridden a bus.

Looking at driveways on this street, there are two to four cars in every yard. Now think of adding more than 75 vehicles with no other option but to park on narrow Belfort Street because of lack of available parking at their new housing; plus the 50 cars that have parking provided. Now, think of trying to maneuver just some of that mess onto Forest Avenue and we’ve got grid lock. No one's gettin No where!

A traffic survey should be required before any further considerations.
Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Thu, Feb 27, 2025 at 3:44 PM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Talbot School Enrollment

With the Belfort Landing Project and its possible 50 families, the educational system needs to consider the impact that the increased enrollment will have on Talbot Elementary School. A good education is the greatest investment in our future. Let's not short change our kids.
Also, the Talbot School driveway will need constant patrolling because of the “convenient”, though illegal, parking for guests of the proposed project.
Casual visitors are not invested in our community and may feel entitled. Not everyone respects the law or the safety of our kids.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Tue, Mar 4, 2025 at 1:25 PM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board
Reference: Quality of Life

Belfort Street has always been a secure community for walkers and runners. Parents with baby carriages, dogs on leashes, people walking to our locally owned corner store; not to mention neighbors just visiting back and forth; have always felt safe with a clear vision of the entire street from top to bottom. With the proposed 50 unit development and a possible 100 vehicle over-flow parking on both sides of narrow Belfort street, that safety will no longer exist. There are no sidewalks here.

Belforters have moved here because we love the safe and casual lifestyle. However, taking a walk could become a dangerous act.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Wed, Mar 5, 2025 at 11:42 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board
Reference: Children's Safety

We have children from Belfort Street and from neighboring streets who walk Belfort as a route to Talbot School. With the "1582 Forest Avenue Development" and the 100 over-flow cars forced to use both sides of Belfort for parking, it's an obvious danger to any pedestrian traffic, especially our kids. There are no sidewalks here.
Imagine an unseen small child stepping out from between parked cars to cross to the school. Now imagine an ambulance trying to rescue that child on this overly parked street.
It may seem unlikely, but that tragedy could easily happen.

Portland needs to support family neighborhoods and their safety to maintain the integrity of the city.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

1582 Forest Avenue Development

1 message

Roxanne spizuoco <thespizuocos@gmail.com> Thu, Mar 6, 2025 at 11:51 AM
Reply-To: thespizuocos@gmail.com
To: planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board
Reference: What could go wrong?

Portland needs more adequate housing, we all agree on that. However, 1582 Forest Avenue project will cause more problems to the community than it's meant to solve.
Problems that need to be addressed:

- Unrealistic number of units for neighborhood
- Lack of proper acreage for resident foot traffic
- Lack of parking spaces within project
- Impact on Talbot School enrollment
- Safety of vehicle traffic on Belfort and Verrill Streets
- Safety for pedestrian with overflow parking on both sides of Belfort
- Integrity of the neighborhood because of lack of homeowner parking

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Roxanne spizuoco <thespizuocos@gmail.com> Feb 28, 2025, 2:05:32 PM (3 days ago)
to planningboard@portlandmaine.gov

Reference: Quality of Life

Every Sunday for the last thirty plus years my children and grandchildren have gathered for family dinner. My concern is that with more than 75 vehicles from the ”1582 Forest Avenue Development” added to the Belfort Street sidelines, the quality and enjoyment of Belforters’ life and culture will be limited as there will be no parking spaces left available for the homeowners or our visitors.

Memories: “Remember when we went to Nana’s house for dinner?”

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Roxanne spizuoco <thespizuocos@gmail.com> Mar 18, 2025, 11:04:41 AM (23 hours ago)
to planningboard@portlandmaine.gov

Eric Freeman
Portland Planning Board

Reference: Emergency Route

Forest Avenue is designated by the state as a major Evacuation Route from impending disaster.

With the proposed Belfort Landing and a possible 150 additional cars exiting onto Belfort Street then into the Forest Avenue intersection, it will be a boondoggle. Since the exit from the new project is just feet from the top of the street, Verrill and Belfort Street drivers will be blocked. Families will have to wait until the area's last fleeing car passes.

On an average day, it's a challenge. Imagine the panic in an urgent situation.

Roxanna Spizuoco, 37 Belfort Street, Portland, ME

Carter Frank <cfrank@portlandmaine.gov>

Belfort Landing- One resident's perpective

1 message

Samantha Chappell <chappell.samantha6@gmail.com> Mon, Feb 10, 2025 at 10:30 AM
Reply-To: chappell.samantha6@gmail.com
To: efreeman@portlandmaine.gov
Cc: planningboard@portlandmaine.gov, ksykes@portlandmaine.gov, Tim Hallowell <timothy.hallowell@gmail.com>

Hi Eric and Planning Board Team,

I am a resident in the Belfort neighborhood (specifically 43 Iffley St). I was unable to make it to the community meeting but heard plenty of details about it, and I'm sure it's clear to you that the neighborhood has very strong feelings about this project.

I'm not 100% against this development- I know the city needs more housing and I do support efforts to create more, however it seems like this particular development is adding more housing at the detriment to its surrounding neighborhood (without providing existing residents with any benefits, yet significantly altering our neighborhood for the worse).

Considering that Belfort Landing feeds directly into Belfort Street, it will have significant negative impacts on the neighborhood and as such, the number of units is far too high. Creating closer to 30 units and ensuring that adequate parking is available within your property, instead of assuming our street will bear much of the burden, would be ideal.

If you've spent much time in our neighborhood, you would know just how many people actively walk through it- with their dogs, their children, and during school drop off and pickup times. Our street has not been designed for excessive street parking, like downtown neighborhoods designed for higher density populations. There are no sidewalks, so significant numbers of cars parked on both sides would both reduce our street to the width of a one-way street (trust us, we parked our cars to determine this), while also eliminating extra room for our residents to safely walk.

From my personal perspective, I am one of the 8+ families who have welcomed babies into the neighborhood this past year. Our neighborhood is incredibly close, and we all hoped to raise our kids together here, but Belfort Landing could change that for us. I used to think this would be the perfect neighborhood for our kids to roam and bike between friends houses. Knowing that 30-50 additional cars could be added to the street (I know from experience, apartment residents often do not take the same consideration driving carefully in places they are just street parking in), that vision for the kids of our neighborhood will not become a reality. I hope you can understand given this context why so many people are upset. (I know there are other concerns too, but this one hits home for all residents, regardless of where our house is placed in the loop)

Thank you in advance for taking the time to read our messages, and I sincerely hope that you will find a way to adapt designs to coexist better with the existing neighborhood.

Sam

Carter Frank <cfrank@portlandmaine.gov>

My concerns regarding: ACRE Properties-1582 Forest Ave.-Belfort Landing project-Plan Number PL-003161-2024

1 message

sharida perrin <stripednitemare@hotmail.com> Thu, Feb 27, 2025 at 5:30 PM
Reply-To: stripednitemare@hotmail.com
To: "efreeman@portlandmaine.gov" <efreeman@portlandmaine.gov>, "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>

On Feb 5, 2025, I attended a meeting at the Talbot Community School regarding the proposal of a 50unit apartment complex consisting of 2-3story buildings being built in my little neighborhood.

The meeting was attended by many of my neighbors who voiced opposing this.

At the meeting, the developer/owner of this property, Alex Coupe, was asked if he has any other projects w/50 units, and he replied, that he has only developed up to a 10 unit.
He seemed snide and impatient towards my neighbors, coming across as if his attendance at the meeting was to simply check off a box in order to get his project approved.

Mr. Coupe was asked why he couldn't build a smaller, less dense project, and his reply was that it's his land, and he could've built an even bigger one than he plans for.

Another neighbor, asked Mr. Coupe if he has been *illegally accessing* the land from the school road, and why doesn't he access it from his other property *legally*? He smiled and shrugged.

There is only one way by vehicle in from Forest Ave., to access my street Belfort, Empire, Iffley, and Verrill.

How is this construction going to affect how I get to my home?

How are the construction vehicles going to access the proposed location...will they too, be illegally accessing via the school road?

How is this going to affect my sewer, water, etc., and not to mention the noise and disruption this will cause in such a tight neighborhood?

There will not be enough room left on our streets for people to walk, children to safely ride their bikes and play on Belfort, Empire, Iffley, or Verrill, because of the overflow parking on our streets from such a large complex of 50 units w/only 50 parking spaces?!

Does the developer think that the 2bedroom apartments won't have renters w/2 vehicles?!
Does the developer think that the renters will never have guests or visitors that need parking?!
Does the developer think that there will be plenty of room for those cars to just park on our streets, or park at the school?!

I cannot even imagine the safety issues this will cause...there's barely enough room as it is now for neighborhood visitors, people parking to pick up their kids from the neighborhood school, mail and delivery trucks, garbage trucks, and snow plows to get through safely.
Of course, it is much tighter in winter with snow piles lining the streets.

There's also an incline on Belfort located where the proposed drive-way from the project onto Belfort is...which could potentially create a sort of blind spot for people pulling out onto Belfort.

Crowded streets=dangerous pedestrian traffic situations.

It is also very concerning all the traffic issues this new influx of people and vehicles will cause coming from Forest to Belfort, and Belfort to Forest .

I am asking, at the least, that you make sure that the developer/builder Alex Coupe, does an *extensive traffic study* for this project and makes it public for my neighborhood and the public to read.

-Sharida Perrin
64 Belfort St.

Carter Frank <cfrank@portlandmaine.gov>

Fwd: Concerns - Belfort Street Apartment Complex

1 message

cfr...@portlandmaine.gov <cfrank@portlandmaine.gov> Wed, Mar 12, 2025 at 10:14 AM
To: Carter Frank <cfrank@portlandmaine.gov>

---------- Forwarded message ---------
From: Toni Giuca <Unknown>
Date: Monday, March 10, 2025 at 3:14:00 PM UTC-4
Subject: Concerns - Belfort Street Apartment Complex
To: planni...@portlandmaine.gov <Unknown>, Eric Freeman <Unknown>

Dear Members of the City Planning Board,

I hope this message finds you well. I am writing to express my strong opposition to the proposed development of the new apartment complex in our Belfort Street neighborhood. While I understand the need for housing, I have several concerns that I believe need to be addressed before moving forward with this project.

1. **Water Flow Concerns**: There are significant concerns about whether the existing infrastructure can handle the increased water flow that this development will bring. Proper assessments and improvements must be made to ensure there are no adverse effects on our water systems.
2. **Parking Issues**: The proposed number of parking spaces appears insufficient. This will likely lead to overflow parking on Belfort Street, causing inconvenience and safety issues for current residents.
3. **Traffic Congestion**: The changes in traffic patterns due to this development will exacerbate the already existing congestion in our area. A thorough traffic study should be conducted to understand the full impact and propose viable solutions.
4. **School Admission Availability**: Riverton School is already facing challenges with capacity. Adding more residents without addressing the school's capacity issues will negatively impact the quality of education and accessibility for current and future students.
5. **Loss of Green Space**: The proposed development will result in the loss of valuable green space, which is essential for the well-being of our community. Preserving these areas is crucial for maintaining the quality of life in our neighborhood.
6. **Zoning Concerns**: There are questions about whether this development aligns with the current zoning regulations. It is important to ensure that any new development complies with these regulations to maintain the character and integrity of our neighborhood.

Additionally, I would like to know if a thorough traffic study has been conducted and if the proposed parking on the premises is adequate to meet the needs of the new residents. The 1:1 unit/parking ratio will be inadequate.

I urge the City Planning Board to consider these concerns seriously and to engage with the community to find a more suitable solution that addresses these issues. Thank you for your attention to this matter.

Sincerely,

Toni Giuca
1538 Forest Ave, Portland, ME
runhappyTM@gmail.com

207-370-8664

Brandon viger <brandonpviger@gmail.com> Apr 12, 2025, 2:43:57 PM (2 days ago)
to planningboard@portlandmaine.gov

PC.2

For consideration by the planning and zoning board in relation to the “Belfort Landing”

As the plan sits now, I am deeply offended in the audacity and vehemently oppose this current project while understanding the goals and plans of ReCode Portland. I sincerely hope that my comments are absorbed and considered.

Since the Feb 4th neighborhood meeting and especially after the April 8th hybrid meeting, I have been mired in the details on how many things in this proposal are WRONG. Taking a step back from the obvious issues that most residents have expressed. The following is an abbreviated list of my personal additions to the core issues:

1. The Belfort Landing, commonly referred to as 1584 forest ave. is NOT on Forest Ave and should NOT be considered so. to call it this is a blatant falsehood.
   a. Access on forest is for ABUTTING 1584 Forest frontage/hiding behind Morans market parking lot. Honestly, I am not sure HOW the access works and should be looked into. Property in question is ONE FURTHER behind 1584. The plan proposes an exit/entrance on 29 BELFORT st. You have enough comments on traffic and saw in the hybrid meeing the lack of good faith traffic assessments.
   b. I have very little faith on technical “frontage” of at least 50’ required for RN5. Both on Belfort (~30ft) and on Forest (not even physically, or perhaps legally connected).
2. During ReCode 2025, city-wide, most old R3 moved to RN1. This is a welcomed move, even if not perfect. It should increase the number of smaller units on otherwise too small lots by changing offsets and limits. R5 properties were commonly moved to RN3. in fact, about HALF of R5 became RN3. This REDUCED the number of properties that can build absolutely giant structures. At that same time, there are VERY few reZones in the opposite (NEW RN5 additions in ReZone). If you look closely, you might wonder how exactly did this landlocked parcel get approval to rezone into this ridiculous disparity to adjacent properties. To benefit from the ReCode to be insanely massive and dense in comparison to everything in the surrounding neighborhoods, even all commercial space locally (industrial park, the old tortilla flats, anything on riverside) seems suspicious.
3. The design does NOT meet the neighborhood aesthetic or character in any way, nor community approval. Those that argue FOR this have only cited ‘read the ReCode document’ and have not considered the real world effects. Each individual case should be reviewed objectively. A few glaring PHYSICAL problems:
   a. TWO (7600 sq ft each) 3 story, 140 ft long, 50ish wide, 48’tall at the peak. set UP OVER lower belfort by steep RIP RAP wall (4-8" jagged stones) like its the side of a highway. appears to be between 8-10 feet high. Lower neighbors will be dwarfed by 55-65 foot walls. I personally will be able to see this building from commonwealth, over top of almost all the trees.
   b. Huge garbage corral right over lower neighbors. 50 units (30 doubles,20 singles). that is going to be disgusting.
   c. light pollution at night, like a prison on surrounding families.
   d. lack of personal privacy for immediate neighbors.
   e. looming sky rights and shadows/darkness in the day.
   f. will the Talbot school/community center be a de-facto overflow? is that something in the rules regarding that land? or will we have cars up and down forest like when the other local developments have to clear snow, except permanently year round? or worse, belfort st?
4. The developer has not even attempted to compromise on anything since the neighborhood meeting. We all were clearly upset and had real concerns.
   a. The Developers replies in neighborhood meeting were shocking and offensive.
      i. “I could have built 65 units, lucky its only 50” with a sneer. Even now, the latest proposal says 165? units max is possible. which in my opinion is insane for the region (or any land in portland), clearly pointing to the zoning desparity that needs to be addressed in this particular case.
      ii. “Rent will be 2200-2400, lucky it isn't a few years ago, it would be 2800” Rude, ignorant comments and an attitude that our questions don't matter.
   b. His lack of respect for our community and concerns
      i. The NEW proposal is not very different at all and not a single concern has been met.

The current notice rules of 500 ft seems incredibly rude, excluding hundreds of families potentially living in this shadow. Likewise, Current Notice timeline requirements leave little room for working people (regular citizens who don't plan insane commercial buildings on the daily and get paid for it) to review the technical drawings for the building, utilities, site plans, preparation and more. 10 days- minus USPS, for unaware neighbors to review.

Why not two big houses that have great land and single or double family aesthetics? Why not two 12 units? Why not ANY offer other than two warehouses? We are discussing a Cape community, where we aren't even allowed to build a duplex. It just does not make sense.

After further clerical, physical, and visual review/inspection of the Developer and his Associates current properties, His motives seem far from Noble. Arguably Vile. This particular property zoning needs to be investigated and reviewed.

I am saddened that our community feels completely unheard and hopeless. This development is a bad precedent to set. Especially given the clear Absolution against any compromise and seeming disdain for residents. It's difficult to hear our own district representative vouching for this while being hands-off during the neighborhood meeting. Expressing concern for us, but inevitably blindly accepting the Zoning and ReCode as Absolute. The REAL effects of this need to be considered. The Zoning makes no sense in this particular case. Perhaps this property should NOT be RN5.
If this property should stay RN5, I would propose my Commonwealth dr property be moved to RN5 as well so I can build the tallest tower in all of the land.

Respectfully,
Brandon Viger
Commonwealth Drive, Riverton Community, Portland Maine.

Carter Frank <cfrank@portlandmaine.gov>

Regarding Belfort Landing

1 message

Emily <sphinxgirl@gmail.com> Mon, May 5, 2025 at 9:45 AM
Reply-To: sphinxgirl@gmail.com
To: planningboard@portlandmaine.gov

Hello Planning board members,
I am writing to you as a resident of Belfort Street in Portland. I know a vocal number of my neighbors have spoken out regarding this proposed development. I wanted to write and say that my wife and myself are NOT opposed to it. I realize we have a housing crisis and building more housing is one of the ways to solve it. As such, I do NOT have a problem with an apartment building going in on my street. I would, however, like to see more than one entrance road to the building. Only the access road from Belfort street does seem problematic. Also, can you guarantee a significant number of the apartments will be affordable?

Thank you so much for your time,
Emily D'Urso
155 Belfort St
Portland

Compromising Safety: The Flaws in the Belfort Landing Development Plan

Subscribe

0 views

John Chaisson <jrchaiss@gmail.com> Apr 8, 2025, 2:18:04 PM (18 hours ago)
to planningboard@portlandmaine.gov

Esteemed members of the City Planning Board, my name is John Chaisson and I am a resident of 32 Iffley St, the very end of Belfort. I email you today to express serious concerns regarding the proposed development of two 25-unit buildings in our residential neighborhood, specifically highlighting the significant safety implications posed by the proposed 16-foot wide driveway.

Our neighborhood, as you know, is characterized by single-family homes and a more traditional infrastructure. The current street widths and driveway sizes are designed for lower density living. Introducing 50 additional residential units, potentially housing dozens more vehicles, all relying on a single 16-foot wide driveway, presents a clear and unacceptable safety risk.

Firstly, consider emergency vehicle access. A 16-foot driveway is simply insufficient to allow for the unimpeded passage of fire trucks, ambulances, and police vehicles, especially if cars are parked along either side, as is common in residential settings. In the event of an emergency, precious time could be lost navigating this bottleneck, potentially with devastating consequences for our residents.

Secondly, pedestrian safety is a major concern. With increased traffic flow in and out of 50 units through a narrow driveway, the risk of accidents involving pedestrians, particularly children playing or residents walking, will drastically increase. The limited width offers little margin for error and reduces visibility for both drivers and pedestrians.

Thirdly, the sheer volume of traffic generated by 50 units funneling through a single, narrow access point will create significant congestion on our already established residential streets. This increased traffic will not only disrupt the peaceful nature of our neighborhood but also increase the likelihood of vehicle accidents at the driveway entrance and along adjacent roads. The limited width will make turning movements difficult and potentially hazardous.

Finally, consider the practicalities of daily life. Residents attempting to enter or exit the development simultaneously will face significant challenges and potential conflicts. Deliveries, waste management trucks, and service vehicles will also struggle to maneuver safely within such a constrained space.

Approving this development with such an inadequate driveway poses a direct threat to the safety and well-being of our existing residents and future occupants. It is a fundamental principle of responsible city planning to prioritize safety and ensure adequate infrastructure to support proposed developments. This 16-foot-wide driveway simply does not meet that standard for a 50-unit complex.

I must also draw your attention to another critical safety concern: the severely limited parking provision within this proposed development.

The plan allocates only 50 parking spaces for 50 residential units. Given that these are 25 two-bedroom units, and assuming a reasonable likelihood of at least one vehicle per bedroom – a

common reality in our community – we are looking at a potential shortfall of at least 50 parking spaces. Where will this overflow of vehicles go?

The answer, unfortunately, is our existing residential streets, particularly Belfort Street. As many of you know, parking on Belfort Street is already a significant issue. During normal conditions, it can be challenging for residents and visitors to find parking. However, during winter storms, the situation becomes genuinely dangerous.

Our plow trucks, essential for maintaining safe passage during Maine's harsh winters, already struggle to navigate Belfort Street due to parked vehicles. Introducing dozens of additional cars spilling onto our streets due to inadequate on-site parking will exacerbate this problem exponentially. This will not only impede snow removal, creating hazardous driving conditions and potentially blocking emergency access, but also further narrow the already tight roadways, increasing the risk of accidents.

The combination of a dangerously narrow driveway and insufficient on-site parking creates a perfect storm for safety hazards. Imagine emergency vehicles attempting to navigate a congested Belfort Street, potentially blocked by improperly parked overflow vehicles, only to then be further constricted by a 16-foot driveway. The potential for tragic delays is undeniable.

Furthermore, the increased congestion and haphazard parking will negatively impact pedestrian safety, forcing residents to navigate around parked cars in potentially icy conditions.

Approving a development with such a blatant disregard for realistic parking needs is irresponsible and will directly compromise the safety and accessibility of our neighborhood, particularly during critical winter months. We urge the board to consider the severe safety implications of this inadequate parking plan, in addition to the driveway concerns, and reject this proposal until a design that prioritizes the safety and well-being of our community is presented.

Best regards,

John

Mako Bates <makobates@pm.me> Apr 8, 2025, 2:13:57 PM (18 hours ago)

to planningboard@portlandmaine.gov, Eric Freeman

Hello to the members of the Portland Planning Board and Eric Freeman, City Planner;

I'm writing to urge you to facilitate, rather than hinder, the construction of fifty (or however many) residential units at 1584 Forest Ave. The primary reasons to do so are that it's a legally copacetic use of the land, and that my friends and relations desperately need places to live. Other reasons to support the project (that it will encourage use and therefore frequency of the #2 bus line, that the proposed physical buildings look decent, that I want people to be able to live close to me, etc) are of relatively little weight.

I'm sorry I can't attend tonight's meeting----
---- Mako Bates
96 Irving St,
Portland ME.

Belfort Landing

1 message

Meghann McCluskey <meghann.mccluskey@gmail.com> Thu, Apr 24, 2025 at 8:08 PM
Reply-To: meghann.mccluskey@gmail.com
To: planningboard@portlandmaine.gov

Hello,

I am a Riverton resident writing to express concerns about the Belfort Landing project. This proposed project site is extremely close to Talbot School and centered in the midst of a busy residential neighborhood. Housing is important, particularly affordable housing, but this project is not well planned and will add a significant amount of traffic to a highly congested area. Children at Talbot (including my kids, who both attend) will be subjected to increased noise levels from eighteen months of construction. It will be much more difficult to get in and out of Talbot, and Belfort Street will surely be lined with an abundance of overflow cars from the large proposed building. Please encourage this developer to build in a vicinity that will be less disruptive.

Sincerely,

Meghann McCluskey

Thomas Law <tomlawpme@gmail.com> Apr 8, 2025, 3:11:24 PM (17 hours ago)

to Eric Freeman, planningboard@portlandmaine.gov

Hello,

I had time to review the submitted traffic study today and wanted to highlight that there seem to be a lot of very basic factual errors with the study - incorrect dates for the project and timelines that do not align with the project as submitted, it misstates location of sidewalks on the street and even the property shown in fig 3 is incorrect.

I am an engineer by trade, and I know if I was handed a study with this many factual issues in the introduction, I would seriously question the validity of the findings.

A second issue I have is that during the neighborhood meeting in February, the property owner, Alex Coupe, asserted they were breaking the law regarding their current use of the Talbot drive to access the property, and stated that they knew it was illegal but did not seem to care, referring to it as "piracy". This sets a very bad precedent for them following any future requirements or regulations and indicates to me that additional oversight is merited.

Overall, I am in support of development of this lot and hope it comes together for the benefit of the community.

As discovery and planning for this project has proceeded, it seems like there are a lot of neighborhood improvements and needs that the developer is pushing to the city - utilities, signage, transportation and pedestrian improvements, and other updates.

I ask that the city manager and planning board postpone approval of this project take the time to put together a more comprehensive plan for the area that includes and considers this project as one component before allowing the development to proceed.

I also ask that a formal regular review process be established for the project as it proceeds due to the aforementioned factual reporting issues, the relative inexperience of the developer, and the public claim of piracy/disregard for law at this early stage.

Regards,
Tom Law

Carter Frank <cfrank@portlandmaine.gov>

Reference: Propsed Belfort Street Landing 50 Unit Apt. Buildings on Belfort Street.

1 message

Melissa Blanchard <joelmissy1968@gmail.com> Thu, Jun 5, 2025 at 11:44 AM
Reply-To: joelmissy1968@gmail.com
To: planningboard@portlandmaine.gov, efreeman@portlandmaine.gov, Melissa Blanchard <joelmissy1968@gmail.com>

June 9, 2025

Dear Planning Board Members:

My name is Melissa Blanchard and I live at 144 Belfort Street in Portland, Maine.
I am writing to express my deep concerns regarding the proposed construction of two three-story apartment buildings on Belfort Street in Portland, Maine. As a long-time resident and someone who works in the local school system for 32 years, I am worried about the significant impact this development could have on our neighborhood.

My primary concerns are as follows:

Traffic and Safety: The street currently lacks sidewalks, and many families, including myself, walk children, and pets, up and down the street each day. The proposed development includes only one parking space per each unit and just one entrance and exit on Belfort Street, which is also at the base of a steep hill. This creates a dangerous situation with limited visibility for both drivers and pedestrians, especially children. Increased traffic from 50 new units will heighten the risk of accidents. Please observe the amount of children walking up and down Belfort Street before school in the morning and after school.

Parking Overflow: With only one parking space allocated for each unit, it is likely that many renters will have more than one vehicle. This will inevitably lead to overflow parking on Belfort Street, causing congestion and making it even more hazardous for pedestrians.

Noise and Community Impact: The addition of 50 apartment units, including 13 designated as low-income housing, could significantly increase noise levels and potentially bring other challenges to our quiet, close-knit neighborhood. The increase in the number of occupants and vehicles will disrupt the peace and tranquility we have long valued. It also disregards the current tax paying citizens living in the existing residential houses on Belfort and Verrill Street.

Neighborhood Character: Our street has always been a residential, single-family neighborhood. The recent rezoning to allow apartment buildings does not, in my view, make this type of dense development appropriate for our area. The unique character and safety of our neighborhood should be preserved. This concern is not about NIMBYism, but about preserving the integrity and safety of our neighborhood as it was when we purchased our homes—strictly residential, before the recent rezoning that now allows 2-3 story apartment buildings on our street.

We respectfully urge you to reconsider allowing this project to proceed on Belfort Street, as it does not fit the size or character of our neighborhood. A more suitable alternative would be single-family homes that blend with the existing community and provide adequate parking for residents.

Just because a property has been rezoned to permit large apartment complexes does not necessarily mean it is the right choice for our residential neighborhood.

Please take these concerns into account when making your decision.

In closing, I urge the Planning Board to carefully consider the impact this project will have on the safety, character, and quality of life on our street. Please prioritize the well-being of current residents and the integrity of our neighborhood as you review this proposal.

Thank you for your attention to these concerns,

Sincerely,
Melissa J. Blanchard
144 Belfort Street
Portland, Maine 04103

Carter Frank <cfrank@portlandmaine.gov>

My concerns regarding: ACRE Properties-Belfort Landing project

1 message

sharida perrin <stripednitemare@hotmail.com> Fri, Jun 6, 2025 at 6:59 PM
Reply-To: stripednitemare@hotmail.com
To: "efreeman@portlandmaine.gov" <efreeman@portlandmaine.gov>, "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>

I live on Belfort Street and I'm writing in regards to the proposed Belfort Landing project.
Myself and many others in my neighborhood are for **responsible development**. I ask that you take into consideration the long term impacts this will have on this neighborhood and the future development of Portland.

There is only one way in and one way out by vehicle in from Forest Ave., to access Belfort, Empire, Iffley, and Verrill.
The plans submitted, show one way in and one way out, from the project's buildings via a less than adequately sized drive-way at the bottom of a hill, (creating a blind spot) onto Belfort.

How will emergency vehicles access the proposed project, and how will the congestion of overflow parking onto the neighborhood streets affect access by emergency vehicles to our homes?

We barely have enough room as it is for plows in the winter.

Putting up "no parking" signs near the end of Belfort is not going to stop overflow parking.

Pedestrian safety will become an issue, and not just at the end of Belfort. There isn't a sidewalk along all of Belfort, and there will be too many cars parked all along Belfort where children used to ride their bikes, and walk to school safely.

How is this 18 month construction going to affect coming and going to our homes on Belfort, Iffley, Verrill, and Empire with one way in and one way out?

How are the construction vehicles going to access the proposed location...will they too, like the developer, be illegally accessing the property via the Talbot School road?

If parking is of no importance, why not get rid of the under building parking spots to bring down the height of these buildings that will be towering the equivalent of 6 stories over our neighborhood?
Little fences and strategic shrubbery will not block out the lights pouring into our neighbors' back yards at night.

Why not build 2- 10 or 12 unit buildings with adequate onsite parking and more greenspace for it's residents?

In the picture of Belfort Landing, provided by Callender+Delaney Architects, there are no longer any older tall trees along Talbot School road?

Once this is built, it cannot be changed. It will affect generations to come, so why not take a little more time to consider the implications and make the right changes now, for all of us, and **for the future of responsible development in Portland?**

-Sharida Perrin
64 Belfort St.

Carter Frank <cfrank@portlandmaine.gov>

Belfort Landing

2 messages

Laura Kutch <laurakutch74@gmail.com> Sun, Jun 8, 2025 at 9:32 AM
Reply-To: laurakutch74@gmail.com
To: efreeman@portlandmaine.gov, ksykes@portlandmaine.gov, planningboard@portlandmaine.gov
Cc: Bob <kutch.robert@gmail.com>

I am writing to express my concerns for this project. At our neighborhood meeting on Saturday Alex said the retaining wall will be at the Forest Avenue side and not Empire side. Our understanding, based on the plans that is incorrect.

1: Can you please confirm where the retaining wall will be?

Due to the amount of fill that is needed, 3000 truck loads (approximate, based on existing plans), PVC pipe groundwater and snow removal drainage right into our backyard/home gives us concerned about contamination/flooding to our home on Empire Way: soil in Maine naturally contains higher levels of arsenic than the EPA allows. Arsenic enters the environment from natural industrial activities, pesticides, industrial waste, smelting of copper lead and zinc ore. It causes acute and chronic toxicity, liver and kidney damage, decreases blood hemoglobin and is a carcinogen. (https://www.usgs.gov/special-topics/water-science-school/science/contamination-groundwater#overview

It feels as though the city could be damaging existing homes and our health, in our cute little neighborhood, in order to provide new housing that will tower above our homes. A smaller 25 unit housing is a way to build more affordable housing without damaging existing homes, structure, health and compromising ethics. There is a high need for housing, but damaging existing homes is not ethical.

Just a few Ethical Considerations:

- Duty of Care: Developers, builders, and contractors have an ethical obligation to ensure that their construction practices do not harm neighboring properties. This means taking precautions and implementing risk mitigation measures to protect adjacent structures during demolition, excavation, and construction.

- Neighborhood responsibility: Building in a way that respects the rights of adjoining landowners and minimizes interference with their enjoyment of their property is essential. This involves using property reasonably and not unduly interfering with the rights of owners of contiguous land.

2: Where does the possible contamination/health and flooding fall within the ethics of property developers, planning board and Kate Sykes?

3: Who is responsible for future damage to our homes and health?

4: Will the existing soil and new land fill be consistently tested for contamination?

5: Can they move the groundwater drainage somewhere else and not into others backyards?

We (existing residents) respectfully urge you to consider the lives of our families and the future we're striving to build. Please support the construction of a 25 unit building that would provide stable housing, and dignity everyone person deserves, even existing homes. This is not just about housing, it's about giving our neighborhood and the people of Maine a real chance at a better tomorrow.

Thank you for your time, support and leadership!
Laura Kutch

Laura Kutch <laurakutch74@gmail.com> Sun, Jun 8, 2025 at 9:33 AM
To: planning@portlandmaine.gov

Laura Kutch

Begin forwarded message:

> **From:** Laura Kutch <laurakutch74@gmail.com>
> **Date:** June 8, 2025 at 9:32:14 AM EDT
> **To:** efreeman@portlandmaine.gov, ksykes@portlandmaine.gov, planningboard@portlandmaine.gov
> **Cc:** Bob <kutch.robert@gmail.com>
> **Subject: Belfort Landing**
>
> [Quoted text hidden]

Carter Frank <cfrank@portlandmaine.gov>

Belfort Landing (Forest Ave 1584)

1 message

Jeff Heller <jeffheller78@hotmail.com> Mon, Jun 9, 2025 at 11:33 AM
Reply-To: jeffheller78@hotmail.com
To: "efreeman@portlandmaine.gov" <efreeman@portlandmaine.gov>, "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>
Cc: "ksykes@portlandmaine.gov" <ksykes@portlandmaine.gov>

Hi All,

Please let's not ignore the legitimate safety & privacy issues with this project in its current form in order to just push through a plan for much needed housing.

I don't appreciate the developer reducing our concerns over inappropriate scale & safety issues created by poor planning to mere "NIMBYism" as he called it in a TV interview.

From the inconsistent & incorrect details & data, to the major problems that will be created by massive grading & a single entry bottleneck, on Belfort Street of all places, the current plan must not be approved as is.

No one in this neighborhood seeks to stop the project. We ALL just want some sanity & reality to be injected into it so the rush to get more housing, regardless of the consequences, doesn't destroy an existing neighborhood.

Please let's take the time to get this right.

Thank You,
Jeff Heller 64 Belfort St

Carter Frank <cfrank@portlandmaine.gov>

Project PL-003161-2024

1 message

Rachelle Lambert <friendsofbelfort@gmail.com>
Reply-To: friendsofbelfort@gmail.com
To: efreeman@portlandmaine.gov, planningboard@portlandmaine.gov

Mon, Jun 9, 2025 at 11:14 AM

Dear Eric and Planning Board,

I am writing to you in light of a recent interview that was on the news recently regarding Alex Coupe and the Belfort Landing Development proposal.
We already had a poor first impression during our initial meeting in February, where he referred to himself as a pirate and was extremely dismissive of every concern we brought up. Alex using the term “NIMBY” is not only gaslighting but an attempt at diminishing our concerns to make us seem unreasonable. That was uncalled for and a sign that he genuinely isn’t open to what we’re asking for- collaboration and compromise.

We noticed there is a 325 unit at Thompson’s Point (82 affordable housing units), 320 units on Washington Ave (with 80 workforce units), 90 units and 50 units (½ afforadable housing) on Allen Ave with 18 ADU’s. So maybe seeing these larger projects, a 50 unit in our neighborhood is “nothing” in comparison, but it’s excessive to us. There are 50 houses on Belfort St and about 110 cars, and that’s just what we own, let alone when someone has an event, holiday, party etc. All of Belfort St is now going to be on an approximately 1 acre lot with a narrow entrance and will turn our neighborhood into a parking lot.

It’s also of note, in the Gorrill Palmer report, it does say that the impermeable surface is at moderate risk for erosion. That is concerning, especially with climate change, worsening storms could damage current residents’s properties.

Currently Belfort Street is the best and safest way for children and families who walk to school to get there. Adding high density parking with cars parked along our street with no side walks is going severely diminished that safety. So many children and families rely on Belfort St for school access.

With all the cars parked on the sides of our street, how are plows going to properly plow our street? Will there be a parking bans for major snow storms? Where will all those car go?

So, while multi-family zoning can address certain housing challenges, it’s essential to consider the broader, often unintended, repercussions on established single-home communities. Urban growth and development are inevitable and necessary, but they need to be executed with a keen sense of foresight and empathy toward existing residents. Zoning commissions and planning board committees bear the responsibility of ensuring that growth doesn’t come at the cost of community well-being. They should be cautious about integrating high-density developments into low-density areas and prioritize the interests and voices of those who already call these neighborhoods home.

Thank you for your time and attention,

Rachelle Lambert

Carter Frank <cfrank@portlandmaine.gov>

Belfort Landing – Request for Updated Proof of Financial Backing

1 message

Erica Berry <eberrypr@gmail.com> Mon, Jun 9, 2025 at 2:26 PM
Reply-To: eberrypr@gmail.com
To: planningboard@portlandmaine.gov, Eric Freeman <efreeman@portlandmaine.gov>
Cc: Rachelle Lambert <friendsofbelfort@gmail.com>

Dear Members of the Planning Board,

I am writing to raise a concern regarding the financial viability of the proposed Belfort Landing development.

At a prior stage in this process, Alex Coupe submitted a letter from Androscoggin Bank to demonstrate his ability to finance the project—based on an estimated project cost of at the time of submission. However, that letter was issued before the recent spike in construction costs, driven by ongoing labor shortages, rising material prices, and new increased tariffs.

Given the current economic climate and the likelihood that the overall project cost has increased substantially, the City should require updated and verified proof of financing. This is a standard and reasonable request for a project of this scale. As I understand it, it's also necessary as part of the application and approval process.

If the developer cannot meet the revised financial burden, the project could stall mid-construction—leaving neighbors and the city with the consequences. The Planning Board has a responsibility to ensure that this development is both feasible and sustainable before granting further approvals.

Best,
Erica Berry
57 Belfort Street

Carter Frank <cfrank@portlandmaine.gov>

Protect Belfort Neighborhood, NO to Belfort Landing

1 message

Erica Berry <eberrypr@gmail.com> Mon, Jun 9, 2025 at 12:18 PM
Reply-To: eberrypr@gmail.com
To: planningboard@portlandmaine.gov, Eric Freeman <efreeman@portlandmaine.gov>, Rachelle Lambert <friendsofbelfort@gmail.com>

Dear Members of the Planning Board,

I'm writing as a concerned resident of the Riverton neighborhood regarding the proposed Belfort Landing development. I urge you **not to rush this process**—what's being considered is a permanent change to our community, and it deserves the thorough review and planning it requires.

From the beginning, Kevin Kraft and others involved in ReCode emphasized that the process would lead to *incremental changes* in line with the character of existing neighborhoods. The proposed Belfort Landing development is **nowhere near incremental**. It's completely out of scale and out of character with the surrounding single-family homes. As I and many neighbors have said repeatedly, **the scale is the root cause of most of the problems**. Simply scaling back the number of units would resolve much of what's outlined below.

The recent plan revisions—adding a crosswalk, ADA curbing at the top of Belfort, and a 320' No Parking zone—are not significant. These tweaks are **not proportional** to the impact of this development. Offsite mitigation needs to reflect the true scope of the project's impact. The project's impact is not confined to property lines, it extends far into our neighborhoods, and needs to be treated as such.

My most urgent concerns:

• Runoff and Drainage
The current stormwater plan **directs runoff into my backyard**. This is unacceptable. No resident should be placed at environmental risk for the sake of new development. The potential consequences—flooding, water damage, property devaluation—are serious and completely avoidable. What happens when my yard or basement floods? Who is responsible? This is **negligent and reckless**. Diverting water onto my property is **unlawful**.

• Traffic Safety
Belfort Street loop (including Iffley, Verrill and Empire) has only one way in and one way out. Adding 50 units will drastically increase vehicle traffic on a narrow street not designed for it. This poses a **clear and serious safety risk**.

• Forest Avenue Access
Alex Coupe has acknowledged that he could create an entrance on Forest Avenue, where he owns property and has the ability to make modifications. As stated in the Planning Board Workshop Memo (June 10, 2025), "it was determined that the language within the easement does not exclude use of the area by the applicant." Yet he chooses not to—because of *traffic congestion*. That is the **same concern** we have about Belfort Street. The difference is that Forest Ave is **built to handle traffic**. Belfort is not. At minimum, consider requiring **one-way in via Belfort and one-way out via Forest** to reduce risk. The proposed entrance on Belfort is at the bottom of a knoll with **limited visibility**—it's a dangerous location that increases the likelihood of collisions. An even better solution is to make the vehicular entrance/exit directly onto Forest through Alex Coupe's property.

• Congestion and Lack of Planning
This area is already congested during school hours and commuting times. The current plan offers **no meaningful solution** for mitigating the added volume. It's shortsighted and sets us up for **irreversible harm** to the day-to-day livability of the neighborhood.

• Pedestrian Safety
Many families, children, and pets walk this neighborhood daily. Increased traffic without comprehensive pedestrian planning is a recipe for disaster. People will get hurt—and it will be due to lack of adequate planning.
The No Parking zone at the top of Belfort does nothing to address the overflow that will inevitably happen **within the Belfort loop**. That overflow will push vehicles onto surrounding streets, narrowing roadways, obstructing access for plows, trash/recycling, and emergency vehicles, and **putting pedestrians directly in harm's way**. Belfort and Empire are **critical access points** for children walking to school—this plan makes those routes unsafe.

A Scalable Solution

Many of these issues—traffic, parking, safety—could be **significantly mitigated** by **reducing the scale of the project**. Cutting the number of units in half would:

- Allow for **2 cars per unit** to be parked on-site
- Greatly reduce traffic congestion and parking overflow
- Create a development more in line with the character and infrastructure capacity of our neighborhood

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Final Thoughts

The Planning Board memo **completely excludes** Empire Way residents. This is telling of the lack of knowledge of the area—and is troubling to think those who don't know this neighborhood have the authority to make decisions for it.

This is our neighborhood. We're not opposed to all development, but we do expect the City to **protect the safety and integrity** of our community. That means **getting this right**—not rubber-stamping a flawed plan to stay on schedule or to meet a quota.

That also means the Planning Board, Planning Department, and City Council must look beyond renderings and traffic studies. It means **getting out onto the streets and into our neighborhoods** to understand the actual impact of what's being proposed.

Please remember: This is a permanent change to our community. There is **no undo button** if mistakes are made. If more time is needed, take it. **Schedule another workshop.** Demand better. Don’t pass a plan that puts residents at risk.

If someone gets hurt because of this, the responsibility will lie with those who approved it.

Please think of our families. Our children. Our neighborhood.

Thank you for your time and consideration,

Erica Berry

57 Belfort Street

Protect our Neighborhood. NO to Belfort Landing: belfortlanding.com

Carter Frank <cfrank@portlandmaine.gov>

Belfort Landing – Relocate Trash & Snow Storage

1 message

Erica Berry <eberrypr@gmail.com> Mon, Jun 9, 2025 at 2:33 PM
Reply-To: eberrypr@gmail.com
To: planningboard@portlandmaine.gov, Eric Freeman <efreeman@portlandmaine.gov>
Cc: Rachelle Lambert <friendsofbelfort@gmail.com>

Dear Members of the Planning Board,

I'm writing to express strong opposition to the placement of trash and snow storage on the Empire Way side of the Belfort Landing property per the site plan.

With 50 units (30 doubles, 20 singles), the volume of waste will be substantial—and it's completely unacceptable for neighboring homes to have to live with that in their backyards. It's unsanitary, disruptive, and frankly, disgusting.

Additionally, snow storage in this area will worsen runoff issues I've previously flagged, putting nearby properties at risk of flooding and damage.

Both trash and snow storage should be relocated to the Forest Avenue side of the property—away from the residences that already exist here.

Thank you,

Erica Berry

57 Belfort

PC. 3

Proposed housing project on Belford

1 message

Sandra Wood <woodsandra@msn.com> Thu, Jun 12, 2025 at 2:28 PM
Reply-To: woodsandra@msn.com
To: "planningboard@portlandmaine.gov" <planningboard@portlandmaine.gov>

Hello,

I live on E. Commonwealth Dr which is very close to the proposed housing project on Belfort. There is no room in this area for building a larger scale housing development. The letter (link below) published in the Press Herald perfectly echoes my sentiments. Please do not allow this project to move forward.

https://www.facebook.com/share/p/1Dm1CgUYG9/?

Best,
Sandra Wood
Sent from my iPhone

Roxanne spizuoco <thespizuocos@gmail.com> Jun 20, 2025, 11:58:03 AM (3 days ago)

to planningboard@portlandmaine.gov, council@portlanaine.gov

Planning Board Members:
City Council Member:
My neighbor's house and perhaps mine, is built directly into ledge. The kind of ledge that cracks if disturbed. The kind of ledge that doesn't forgive heavy equipment or blasting. The kind of ledge that makes foundations shift, and could result in loss of life.

If this development proceeds without fully understanding the geological risks — especially that unstable stone — it could jeopardize many existing homes and lives.

This is a realistic concern. I will keep a record of this warning in the event that a tragedy does occur. The City, as well as the developers will be held responsible both morally and financially.

Roxanna Spizuoco
37 Belfort Street
Portland, Maine

Roxanne spizuoco <thespizuocos@gmail.com> Jun 20, 2025, 1:19:13 PM (3 days ago)

to council@portlandmaine.gov, planningboard@portlandmaine.gov

Many of the houses on upper Belfort Street have converted to natural gas. In my recent letter concerning my neighbor's house and perhaps mine, being built directly into ledge, I should have added that information because the ledge described can crack and cause an explosive reaction if disturbed by equipment or blasting.
I repeat. If this development proceeds without fully understanding the geological risks — especially that unstable stone — it could jeopardize the existing gas lines and could cause an explosion.

This is a realistic concern. I will keep a record of this warning in the event that a tragedy does occur. The City, as well as the developers will be held responsible both morally and financially.

Roxanna Spizuoco
37 Belfort Street
Portland, Maine

Melissa Blanchard <joelmissy1968@gmail.com> 8:18 AM (1 hour ago)
to Eric Freeman, planningboard@portlandmaine.gov, Melissa Blanchard

Dear Eric Freeman and Planning Board Members,

My name is Melissa Blanchard, and I reside at 144 Belfort Street. I am writing to you again to urgently express my deep concerns about the proposed development in our neighborhood.

In my previous correspondence, I outlined several major issues with this project. However, I neglected to mention a critical concern: the proposed driveway entrance and exit at the base of a steep hill at the top of Belfort Street. This location poses a significant safety risk for both drivers and pedestrians. I urge you to consider alternative access points, such as through the Talbot School or the Moran's parking lot, which would be far safer for our community.

Additionally, I am extremely worried about the potential for stormwater runoff and the impact of grading on our properties. These environmental risks could have lasting negative effects on our homes and quality of life.

I firmly believe that this project is not in the best interest of the existing tax-paying residents. It stands to benefit only the developer and the city, at the expense of our established, hardworking community. The long-term ramifications—dramatic increases in population, noise, traffic, and crime, along with a decrease in property values—are simply too great to ignore. Our neighborhood deserves protection from these threats, not to be sacrificed for profit.

The very thought of this massive complex being built here fills me with anxiety and dread. It would jeopardize the safety of our children, adults, and pets who walk Belfort Street daily. Even though the area has been rezoned, this is simply not an appropriate location for such a large-scale development.

I implore each member of the Planning Board to visit the proposed site and walk our neighborhood during peak hours, when many residents are out on the street. Please see firsthand the vibrant, close-knit community that is at risk. Allowing this project to proceed would irreparably damage our way of life and force many of us to leave—yet, in this housing market, we have nowhere else to go. The anxiety and hardship this project would impose on us cannot be overstated. I personally have 5 years before I retire, and I wish to come home to a peaceful place as it stands currently on Belfort Street.

Please, do not allow this development to move forward on Belfort Street. Our community's future depends on your careful and compassionate consideration.

Sincerely,
Melissa Blanchard

144 Belfort Street
Portland, Maine
Educator for 32 years

Dear Eric Freeman and Planning Board members:

My name is Melissa Blanchard and I live at 144 Belfort Street. I have some major concerns and questions that I would like Eric Freeman to get back to

about. I urge you to not pass this project for reasons I will state below, and alternatively allow single family homes only to be built.

While I understand the pressing need for additional housing in the City of Portland, the planning board's decision to rezone a residential street to permit

a large 50-unit apartment complex—especially on a street with no sidewalks—creates significant safety hazards for existing residents. In this

case, the risks to neighborhood safety and quality of life far outweigh the potential benefits of increased housing supply.I

do not feel the developer Alex Coupe demonstrates adequacy in building a 2- unit 3- story ,50 unit apartment complex on Belfort Street in several key areas.

These requirements are designed to ensure the project complies with city codes, fits the neighborhood, and addresses broader community needs.

This project Alex Coup intends to build on Belfort Street, may meet current city codes; however it does not fit this particular neighborhood. This is why

the neighborhood, that I have lived in since 1968, and my parents, since 1947, was always residentially zoned.

I have watched formally Wirt Street now Empire Way, Verrill Street, and Iffley Street being developed, and they were in line with the single family

houses on Belfort Street.

Projects of this scale (two three-story buildings) require comprehensive review of site layout, building design, access, landscaping, utilities, and

environmental impacts which I do not believe has been thoroughly researched by the planning board or Alex Coupe.

Neighborhood Compatibility

The Planning Board must assess whether the proposed buildings are compatible with the surrounding neighborhood. This involves evaluating

building height, massing, setbacks, and architectural design to ensure the new development "respects established building patterns and visual

characteristics," even if it is distinct in style. I strongly feel this project is NOT compatible with the surrounding neighborhood.

The developer must prove adequate provision for utilities (water, sewer, electricity), emergency access, and compliance with building and life

safety codes which I do not believe he has done.

Parking and Transportation

The site plan must still address safe access for vehicles, pedestrians, and emergency services. This building project does not take into

consider the danger it may cause to pedestrians; many who are school children, overload of vehicles and emergency services being halted if

traffic from this development is parked on both sides of Belfort Street.

Environmental and Stormwater Management

The developer must demonstrate compliance with environmental regulations, including stormwater management, erosion control, and

preservation of any protected natural features as required by city and state law. If his systems fail, many hard working citizens who own homes

surrounding this development will suffer immensely financial hardships and displacements from their homes. The current tax paying homeowners

should not be jeopardized.

Additional Considerations

The Planning Board should require documentation of how the project avoids negative impacts on neighboring properties, such as excessive

shadowing, loss of privacy, or traffic congestion. And if the developer cannot adequately provide evidence to the current neighbors that their

concerns such as traffic congestion, and devaluation of our homes, and safety concerns, have been met by him before building this project,

it should not be allowed on Belfort Street.

Traffic and Safety Hazards

The proposed development would funnel all traffic through Belfort Street, the sole entrance and exit, creating significant congestion and safety

hazards, especially for children and families living nearby and those attending the adjacent elementary school

Increased traffic on a small residential street, particularly at the base of a steep hill, poses winter safety risks due to slippery conditions, making

accidents more likely

The street infrastructure is not designed to handle the volume of vehicles associated with a 50-unit apartment complex, leading to further safety

concerns for pedestrians and drivers

Parking Limitations

With only one parking space allocated per unit, there will likely be spillover parking onto the street, exacerbating congestion and reducing available

parking for current residents.

The lack of adequate visitor parking is likely to result in illegal or unsafe parking practices, further impacting neighborhood safety and accessibility

Impact on Neighborhood Character and Quality of Life

The construction of two three-story apartment buildings would fundamentally alter the character of a close-knit, single-family residential

neighborhood, affecting the sense of community and potentially lowering property values.

Noise disturbances and disruptions during both construction and ongoing occupancy—especially for the eight homes directly abutting the new

complex—will negatively impact residents' quality of life.

School Overcrowding and Safety

Proximity to Talbot Elementary raises concerns about increased pedestrian and vehicular traffic during school hours, which could endanger

children walking to and from school.

Winter Safety and Site Topography

The entrance at the base of a steep hill poses unique risks in winter, with an increased likelihood of accidents due to icy or slippery conditions,

which could endanger both new and existing residents.

Population Density and Strain on Infrastructure

A sudden increase in population density will put additional pressure on local infrastructure, including roads, utilities, and emergency services,

potentially reducing the quality of services for current residents.

Crime and Security Concerns

Residents have reported increased crime in the area, including car break-ins which could be exacerbated by a large, dense apartment complex near a school and residential homes.

Concerns about security in multi-family buildings are common, as gated entrances and security measures are often insufficient to prevent unauthorized access and package theft.

Displacement and Community Impact

The project threatens to displace the current 80 residents, disrupting a stable, close-knit community that values single-family homes and neighborhood cohesion.

Request for Alternatives

The planning board in good faith should advocate for the development of single-family homes instead, which would better align with the existing

neighborhood character and minimize the negative impacts outlined above.

Specific Questions and Requests

Occupancy Limits

Local regulations typically determine how many people can live in each one- or two-bedroom unit, often based on square footage and safety

codes. For example, a one-bedroom may be limited to two occupants, and a two-bedroom to four, but this varies by jurisdiction.

To Eric Freeman: What is the square footage of the one bedroom and 2 bedroom apartments and how many residents per unit would be allowed in

the 13 unit low income housing? How many residents in the non-low income apts are allowed? Lastly, what is the rental cost per each 1 and 2

bedroom unit, and how many people could potentially be allowed to live in this 50 unit housing complex?

Traffic Control Measures

The addition of a traffic light at the top of Belfort Street should be considered to address increased vehicle flow and improve pedestrian safety.

In conclusion:

I feel strongly that although the City of Portland rezoned this parcel of land recently from residential, to allow this massive structure on Belfort

Street, it does not meet ethical and safety standards to the current residents on Belfort Street.

A large 50-unit apartment complex—especially on a street with no sidewalks—creates significant safety hazards for existing residents. In this

case, the risks to neighborhood safety and quality of life far outweigh the potential benefits of increased housing supply.

I urge you to please not allow this project to be built in the small parcel of land off Belfort Street for the safety, stress levels, and quality of life the current residents. The threat of this project being built has brought great anxiety, and unrest to me, as a hard working Special Education Educator for 33 years. I am close to retirement and do not want an increase in population on Belfort Street for the reasons stated above.

Thank you for thinking this over thoroughly and doing the right thing that is ethically in the best interests of the current residents living here; not just the best interests of the developer or the city.

Sincerely,

Melissa J Blanchard

144 Belfort Street

Portland Maine

04013

My Family has been been residents since 1947....on Verrill and Bellfort Street

9:49 AM (2 hours ago)

Liz Berg <lbfmgt@yahoo.com>
to Eric Freeman, planningboard@portlandmaine.gov, planning@portlandmaine.gov, mdion@portlandmaine.gov, Kate Sykes

Dear Eric,

1. WHY NOT MAKE THE DRIVEWAY DIRECTLY ON FOREST AVENUE?

We are all completely baffled as to why the developer who owns 50 ft. of road frontage on Forest Ave. would rather place the vehicle access to this site on Belfort St. If the reason is too much "congestion" - his own words - then how does moving that congestion to Belfort St. make any sense? **It does not.** He probably doesn't want the expenditure of re-configuring that 50 ft. road frontage to create vehicle access there, and this is just not a good enough answer. To disrupt and forever alter the flow of our neighborhood for expedience and cost savings to his plan, is simply not an acceptable choice. As a planner, you must look at the logic of his decisions and his options with respect to the existing neighborhood. We have a community here - please consider how this community functions in its current configuration. Please do not disregard our concerns and write us off as "NIMBY". We understand that the planning department has a job to do, and you have goals to meet. We are not asking for NO DEVELOPMENT. We are asking for some reasonable modifications so that our "life as we know it" isn't completely shattered. It's not too much to ask. We need you to represent us as much as you appear to be focused on the housing goals for the city.

2. WHY PUT A SUBSTANDARD 20' ACCESS ON A RISE BETWEEN TWO SMALL HOMES ON A CROWDED NARROW STREET?

In fact our concerns go well beyond changes to our community. Our concerns pertain to life safety decisions that may have negative consequences down the line.

3. WORK ON MODIFYING THE CONSERVATION EASEMENT TO THE TALBOT SCHOOL RD. FOR EVENTUAL/PRIMARY ACCESS THERE.

Alex has some great options here. We do not. If he is not required to make the vehicle access directly onto Forest Ave. then:

Although it may take extra time to modify the conservation easement on the Talbot School road, it still would make sense to work on this **in tandem** with any plan that gets approved so that in the end the vehicle access would be moved THERE rather than on Belfort. Even if it means a temporary access were installed onto Belfort in the meantime. We are confident that the hazards of access onto Belfort will become immediately apparent and you will be happy to have the alternative access in the works.

I would like your thoughts and your response to my concerns (1,2,&3) detailed above please.

Thank you!

Liz Berg

Fwd: Formal opposition to Belfort Landing

1 message

Matt Grooms <mgrooms@portlandmaine.gov> Thu, Jul 3, 2025 at 8:53 AM
To: Carter Frank <cfrank@portlandmaine.gov>
Cc: Eric Freeman <efreeman@portlandmaine.gov>

Can you add this to the public comment for Belfort St.

Thanks!

---------- Forwarded message ---------
From: **Kate Keefer** <kate.c.keefer@gmail.com>
Date: Thu, Jul 3, 2025 at 8:42 AM
Subject: Formal opposition to Belfort Landing
To: efreeman@portlandmaine.gov <efreeman@portlandmaine.gov>, <mgrooms@portlandmaine.gov>

Good morning,

Below and attached, please find my formal objections to the proposed development called Belfort Landing. Please include these objections in the record prior to the Planning Board meeting on July 8th.

Regards,
Kate Keefer
56 Iffley St, Portland, ME 04103
kate.c.keefer@gmail.com
(207) 747-7021

BELFORT LANDING OPPOSITION - MASTER ARGUMENTS

PROJECT OVERVIEW

Proposed Development: 50-unit residential complex at 1582-1584 Forest Avenue
Developer: Alex (Acre Properties)
Key Issue: Developer proposes dangerous single-access via Belfort Street despite safer Forest Avenue alternative

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🚨 EMERGENCY ACCESS & LIFE SAFETY

Core Problems:

- **Single 20-foot driveway** serving entire 50-unit complex
- **No secondary emergency egress** route available
- **Underground parking** limits emergency vehicle maneuverability
- **Fire truck turning analysis** shows inadequate space for 3-story building

Code Violations:

- **Portland Public Safety Standards (Section 10.3.2)** require "access for Fire Department vehicles to at least two sides of all structures"
- **Table 10.5 Subdivision Standards:** 50 units typically require multiple access roads
- **Planning Board meeting notes:** Fire marshal requested "final confirmation" on turning radius and snow plowing coordination

Developer's Own Admissions:

- Documented "delivery truck collision risks"
- "Challenging conditions for vehicle maneuvering"
- Fire truck turning template missing from current submission

Our Position:

SAFER ALTERNATIVE EXISTS: Developer has legal access to Forest Avenue but chooses dangerous Belfort Street route instead.

🚙 TRAFFIC & ACCESS ANALYSIS

Traffic Study Deficiencies:

- **Contradictory conclusions:** Claims "acceptable operations" while documenting collision risks
- **Winter pedestrian count bias:** Only 43 pedestrians counted in February when school walking naturally suppressed
- **Missing safety analysis:** No assessment of emergency vehicle conflicts with 337 daily trips
- **Admits problems but dismisses them:**
  - "Very poor access management"
  - "Sight distance issues"
  - "Delivery truck collision risks"

Traffic Impact:

- **337 daily vehicle trips** (50 units × 6.74 trips per unit)
- **Single access point** creates bottleneck
- **Belfort Street serves 70+ existing homes** as only access route
- **No sidewalks** on Belfort Street or proposed driveway

Forest Avenue Alternative:

- **Existing easement** provides legal Forest Avenue access
- **124-foot frontage** along Forest Avenue available
- **Would eliminate** dangerous Belfort Street conflicts
- **Preserves emergency access** for existing neighborhood

🏫 PEDESTRIAN & SCHOOL SAFETY

Critical Safety Issues:

- **Belfort Street = school walking route** to/from area schools
- **Zero sidewalks** on Belfort Street or proposed access
- **337 additional daily trips** concentrated at single point
- **Overflow parking** will block sight lines
- **Winter conditions** make narrow street even more dangerous

Children at Risk:

- Traffic study conducted during **winter weather suppression** of walking
- No analysis of **spring/fall pedestrian activity** when school walking peaks
- **Plow trucks don't fit** down Belfort Street (resident testimony)
- Cars parked both sides would create **"one-lane road with zero sidewalks"**

🌧️ STORMWATER & OVER-DEVELOPMENT

Extreme Infrastructure Requirements:

- **125 total chambers** (75 sand filter + 50 channel protection + 25 pre-treatment)
- **Complex pump station** required due to grade limitations
- **2,233 cubic feet water quality volume** required
- **30 mil PVC liner** and extensive geotextile wrapping
- **Massive site regrading** altering natural drainage

Climate Resilience Concerns:

- System designed for **current storm patterns**, not increasing precipitation intensity
- **Complex mechanical systems** vulnerable to failure during extreme weather
- **50-unit density** creates maximum impervious surface
- **Backup/overflow scenarios** not adequately addressed

Our Analysis:

The extraordinary infrastructure required demonstrates this site is being over-developed beyond its natural capacity.

💥 BLASTING SAFETY REQUIREMENTS

Geological Hazards:

- **Ledge runs beneath** proposed access driveway
- **Neighboring houses** have foundations on ledge/half basements
- **Ledge likely extends** into development parcel
- **Foundation cracking/shifting risk** from blasting vibrations

Natural Gas Safety:

- **Many Belfort Street homes** converted to natural gas
- **Ledge fracturing** could cause gas leaks or explosive reactions
- **500-foot leak survey** required before and after blasting

Legal Requirements (Maine/Portland):

- **Fire Marshal blasting permit** required for every project
- **Pre-blast survey:** 1/2 mile radius documentation of existing structures
- **$1 million liability insurance** naming City as additional insured
- **Gas utility inspection** and approval required
- **Water quality testing** of wells within 300 feet

Missing Documentation:

- **Where is the geological survey?**
- **Has Fire Marshal permit been obtained?**
- **Where is the pre-blast survey?**
- **Has gas utility been notified?**

🚫 CONSERVATION EASEMENT VIOLATIONS

Compliance Issues:

- **Tree removal** occurring within protected easement areas
- **City failing to enforce** its own conservation requirements
- **No authorization** for easement modifications/releases
- **Precedent concern:** If easements aren't enforced, what other regulations ignored?

Required Action:

Planning Board must verify conservation easement compliance before approval.

📋 PARKING & ENFORCEMENT

Inadequate Parking:

- **50 parking spaces for 50 units** = 1:1 ratio
- **Realistic need:** 100+ cars plus visitors (2+ cars per unit typical)
- **Overflow parking** will flood Belfort Street
- **No parking enforcement** on narrow street

Winter Complications:

- **Snow storage** will narrow 20-foot driveway further
- **Plowed snow banks** block sight lines
- **Cars parked in no-parking zones** prevent fire truck access
- **DPW coordination** required but not addressed

⚖️ FOREST AVENUE ACCESS RIGHTS

Easement Analysis:

- **2016 easement** grants Moran's Market rights to 124-foot Forest Avenue strip
- **Bernard/Alex reserved** "right to pass and repass through easement area as now traveled"
- **Key question:** Does this allow new access for 1584 development?

Two Scenarios:

1. **If easement allows new access:** Developer should be REQUIRED to use safer Forest Avenue route
2. **If easement limits to existing use:** Developer still may have rights outside easement area

Strategic Advantage:

Either way, Forest Avenue access eliminates the dangerous Belfort Street safety problems.

📢 COMMUNITY IMPACT

Neighborhood Concerns:

- **70+ existing homes** depend on Belfort Street as only access
- **Emergency evacuation** compromised by additional traffic
- **Quality of life** degraded by 337 daily trips on narrow street
- **Property values** at risk from safety hazards

Public Meeting Testimony:

- **Fire truck access concerns** from multiple residents
- **Pedestrian safety** for children, bikers, runners
- **Winter safety** - "plow doesn't fit down the street"
- **Overflow parking** making street "one-lane road"

PROPERTY BOUNDARY/ADVERSE POSSESSION CONCERNS

Maine Law Requirements: Maine's adverse possession statute requires 20 years of "open, notorious, continuous, exclusive, and adverse" possession to gain legal title to property. For boundary disputes involving encroachments like fences, Maine courts apply a "good faith" standard where the possessor must believe they own the land.

Potential Site Access Issues:

- Neighbor's fence has been on what appears to be on the Belfort Street frontage for 40-50 years
- If the fence placement meets Maine's 20-year adverse possession requirement, the neighbor may have acquired legal title to that strip of land

- This could significantly impact the proposed driveway location and site access calculations
- Maine requires "clear and convincing evidence" of the statutory elements, and property boundaries established through adverse possession are legally enforceable

🔥 **Key Questions for Planning Board:**

- "Has a certified boundary survey been conducted to determine exact property lines?"
- "Are the proposed access dimensions based on actual legally-owned property boundaries?"
- "How can the Board approve site plans without resolving potential boundary disputes?"

🎯 PLANNING BOARD RECOMMENDATIONS

Required Actions:

1. **Require Forest Avenue primary access** to eliminate Belfort Street safety hazards
2. **Demand comprehensive geological survey** before blasting approval
3. **Verify all blasting permits** and safety requirements met
4. **Independent traffic analysis** to address study deficiencies
5. **Confirm conservation easement compliance**
6. **Evaluate emergency response capacity** for site design
7. **Assess neighborhood evacuation impact** from 337 additional trips

Key Questions for Developer:

- Why choose dangerous Belfort access when safer Forest Avenue option exists?
- Where are required blasting permits and geological surveys?
- How will emergency vehicles navigate during peak traffic/winter conditions?
- What happens to neighborhood emergency access during evacuation?

Our Position:

We support appropriate housing development but demand modifications ensuring public safety and neighborhood compatibility. The current proposal creates unacceptable risks that can be solved by requiring Forest Avenue access.

📚 SUPPORTING DOCUMENTATION

Legal Requirements Research:

- Maine blasting regulations for residential development
- Portland Fire Marshal permit requirements
- Portland Public Safety Standards Section 10.3.2
- Conservation easement enforcement protocols

Technical Evidence:

- Fire truck turning radius analysis gaps
- Traffic study methodology flaws
- Stormwater over-engineering indicators
- Geological hazard assessments

Community Support:

- Planning Board meeting transcripts
- Resident testimony on safety concerns
- Emergency access documentation

- Winter conditions evidence

This comprehensive argument framework ensures we address every angle while maintaining focus on our core message: ***safer alternatives exist and should be required.***

--
Matthew Grooms, AICP
Deputy Director
Planning & Urban Development Department
389 Congress Street
Portland, ME 04101
mgrooms@portlandmaine.gov
www.portlandmaine.gov
(207) 874-8699

planning
& urban
development

BELFORT LANDING OPPOSITION - MASTER ARGUMENTS.pdf
232K

Carter Frank <cfrank@portlandmaine.gov>

Formal Comments - Belfort Landing Development Application (1582-1584 Forest Avenue)

3 messages

Kate Keefer <kate.c.keefer@gmail.com> Fri, Jun 27, 2025 at 9:59 AM
To: planning@portlandmaine.gov

Dear Members of the Portland Planning Board,

Please find attached our formal comments regarding the proposed Belfort Landing residential development at 1582 Forest Avenue. These comments represent the concerns of neighborhood residents following our technical review of the submitted plans and engineering documents.

While we support appropriate residential development in our community, our analysis reveals significant safety and infrastructure concerns that warrant careful consideration before approval. Our comments focus on emergency access deficiencies, traffic safety impacts, stormwater system sustainability, and compliance with Portland's development standards.

We respectfully request that the Planning Board address these technical concerns and require modifications to ensure public safety and neighborhood compatibility before approving this application.

Thank you for your consideration of our input. We look forward to participating constructively in the review process.

Respectfully submitted,

Kate Keefer
56 Iffley Street
Portland, ME 04102

FORMAL COMMENTS ON BELFORT LANDING DEVELOPMENT (3).pdf
124K

cfr...@portlandmaine.gov <cfrank@portlandmaine.gov> Fri, Jun 27, 2025 at 12:46 PM
To: planningboard@portlandmaine.gov

[Quoted text hidden]

FORMAL COMMENTS ON BELFORT LANDING DEVELOPMENT (3).pdf
124K

Planning Board <planningboard+noreply@portlandmaine.gov> Fri, Jun 27, 2025 at 12:46 PM
To: cfrank@portlandmaine.gov

Hello,

Thank you for your email. We appreciate the time you have taken to offer your thoughts. All comments for projects and proposals being reviewed by the Planning Board (RECEIVED BY NOON THE DAY BEFORE THE SCHEDULED MEETING), will be included in the packet to the board, which is uploaded to the Agenda Center. Comments received (AFTER THIS TIME) will be added to the public record.

If you have any questions or general inquiries, please contact the City of Portland Planning and Urban Development office at planning@portlandmaine.gov.

FORMAL COMMENTS ON BELFORT LANDING DEVELOPMENT

1582-1584 Forest Avenue, Portland, Maine - Planning Board Application Review

EXECUTIVE SUMMARY

We submit these formal comments regarding the proposed Belfort Landing residential development at 1584 Forest Avenue. While we support appropriate residential development in our neighborhood, our technical review of the submitted plans reveals significant concerns regarding public safety, infrastructure capacity, and compliance with Portland's development standards that warrant careful consideration before approval.

Our position: We support housing development but believe this proposal requires substantial modifications to ensure public safety and neighborhood compatibility.

KEY AREAS OF CONCERN

1. **EMERGENCY ACCESS AND LIFE SAFETY**

Primary Concern: Single point of access serving 50 residential units creates dangerous emergency response bottleneck.

Technical Issues:

- Site plans show only one 20-foot driveway serving entire 50-unit complex
- No secondary emergency egress route available
- Underground parking configuration limits emergency vehicle maneuverability
- Portland's Public Safety Standards (Section 10.3.2) require developments to "provide access for Fire Department vehicles to at least two sides of all structures" where possible
- Fire truck turning analysis (Drawing T1) shows inadequate space for ladder trucks to maneuver for 3-story building

Code Violation: Under Table 10.5 Subdivision Standards, 50 units typically require multiple access roads or emergency access lanes, not a single driveway.

Developer Acknowledgment: The applicant has documented concerns about "delivery truck collision risks" and "challenging conditions for vehicle maneuvering" in their own submissions.

2. TRAFFIC STUDY DEFICIENCIES AND BIASED ANALYSIS

Primary Concern: The developer's traffic study contains fundamental methodological flaws and reaches contradictory conclusions that undermine its credibility.

Major Study Problems:

- Contradictory Conclusions: Study concludes "acceptable operations" while simultaneously documenting collision risks, sight distance problems, and "very poor access management"
- Developer's Own Safety Admissions Ignored: Traffic consultants acknowledge "delivery truck collision risks" and "challenging conditions for vehicle maneuvering" but dismiss these concerns
- Inadequate Pedestrian Analysis: Only 43 pedestrians counted during winter weather conditions (February 25-26) when school walking activity is naturally suppressed
- Seasonal Variation Ignored: No adjustment for spring/fall pedestrian activity when school children walking would be significantly higher
- Missing Safety Analysis: No assessment of emergency vehicle conflicts with 337 daily trips through single access point
- No School Safety Evaluation: Despite documenting pedestrian activity, no analysis of school children safety on Belfort Street walking route

Specific Documented Problems the Study Admits But Dismisses:

- "Vehicles parking adjacent to and in front of a local store causes sight-distance issues"
- "Access management in the immediate area is very poor"
- "Challenging conditions for vehicle maneuvering"
- "Delivery truck collision risks"

Impact: The traffic study's biased methodology and contradictory conclusions make it unreliable for assessing the true safety impact of adding 337 daily trips to an already problematic intersection.

3. PEDESTRIAN SAFETY AND TRAFFIC HAZARDS

Primary Concern: Development creates multiple pedestrian safety hazards and traffic conflicts on Belfort Street, a critical neighborhood access route.

Critical Safety Issues:

- No sidewalks on proposed access driveway or Belfort Street itself
- 337 daily vehicle trips (50 units × 6.74 trips per unit) concentrated at single Forest Avenue access point
- School children safety - Belfort Street is a regular walking route to/from area schools
- Neighborhood chokepoint - Belfort Street serves as the only access for 70+ existing single-family homes in closed-loop neighborhood
- Overflow parking from inadequate on-site spaces will block sight lines for pedestrians and other traffic
- No pedestrian infrastructure to safely accommodate foot traffic from 50 additional units

4. STORMWATER INFRASTRUCTURE INTENSITY AND CLIMATE RESILIENCE

Primary Concern: Extreme stormwater infrastructure complexity indicates site is being over-developed beyond its natural capacity.

Evidence from Engineering Plans (C103 Drainage Plan & C102 Grading Plan):

- Extensive storm drain network covering entire site with complex piping systems
- 125 total chambers required (75 sand filter + 50 channel protection + 25 pre-treatment)
- Complex pump station required due to grade limitations
- Massive site regrading altering natural drainage patterns
- 30 mil PVC liner and extensive geotextile wrapping needed
- 2,233 cubic feet water quality volume required
- High-density infrastructure leaves minimal green space for natural absorption

Climate Change Concerns:

- System designed for current storm patterns, not increasing precipitation intensity
- Complex mechanical systems vulnerable to failure during extreme weather events
- 50-unit density creates maximum impervious surface requiring maximum engineered intervention
- Backup/overflow scenarios not adequately addressed for climate-intensified storms

Long-term Sustainability Issues:

- Mechanical pump systems require ongoing maintenance and are prone to failure
- Complex underground infrastructure difficult and expensive to repair
- Altered natural drainage may create downstream flooding impacts
- Over-engineered solution suggests development density exceeds site's natural capacity

Implication: The extraordinary level of stormwater infrastructure required demonstrates that this 50-unit proposal pushes development intensity beyond what the site can naturally accommodate, creating long-term risks for both residents and the broader community.

5. CONSERVATION EASEMENT VIOLATIONS

Primary Concern: Development appears to be proceeding with work in violation of existing conservation easements, raising questions about regulatory compliance and oversight.

Issues: -

- Tree removal and site work occurring within protected easement areas
- City failing to enforce its own conservation easement requirements
- No apparent authorization for easement modifications or releases
- Precedent concern - if easements aren't enforced, what other regulations may be ignored?

Request: Planning Board should verify conservation easement compliance before approving any development plans and ensure all protected areas remain undisturbed.

RECOMMENDATIONS

We respectfully request the Planning Board:

1. **Require Independent Traffic Analysis** - The developer's traffic study contains fundamental flaws:

- Concludes "acceptable operations" while documenting collision risks and sight distance problems

- Admits "access management in the immediate area is very poor" but claims no responsibility
- Fails to analyze emergency vehicle conflicts with 337 daily trips through single access point
- Provides inadequate pedestrian safety assessment based on winter weather data that misses peak school walking activity

2. Require Secondary Emergency Access - Verify compliance with Portland's Public Safety Standards Section 10.3.2 requiring emergency vehicle access to multiple sides of structures, particularly for 50-unit developments with 3-story buildings.

3. Evaluate Emergency Response Capacity - Assess whether fire trucks, utility trucks, and other necessary emergency vehicles can safely navigate the site design, particularly given:

- Developer's admission of "challenging conditions for vehicle maneuvering"
- Turning requirements shown in Drawing T1
- Single access point serving 50 units during emergencies

4. Assess Neighborhood Evacuation Impact - Analyze how 337 additional daily trips affect emergency evacuation for 70+ existing homes dependent on Belfort Street as their only access route.

5. Review Stormwater System Sustainability - Examine whether the extensive infrastructure requirements (125+ chambers, complex drainage) indicate over-development for this site's natural capacity.

6. Require Comprehensive Pedestrian Safety Plan - Address the absence of sidewalks and sight line issues documented in the traffic study, with particular focus on school children's safety during optimal walking weather conditions.

CONCLUSION

We appreciate quality housing development in our neighborhood and recognize Portland's need for additional residential units. However, public safety and infrastructure adequacy must be ensured before approval.

The extensive engineering infrastructure required, combined with the developer's own acknowledgment of safety concerns, suggests this 50-unit proposal exceeds what this site can appropriately accommodate.

Critical public safety concerns include:

- Emergency vehicle access inadequate for 50-unit, 3-story development
- Pedestrian safety compromised by lack of sidewalks and 337 additional daily trips
- School children at risk on Belfort Street walking route
- Neighborhood access compromised for 70+ existing homes

We request the Planning Board work with the applicant to address these concerns through design modifications that maintain housing goals while ensuring public safety and neighborhood compatibility.

We look forward to working constructively toward a development proposal that serves both housing needs and community safety.

Respectfully submitted by concerned neighbors who support appropriate residential development.

Kate Keefer
56 Iffley Street
kate.c.keefer@gmail.com
(207) 747-7021

Belfort Landing

1 message

Jacquie Delano <jacquiedelano1@gmail.com>
Reply-To: jacquiedelano1@gmail.com
To: planningboard@portlandmaine.gov

Thu, Jun 12, 2025 at 4:22 PM

I just want to add my voice to those opposed to this development. It doesn't make common sense. Dangerous for children traveling back & forth to school. Too many parked cars on this street! Increasing traffic that can not travel without long waits on outer Forest Avenue poorly designed traffic flow already! Why is this under consideration in a neighborhood that has been subjected to one more poor idea. Enough is enough!!!

Jacquie Delano
111 Beverly St, Portland

George Rheault <george.rheault@gmail.com> 11:11 AM (1 hour ago)
to Planning Board, kkraft, Matthew Grooms, Michael Goldman, jmy, Kate Sykes

It is incumbent on the Planning Board to ensure accuracy and transparency as part of every project review that comes before it.

Planning staff and their colleagues at the Public Works Department have deliberately introduced misinformation into the transportation review regarding the current status of Belfort Street.

The planning staff memo from the last workshop flatly states that "Belfort Street is a 30-foot-wide local street" but this statement (see quote below) is very misleading.

> 13.6.1.A Impact on Surrounding Streets
> Primary vehicular access to the site would be provided via a 20-foot. drive aisle connecting to Belfort Street. Belfort Street is a 30-foot-wide local street with on-street parking provided on both sides of the street. Belfort Street serves as the only point of access for approximately 75 homes, located on Belfort, Verrill and Iffley Streets. Belfort Street intersects with Forest Avenue approximately 350 ft. northeast of the proposed driveway. The intersection of Belfort Street and Forest Avenue is unsignalized.

IN FACT, Belfort Street in its current condition may be only 30-feet-wide but it has been formally accepted in 1951 by the City of Portland as a 50-foot-wide right-of-way. This means that the City of Portland is perfectly within its rights to expand the roadway and/or add sidewalks at its direct expense or by requiring the developer to share some of the cost of doing so as part of this project.

Homeowners along Belfort Street that purchased their properties were well aware of this (or should have been) and the fact that many of the yards/landscaping and driveways along Belfort Street appear to encroach into the public right-of-way is NOT THE DEVELOPER'S PROBLEM.

See below for an excerpt from a recent survey (attached) that was done for the benefit of the owner of 128 Belfort Street, that makes clear the official status of Belfort Street. This fact should have been easily researched and discoverable by BOTH planning staff and public works staff. The 50-foot-wide right-of-way was baked into the original subdivision for the entire Belfort neighborhood in 1918 (see attached) and should have been made clear as part of the public record from the very first workshop.

The implications of this are that WAY BACK at the start of this project review it should have been clear that some of the traffic and pedestrian issues could have been addressed by simply taking advantage of the 50-foot-wide right of way and making full use of it for sidewalks and a wider drive aisle to better handle on-street parking capacity and maneuverability. While the modest houses that were initially built on Belfort Street (see link to photo of neighborhood in 1959: https://digitalcommons.portlandlibrary.com/pphnegs_images_aerial/110/) may not have been able to afford the full infrastructure of curbs and sidewalks, Portland can certainly afford that now. And incorporating some of that build-out NOW as part of the Belfort Landing project should have been asserted by city staff from the start which would have addressed a lot of the objections from abuttors during the public review process.

> *4) ROAD DEFINITION:*
>
> *4A) BELFORT STREET IS A PUBLIC WAY ACCEPTED ON OCTOBER 19, 1951 WITH A 50' RIGHT OF WAY WIDTH. LOCATION IS PER THE CITY OF PORTLAND RECORDS VOL. 70, PAGE 490 PER PLAN REFERENCE #1.*

[NB: it is not clear to me what document is being referenced as "Vol.70, Page 490" but the City Clerk could easily help planning staff locate the October 19, 1951 acceptance by the City Council of Belfort Street which as my comment here makes clear should have already been done.]

EASI FILE CORP. IRVINE, CA EFH 22

EASI FILE CORP. IRVINE, CA EFH 22

7

PORTLAND VILLA SITES

PORTLAND, CUMBERLAND CO. MAINE

OWNED BY

J. W. WILBUR CO. INC.

Formerly owned by Nathaniel W. Shaw.

SCALE OF FEET

100 50 0 100 200 300

JULY 9, 1918.

Ernest W. Branch, Civil Engineer.
73 Tremont St. Boston. Mass.

2.7.43
311

Drain indicated by dotted line. Easement to be reserved.

Iron Pipe

VERRILL ST.

BELFORT ST.

SARSFIELD ST.

IFFLEY ST.

ELBERT ST.

WIRT ST.

FOREST AVE.

TO PORTLAND

BAKERS THOROUGHFARE

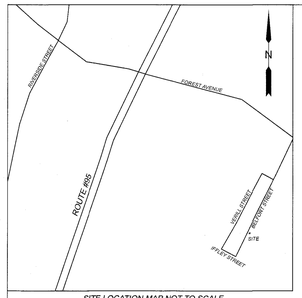
TO RIVERTON

3272

State of Maine, Cumberland ss. Registry of Deeds
Received July 24, 1918 at 10h 45m A.M. and recorded in
Plan Book 14, Page 7, Attest Norman Sims Register

7

Page 2493



SITE LOCATION MAP NOT TO SCALE

LEGEND

○	IRON PIPE/ROD FOUND
●	IRON ROD SET WITH CAP (#2063)
⌀	UTILITY POLE
N/F	NOW OR FORMERLY OF
38496/4	CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK/PAGE NUMBER
TM 300/D/ 11, 12, 52, 34-37	TAX MAP/LOT NUMBER
LOT NUMBER	PLAN REFERENCE 1
———	SURVEYED PROPERTY LINE
——— · ——— · ———	APPROXIMATE PROPERTY LINE OR FORMER LINE OF DIVISION
—E—E—E—E—E—	OVERHEAD UTILITY LINE
— — — — — — —	GRAVEL TRAVELED WAY
	BITUMINOUS PAVEMENT
	EXISTING BUILDINGS

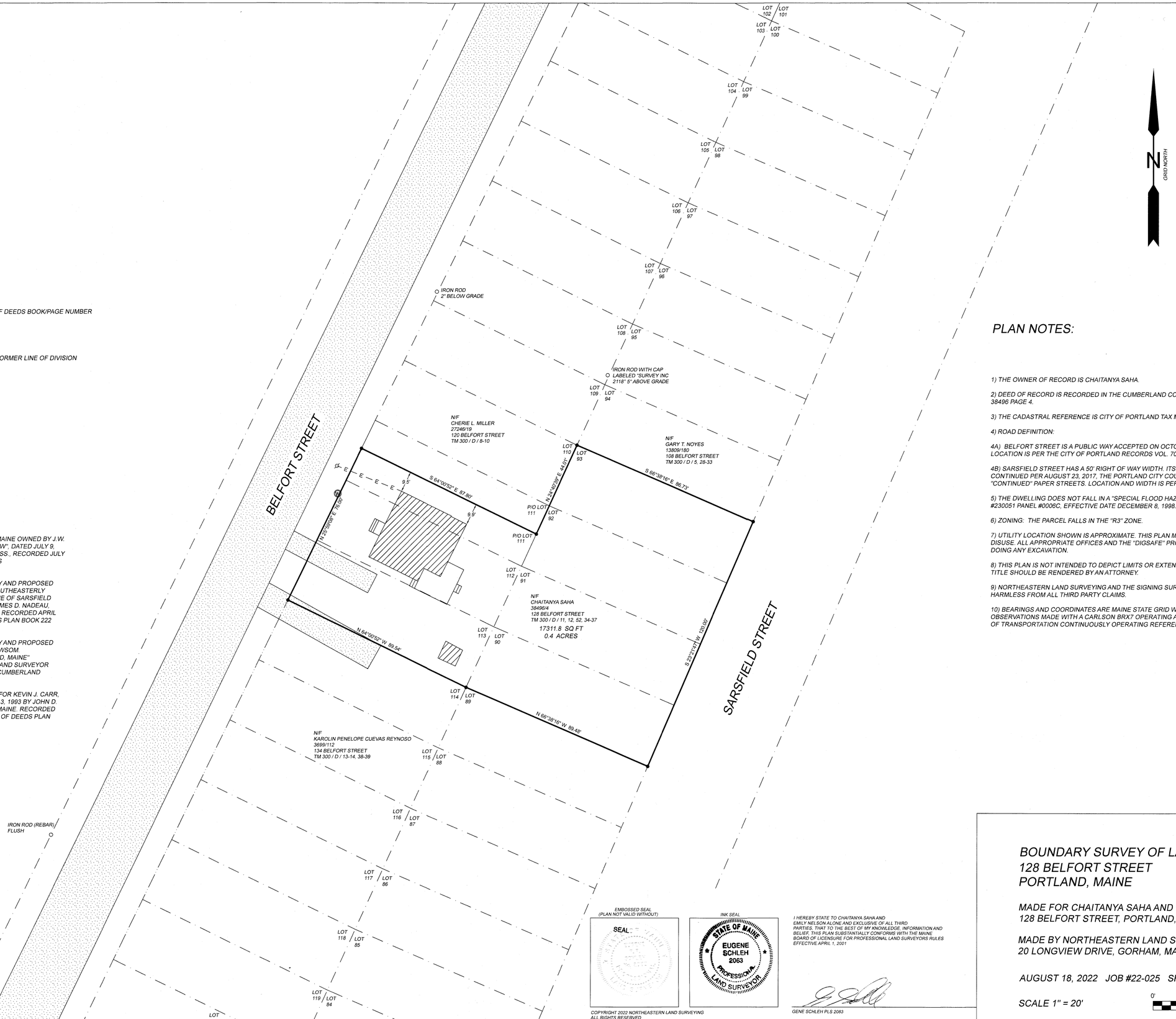
PLAN REFERENCE:

1) "PORTLAND VILLA SITES, PORTLAND, CUMBERLAND CO. MAINE OWNED BY J.W. WILBUR CO. INC, FORMERLY OWNED BY NATHANIEL W. SHAW". DATED JULY 9, 1918 BY ERNEST W. BRANCH, CIVIL ENGINEER, BOSTON, MASS., RECORDED JULY 24, 1918 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 14, PAGE 7.

2) "PLAN DEPICTING THE RESULTS OF A BOUNDARY SURVEY AND PROPOSED LAND DIVISION MADE FOR DENNIS C. & DIANE C. ROCHE. SOUTHEASTERLY SIDELINE OF BELFORT STREET & NORTHWESTERLY SIDELINE OF SARSFIELD STREET PORTLAND, MAINE" DATED JANUARY 11, 2022 BY JAMES D. NADEAU, PROFFESIONAL LAND SURVEYOR #2124, PORTLAND, MAINE. RECORDED APRIL 25, 2022 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 222 PAGE 151.

3) "PLAN DEPICTING THE RESULTS OF A BOUNDARY SURVEY AND PROPOSED LOT DIVISION MADE FOR LAURA NEWSOM AND JEFFREY NEWSOM. SOUTHWESTERLY SIDELINE OF BELFORT STREET PORTLAND, MAINE" DATED MAY 8, 2006 BY JAMES D. NADEAU, PROFESSIONAL LAND SURVEYOR #2124, PORTLAND, MAINE. RECORDED MAY 10, 2006 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 206 PAGE 288.

4) "STANDARD BOUNDARY SURVEY PROPERTY PLAN MADE FOR KEVIN J. CARR, 68 BELFORT STREET PORTLAND, MAINE" DATED OCTOBER 13, 1993 BY JOHN D. PALMITER, PROFESSIONAL LAND SURVEYOR #1057, GRAY, MAINE. RECORDED OCTOBER 26 1993 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 193 PAGE 356.



PLAN NOTES:

1) THE OWNER OF RECORD IS CHAITANYA SAHA.

2) DEED OF RECORD IS RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN DEED BOOK 38496 PAGE 4.

3) THE CADASTRAL REFERENCE IS CITY OF PORTLAND TAX MAP 300 LOTS D-11-12-52 AND D-34-35-36-37.

4) ROAD DEFINITION:

4A) BELFORT STREET IS A PUBLIC WAY ACCEPTED ON OCTOBER 19, 1951 WITH A 50' RIGHT OF WAY WIDTH. LOCATION IS PER THE CITY OF PORTLAND RECORDS VOL. 70, PAGE 490 PER PLAN REFERENCE #1.

4B) SARSFIELD STREET HAS A 50' RIGHT OF WAY WIDTH. ITS STATUS IS AN UNACCEPTED PAPER STREET CONTINUED PER AUGUST 23, 2017, THE PORTLAND CITY COUNCIL PASSED ORDER 17-17/18 AS LISTED "CONTINUED" PAPER STREETS. LOCATION AND WIDTH IS PER PLAN REFERENCE #1.

5) THE DWELLING DOES NOT FALL IN A "SPECIAL FLOOD HAZARD AREA" PER F.E.M.A. SEE COMMUNITY #230051 PANEL #0006C, EFFECTIVE DATE DECEMBER 8, 1998.

6) ZONING: THE PARCEL FALLS IN THE "R3" ZONE.

7) UTILITY LOCATION SHOWN IS APPROXIMATE. THIS PLAN MAY NOT SHOW ALL UTILITIES USED OR IN DISUSE. ALL APPROPRIATE OFFICES AND THE "DIGSAFE" PROGRAM SHOULD BE CONTACTED BEFORE DOING ANY EXCAVATION.

8) THIS PLAN IS NOT INTENDED TO DEPICT LIMITS OR EXTENTS OF FEE TITLE OWNERSHIP. AN OPINION OF TITLE SHOULD BE RENDERED BY AN ATTORNEY.

9) NORTHEASTERN LAND SURVEYING AND THE SIGNING SURVEYOR RESERVE THE RIGHT TO BE HELD HARMLESS FROM ALL THIRD PARTY CLAIMS.

10) BEARINGS AND COORDINATES ARE MAINE STATE GRID WEST 1983 AND WERE DERIVED FROM OBSERVATIONS MADE WITH A CARLSON BRX7 OPERATING AS A ROVER USING MAINE STATE DEPARTMENT OF TRANSPORTATION CONTINUOUSLY OPERATING REFERENCE STATION DATA.

State of Maine, Cumberland SS.
Registry of Deeds
Received September 23 20 22
at 2 h 40 m P M and recorded in
Plan Book 222 Page 402
Attest: Jessica M. Spaulding
Register

EMBOSSED SEAL (PLAN NOT VALID WITHOUT)

INK SEAL

STATE OF MAINE
EUGENE SCHLEH
2063
PROFESSIONAL LAND SURVEYOR

I HEREBY STATE TO CHAITANYA SAHA AND EMILY NELSON ALONE AND EXCLUSIVE OF ALL THIRD PARTIES, THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS PLAN SUBSTANTIALLY CONFORMS WITH THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS RULES EFFECTIVE APRIL 1, 2001

GENE SCHLEH PLS 2063

COPYRIGHT 2022 NORTHEASTERN LAND SURVEYING
ALL RIGHTS RESERVED

BOUNDARY SURVEY OF LAND
128 BELFORT STREET
PORTLAND, MAINE

MADE FOR CHAITANYA SAHA AND EMILY NELSON
128 BELFORT STREET, PORTLAND, MAINE 04103

MADE BY NORTHEASTERN LAND SURVEYING
20 LONGVIEW DRIVE, GORHAM, MAINE 04038

AUGUST 18, 2022 JOB #22-025 SHEET 1 OF 1

SCALE 1" = 20'

0' 20' 40' 60'

dgroff@maine.rr.com <dgroff@maine.rr.com> Jun 22, 2025, 12:55:15 AM (yesterday)
to Planningboard@portlandmaine.gov, Eric Freeman

To: Planning Board 6/22/2025

City of Portland, Maine

I am writing to you about the **Belfort Landing** project. It is my hope that the Planning Board will require that the developer deploy **all available modern technologies to mitigate the impact** of the proposed project on the surrounding neighborhood .

Because both the **size** of the proposed project and the anticipated traffic congestion will drastically alter the environment for the current homeowners in that neighborhood, I would strongly advocate for the following at a minimum:

- "Dark Sky" exterior lighting to minimize the effects of obtrusive exterior lighting on the smaller surrounding homes.
- Maintaining at least 50% of the existing large (greater than 25 feet tall) trees. Though their initial proposal did reference having trees on the sides of the buildings, maintaining the large trees that encase the property on Belfort Street, the Talbot School entryway, and near the lawn next to Morans Market will provide some measure of privacy and noise reduction for the smaller houses that the project will tower over and will help to preserve the appearance of the Riverton neighborhood for those that travel on Forest Avenue.

Thank you.

Debbie Groff

55 Harris Ave

Portland, ME

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

December 4, 2024

Kevin Kraft, Director
Planning & Urban Development
City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

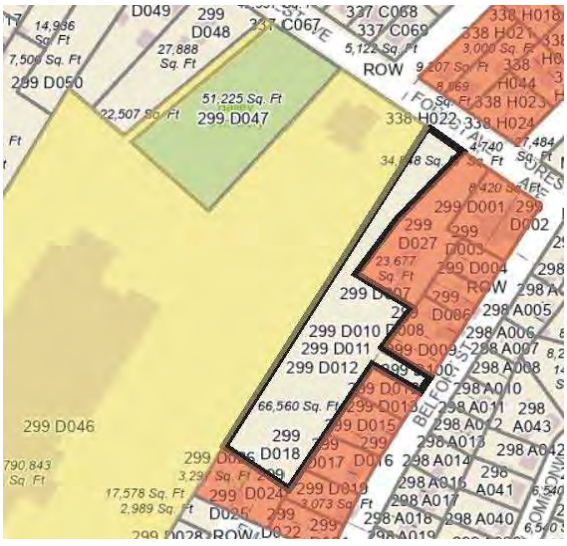
Subject: Major Site Plan Application
Applicant – Acre Properties
The Belfort Landing at 1582 Forest Avenue, Portland, Maine 04103
Parcel: 299, D1011001

Dear Mr. Kraft:

On behalf of **Acre Properties** (Applicant), our office is pleased to submit the Major Site Plan Application with supporting material for a proposed residential development at 1582 Forest Avenue. The applicant is proposing to construct two, three-story, multi-family dwellings, each with a building footprint of approximately 7,672 square feet. Currently, each dwelling will consist of 25 units for a total of 50 units combined. Approximately 25% of the total unit count (13 units) will be affordable housing at 80% of the Area Median Income (AMI). As the development includes greater than five dwelling units, the site qualifies for Major Site Plan Application and approval from the Planning Board in accordance with Table 14-A of the City of Portland's ReCode Land Use Zoning Ordinance. For clarity purposes, at the time of this application submittal, the City of Portland's ReCode Land Use Zoning Ordinance and associated ReCode Zoning Map has not been finalized therefore the "Final Draft for Planning Board Review" issue was utilized.

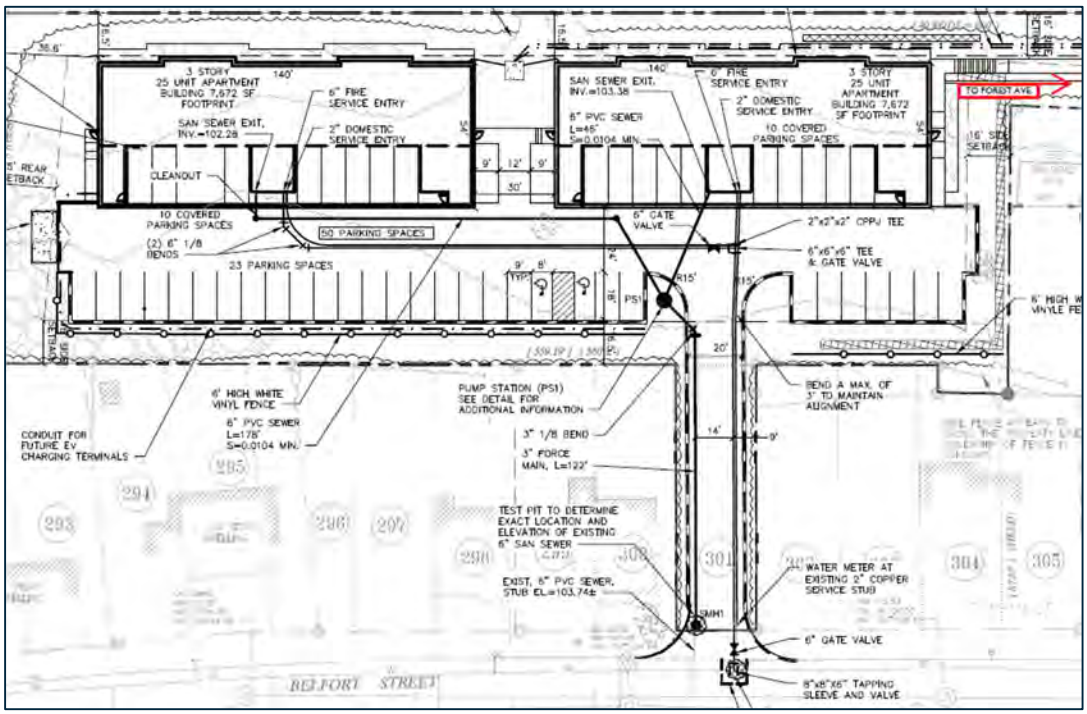
Project Overview

Based on the Lot Boundary and Topographic Survey issued July 5, 2022, and performed by Northeast Civil Solutions, the project site is 66,560 S.F. +/-. The City of Portland identifies the property on the Maine Parcel Viewer as Parcel 299, Lot D1011001. As shown in the snippet to the right from said Parcel Viewer, the project site, outlined in black, directly abuts the Gerald E. Talbot Community School site, overlayed in yellow for reference, and residential properties, overlayed in red. Acre Properties (Applicant) currently owns the site as described in the recorded deed at the Cumberland County Registry of Deeds under Book 39465, Page 256. A copy of the deed is included in Attachment 2 of this submission. Currently, the property consists of mostly wooded area with the central portion of the site



appearing to be previously cleared and compacted by vehicles. A paved parking lot, shared with the abutting property identified on the City of Portland's Map Viewer as Parcel 299, Lot D027001, exists at the northerly portion of the site. This abutting property is also owned by the Applicant. The existing parking lot will not serve the proposed development but may allow pedestrian access to Forest Avenue.

The project will consist of constructing two, three-story, multi-family dwellings, each with a building footprint of approximately 7,560 square feet. Generally, both dwellings will contain 25 units for a total of 50 units. The dwellings will be supported by fifty parking spaces, twenty (20) of which will be covered spaces on the ground level of the buildings, and two as designated ADA spaces. As shown in the figure below, the buildings will be located at the south westerly portion of the property. Each building is proposed to have four entrances, one main entrance at the front of the building, two side entrances, and another entrance via the ground floor parking.



The site is proposed to be accessed with a two-way, 20-foot-wide driveway via Belfort Street with pedestrian access available from Forest Avenue by sidewalk. Around 72-feet of frontage exists along Forest Avenue. Utilities for the project will extend from Belfort Street and will include two, 2" domestic water services, a 6" fire service, a 6" gravity sewer service, 3" force main service, and underground power and communication services. Stormwater runoff will be in compliance with the City's stormwater management standards to reduce the predeveloped peak discharge to the greatest extent practicable. The project will ultimately create 34,177 square-feet of impervious area, with the remainder of the site consisting of vegetated developed area.

Zone Requirements

On November 4, 2024, the City of Portland Council voted unanimously to adopt ReCode, Portland's first comprehensive rewrite of the entire land use code and zoning map in over 50 years. At the time of this application, the new ReCode Land Use Zoning Ordinance and associated Zoning Map are issued as "*Final Draft for Planning Board Review*". Although the Final Land Use Zoning Ordinance and Map has not been published, it is anticipated that no major revisions that affect our project site will be made from the Final Draft referenced for this application. As shown in the snippet below, the project site, approximately outlined in black, is split between two zones, RN-5 (orange) and B-1 (pink).



Residential Neighborhood 5 (RN-5) Zone:

Multi-family dwellings are a permitted use in the RN-5 zone in accordance with *Chapter 6 – Use Standards.* No dwelling structures are proposed within the B-1 portion of the property, therefore the RN-5 dimensional and performance standards will mostly apply.

6.8 Performance Standards

Applicable performance standards for the proposed project are provided in italics below, with responses following.

> *6.8.2 Discharges: No discharge shall be permitted at any point into any private sewage disposal system, or stream, or into the ground, of any materials in such a way or of such nature or temperature as to contaminate any water supply, or otherwise cause the emission of dangerous or objectionable elements, except in accordance with standards approved by the Public Health Authority or by the Public Works Authority. No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the Department of Public Works in accordance with Chapter 24 of the City of Portland Code of Ordinances. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of Chapter 24.*

No discharge will be permitted into the ground as part of this project. It is intended that the site will be served by public sewer.

6.8.4 Exterior lighting: All exterior lighting shall be designed and installed with full cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties in accordance with the City of Portland Technical Manual.

Exterior lighting information provided by Swaney Lighting Associates, Inc., in accordance with the City's of Portland's Ordinance and Technical Manual, is included in Attachment 10.

6.8.6 Noise:

A. *No use shall be operated so as to generate recurring noises that are unreasonably loud, cause injury, or create a nuisance to any person of ordinary sensitivities.*

B. *The maximum permissible sound level of any continuous, regular, or frequent source of sound produced by an activity shall be as shown in Table 6-H.*

Based on MaineDEP regulations, the proposed project is a "development producing a minor noise impact" and does not require a full noise study. Given the nature of the proposed development, the project is not anticipated to generate a significant amount of noise. During the construction phase, noises may exceed the maximum permissible sound levels set forth by the City of Portland, as allowed per Section F. Exemptions. The project will be required to meet the applicable local requirements for noise after construction.

6.8.7 Odor: It shall be a violation of this article to create an odor nuisance. An odor nuisance shall be considered to exist when 10 confirmed complaints relating to odors of such intensity and character as to be detrimental to the public health and welfare occur in an area within two separate 24-hour periods. The 10 confirmed complaints must originate from 10 different households in a residential zone, or from 10 different individuals in a commercial or industrial zone.

It is not anticipated that the proposed development will create any unpleasant odors warranting a complaint.

6.8.12 Waste disposal:

A. *All solid waste disposal, including materials which might cause fumes or dust, or constitute a fire hazard if stored outdoors, shall be only in fully enclosed, covered containers or receptacles. In all nonresidential zones except for the industrial zones, such containers or receptacles shall be within designated, screened areas.*

B. *Containers or receptacles shall not leak or otherwise permit liquids or solids to escape from the container or be transferred beyond lot boundaries by natural causes or forces. Areas attracting large numbers of insects or vermin are prohibited.*

The applicant has retained White Rock Sanitation (Gorham, ME) to collect solid waste from the site during the construction phase (see Attachment 8 for proof of ability to serve). White Rock Sanitation will also provide trash and recycling services for the residential development post construction. A dumpster enclosure is proposed on-site as shown in the attached plan set.

7.3 Dimensional Standards

The following table outlines the Dimensional Standards for the site within the RN-5 zone, as well as applicable portions of the B-1 zone.

Dimensional Standards For RN-5		
	Required	**Provided**
Minimum Lot Area	1200 S.F./UNIT MIN. 40,000 S.F.	1,331 SF/Unit
Minimum Street Frontage	50 FT	72 FT
Maximum Lot Coverage	60%	23%
Minimum Landscaped Open Space Ratio	30%	43%
Building Setbacks*		
Front (Minimum)	25 FT	312 FT
Rear (Minimum)	25 FT	36 FT
Side (Minimum)	16 FT	16.5 FT
*Building mounted mechanical equipment may encroach into a required setback to an RN zone by no more than 50% of the width of such required setback. *Parking spaces may be located within a required interior side or rear setback.		
Maximum Structure Height	55 FT	47 FT
Maximum Building Length	180 FT	140 FT
Dimensional Standards For B-1		
	Required	**Provided**
Minimum Street Frontage	20 FT	72 FT

Based on our review of the Performance and Dimensional Standards, it is the projects intent to satisfy all applicable code provisions.

Site Plan Application Submission Requirements

In accordance with Section 13-6 – Site Plan Review Standards of the City of Portland Land Use and Development Code, the following information is provided.

13.6.1 Transportation standards

A. Impact on surrounding street systems:

The provisions for vehicular loading and unloading, parking, and vehicular and pedestrian circulation on the site and onto adjacent public streets and ways and the incremental volume of vehicular, bicycle, pedestrian, and transit traffic will not:

1. *Create or aggravate any significant hazard to safety on the surrounding street network.*

Given the residential nature of the development, loading and unloading is expected to be minimal. One off-street parking space per unit, two of which are ADA accessible, have been provided in efforts to reduce congestion on Belfort Street and the surrounding area. For internal pedestrian circulation, a walkway is

provided to Forest Avenue, which is a principal arterial roadway. The applicant is also providing a potential public transit shelter at Forest Avenue to support transit traffic. Bicycle storage in accordance with Table 18-A of the Off-Street Parking & Loading Requirements has been provided in the interior of each building which can be accessed from the outside garage area.

As required in the Technical Manual, the proposed access point on Belfort Street, a Local Street, is over 300 feet from the intersection with Forest Avenue, an Arterial Street. The posted speed limit at the access point of the proposed development is 25 MPH. In accordance with the MaineDOT's Chapter 299, Highway Driveway and Entrance Rules, the sight distance at the center of the proposed access drive appears to be greater than 200 feet. Crash data was studied using the MaineDOT's Public Crash Query Tool Map and it appears that no high crash locations are within the immediate area. Furthermore, Timothy McNeill of the MaineDOT was contacted regarding the latest three-year crash history for the surrounding area, as well as collision diagrams for high crash locations. The data provided by the MaineDOT, which is included in Attachment 11, confirmed that there are no high crash locations within the project site area.

2. Substantially increase congestion on any street without mitigation proportionate to the level of impact.

The forecast increase in traffic volume during peak hours was studied and it was concluded that the AM Peak Trip Generation would be 20 and the PM Peak Trip Generation would be 42. Based on this, it is expected that the proposed residential development will have a minimal impact on the operations of the adjacent roadway network and does not require a MaineDOT traffic movement permit.

B. Access and circulation

1. In general

a. All development subject to this article shall provide safe and reasonable access and internal circulation for all users of the site and shall comply with the transportation systems and street design standards of the Technical Manual.

It is the intent of the project to provide safe and reasonable access and internal circulation for all users of the site and be in compliance with the transportation systems and street design standards of the Technical Manual. ADA parking is provided with an accessible route from the ADA spaces to the main entrances of both dwellings.

b. Shared circulation, parking, and transportation infrastructure shall be provided to the extent practicable, with utilization of joint curb cuts, walkways, service alleys, bus pull-out areas, and related infrastructure shared with abutting lots and roadways. Easements for access for abutting properties and shared internal access points at property lines shall be provided where possible to facilitate present or future sharing of access and infrastructure.

Due to the residential use, vehicular circulation, parking, and transportation infrastructure are not proposed to be shared with abutting properties. However, the applicant is proposing a public transit shelter at the northerly portion of the site, which directly abuts the Gerald E. Talbot Community School property, owned by the City of Portland. It is anticipated that an easement to the City of Portland for

Metro services will be required. Additionally, there is a portion of an existing parking lot at the northerly limit of the site. This parking lot currently serves Moran's Market (3 Belfort LLC) and is part of an Easement Deed recorded in the Cumberland Country Registry of Deeds under Book 33615, Page 280. The project intends to abide by the referenced Easement Deed and the existing parking lot will be independent of the proposed residential development. See the site and utility plan on Sheet C101 for the potential easements.

c. Continuous internal walkways shall be provided between existing or planned public sidewalks adjacent to the site, transit stops and street crossings, and building entrances on the site.

An approximately 5-foot wide bituminous walkway exists on Forest Avenue, which abuts the northerly portion of the project site. To accommodate pedestrian traffic flow, a 5-foot wide bituminous walkway is proposed on site from the residential dwellings toward the existing sidewalk on Forest Avenue.

d. Where the site abuts or includes an existing or planned publicly accessible trail, a connection to or integration of such trail shall be provided to the extent practicable, including rights of public access.

The site does not abut nor include an existing established or planned publicly accessible trail.

e. Points of access and egress shall be located to avoid conflicts with turning movements and traffic flows.

The development provides a 20-foot wide primary access driveway in accordance with the Technical Manual with a single ingress lane and single egress lane. Within the parking lot area, 24-foot wide drive aisles are provided. Belfort Street is a low volume, low speed (25 MPH) roadway and no conflicts are expected with other turning vehicles.

2. Curb and sidewalks

a. All development shall provide curb and sidewalks along all frontages, installed to specifications as described in the transportation systems and street design standards of the Technical Manual.

Curb and sidewalk exists along Forest Avenue at the frontage of the site. A walkway is proposed to that existing sidewalk.

b. Where sidewalks already exist but are in substandard condition, they shall be repaired or replaced in conformance with Chapter 25 of the City of Portland Code of Ordinances and the transportation systems and street design standards of the Technical Manual

The existing sidewalk on Forest Avenue appears to be in good condition and ADA compliant therefore no reconstruction is proposed.

c. An applicant may request a waiver from sidewalk installation requirements if they meet two or more applicable waiver criteria as listed below:

i. There is no reasonable expectation for pedestrian usage coming from, going to, and

traversing the site.

ii. There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of pedestrian oriented infrastructure.

iii. A safe alternative walking route is reasonably available, for example, by way of a sidewalk on the other side of the street that is lightly traveled.

iv. The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program (CIP) or has been funded through an earlier CIP or through other sources.

v. The street has been constructed or reconstructed without sidewalks within the last 24 months. vi. Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.

vi. Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.

The Applicant is not intending to request a waiver of this standard.

d. An applicant may request a waiver from curb installation requirements if they meet two or more applicable waiver criteria as listed below:

i. The cost to construct the curbing, including any applicable street opening fees, is in excess of 5% of the overall project cost.

ii. The reconstruction of the street is specifically identified and approved in the first or second year of the current CIP or has been funded through an earlier CIP or through other sources.

iii. The street has been rehabilitated without curbing in the last 60 months and the proposed use and design of the site does not necessitate the installation of curbing.

iv. Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.

v. Runoff from the development site or within the street does not require curbing for stormwater management

The Applicant is not intending to request a waiver of this standard.

C. Public transit access

1. All residential development consisting of 20 or more dwelling units and all commercial and institutional developments of at least 20,000 square feet gross floor area shall provide a transit shelter adjacent to or within the public right-of-way along its frontage, or at a nearby high-volume transit stop without a transit shelter, when the following criteria are met:

a. The development is proposed along an existing public transit route on a principal or minor arterial roadway, as shown in the Federal Street Classification Map.

b. The nearest existing transit shelter on the route is more than ¼ mile from the site, measured along rights-of-way.

2. Transit facilities shall be connected to the public sidewalk system.

3. All or some of this standard may be waived if the review authority determines that the development is not anticipated to generate public transit usage due to particular characteristics of the development or proposed use.

A public transit shelter is proposed on-site at the back-side of the existing sidewalk along Forest Avenue. The public transit shelter is proposed to be abutting the adjacent property, 1600 Forest Avenue (Gerald E. Talbot Community School), currently owned by the City of Portland. It is intended that the proposed transit shelter will require an easement to benefit the City of Portland as shown on the Site and Utility plan on Sheet C101 of the attached plan set.

D. Parking

1. Vehicular parking

a. Developments shall comply with the parking standards of Article 18.

b. Where provided, parking spaces and aisles shall not be located in front and corner side yards, unless the applicant can demonstrate that site constraints preclude the location of parking elsewhere on the site.

c. Where provided, parking spaces and aisles shall meet applicable dimensional standards as detailed in the transportation systems and street design standards of the Technical Manual.

The applicant has demonstrated compliance with the above requirements set forth in the ordinance for the proposed parking. Please refer to the Site and Utility Plan on Sheet C101 of the attached plan set for further information.

2. Bicycle parking

a. All development shall provide secure bicycle parking in accordance with the parking requirements of Article 18 and the transportation systems and street design standards of the Technical Manual.

b. The review authority may reduce the required number of bicycle parking spaces if it is determined, based on evidence submitted by the applicant, that the proposed development is expected to generate reduced demand for bicycle parking due to particular site characteristics or proposed uses.

As required per Table 18-A of the referenced Ordinance, secure bicycle parking spaces have been provided in the interior of each building which can be accessed from the outside garage area. Refer to the Architectural Plans within Attachment 5 for additional information.

3. Snow storage

a. All developments shall include areas for snow storage or provide an acceptable snow removal plan.

b. Snow storage areas may not encroach on adjacent properties, public ways, and pedestrian walkways, and shall not be located where they would adversely impact the functionality of stormwater management systems. Landscaping in designated snow storage areas shall be such that it can withstand the snow pile.

The applicant has demonstrated compliance with the above requirements set forth in the ordinance. Please refer to Sheet C101 of the attached plan set for snow storage locations.

4. Electric Vehicle (EV) charging. All development shall meet applicable EV standards as provided in Section 1 of the Technical Manual.

In accordance with Section 1 of the Technical Manual, at least 10 spaces are equipped with Level 2 EV Chargers, with 25 spaces served with sufficient conduit and electrical service to allow for future installation of electric vehicle supply equipment. Refer the Site and Utility Plan on Sheet C101 of the attached Plan Set for additional information.

E. Transportation Demand Management (TDM)

1. The following types of development shall design and implement a Transportation Demand Management (TDM) plan:

a. All commercial, institutional, or mixed use developments of 50,000 square feet or more in total floor area.

b. All commercial or institutional uses designed to accommodate 100 or more employees or, for educational institutions, 100 or more students.

2. The TDM Plan shall comply with the standards for transportation studies and plans as contained in the Technical Manual.

A TDM plan does not appear to apply to this project.

13.6.2 Environmental quality standards

A. Preservation of significant natural features

1. All development shall preserve and protect significant natural features by incorporating the principles of Low-Impact Development (LID) in accordance with the LID standards of the Technical Manual.

2. Where complete preservation of significant natural features substantially compromises development of the site as otherwise permitted by zoning, the review authority may reduce the requirement in accordance with the LID standards of the Technical Manual provided that the applicant implements preservation measures to the extent practicable and demonstrates compliance with applicable state and federal regulations.

3. The site plan shall include adequate measures to protect significant natural features to be preserved from construction impacts, in accordance with the LID standards of the Technical Manual.

The project site consists of mostly wooded area with the central portion of the site appearing to be previously cleared and compacted by vehicles. As shown in the National Wetland Inventory map within Attachment 4, there appears to be no delineated wetlands on-site. The site was laid out to preserve the existing tree line to the greatest extent possible. Retaining walls are proposed to prevent soil erosion and create usable space on existing, challenging sloped terrain, as well as reduce the cut/fill efforts.

Efforts have been made by the applicant to contact the State of Maine's Department of Inland Fisheries & Wildlife for information regarding any threatened, endangered, and special status wildlife or fisheries species and/or habitats within the project area. At this time, the State of Maine's Natural Areas Program was also contacted regarding the presence of any unusual natural areas within the project site. A response from the State of Maine's Natural Areas Program was received on November 14, 2024 indicating that "there are no rare botanical features documented specifically within the project area". No response has been received by the Maine's Department of Inland Fisheries & Wildlife at this time, however, the response can be forwarded upon receipt. Environmental correspondences are included within Attachment 9.

B. Site landscaping and buffers

1. On-site landscaping.

a. All development subject to this article shall provide a minimum of one shade tree consisting of species identified on the City of Portland Recommended Tree list or six plantings, defined as one shrub, one ornamental grass, and/or three perennials, per 5,000 square feet of lot area in accordance with the landscaping standards of the Technical Manual.

b. Existing vegetation to be preserved on the site may be counted towards this requirement as described in the landscaping and landscape preservation standards of the Technical Manual.

c. Where site constraints prevent the planting of required shade trees or plantings at the development site, the reviewing authority may approve an alternative as described in the

landscaping standards of the Technical Manual.

The applicant has demonstrated compliance with the above landscaping requirements set forth in the ordinance. Please refer to Sheet L100 of the attached Plan Set for further information.

2. Buffers and screening

a. Loading and servicing areas, trash and recycling areas, storage areas, and roof- and ground-mounted utility structures, except for renewable energy systems, shall be screened from view from public sidewalks, streets and adjacent properties by dense evergreen and deciduous landscaping, fencing, architectural screening products, masonry walls, building walls, or a combination thereof.

b. Where immediately visible from the right-of-way, surface parking areas shall be screened with dense evergreen and deciduous landscaping, fencing, or masonry wall in accordance with the landscaping standards of the Technical Manual.

c. For nonresidential development abutting a residential zone, an evergreen, densely landscaped buffer of not less than 10 feet in depth and six feet tall is required along the side abutting the residential zone. In cases where architectural fencing is used, the depth of the landscaped buffer may be reduced, so long as the fencing is at least six feet in height and a mix of evergreen and deciduous trees spaced no further than 20 feet apart is planted abutting the residential zone.

d. All residential development shall provide and/or preserve evergreen vegetated buffers where necessary to buffer the development from detrimental impacts of existing surrounding development.

As previously mentioned, the project site consists of mostly wooded area with the central portion of the site appearing to be previously cleared and compacted by vehicles. The proposed dwelling structures sit approximately 170 feet from the edge of Belfort Street and approximately 315 feet from the sidewalk on Forest Avenue. It is the projects intent to preserve the existing wooded area to the greatest extent possible, as shown with the proposed tree line in the Landscaping Plan on Sheet L100 of the provided Plan Set. The preserved tree line is anticipated to continue as a buffer to the existing Gerald E. Talbot Community School site from the mounted utility structures on the back of the proposed dwellings. A 6-foot-high white vinyl fence is proposed along the parking spaces at the easterly portion of the site for a buffer between the abutting residential properties and the proposed parking area. The dumpster area is proposed to be enclosed with fencing. Arborvitae trees are also proposed for landscaping and buffering requirements. Refer to Sheets C101 and L100 of the attached Plan Set for additional information.

3. Parking and vehicle display lot landscaping

a. Developments with more than five parking spaces shall include at least one tree for every 750 square feet of uncovered asphalt parking area (including drive aisles), planted in landscaped islands to screen, shade, and break up parking. Trees and shrubs in parking lots may be in informal groups, straight rows, or concentrated in clusters as described in the landscaping standards of the Technical Manual.

b. Landscaped islands shall be distributed so that uninterrupted pavement does not exceed forty parking spaces.

c. Where site constraints prevent implementation of all or a portion of required parking lot landscaping, as determined by the review authority, the reviewing authority may approve an alternative as described in the landscaping standards of the Technical Manual.

The applicant has demonstrated compliance with this standard as reiterated above in *Section 2, Buffers and Screening*. Please refer to Sheets C101 and L100 of the attached plan set for further information.

4. Non-vehicular hardscape. All uncovered paving for non-vehicular use, including pathways and patios, must either have a minimum Solar Reflective Index (SRI) of 33 initially and 28 once aged three years or include one tree for every 750 SF of asphalt paving.

The applicant is aware of this requirement and intends that pathways will be paved with materials adequate for a minimum Solar Reflective Index (SRI) of 33 initially and 28 once aged three years.

5. Street trees

a. All development shall include one street tree per 25-35 linear feet of frontage along a city right-of-way or private roadway as specified in the landscaping standards of the Technical Manual. The provision of measures to enhance tree survival (such as raised planters, irrigation, and structural soils as recommended by the City Arborist) shall be required.

b. Where the applicant can demonstrate that site constraints prevent the planting of required street trees in the city right-of-way, the review authority may permit an alternative subject to the landscaping standards of the Technical Manual.

c. Where the proposed development includes the removal of an existing street tree determined by the City Arborist to be a heritage or feature mature tree, the applicant shall be required to contribute to the Tree Fund at the designated rate in the Technical Manual so that the total replacement cost is significantly higher than planting a new street tree/contributing for a new street tree.

The applicant has demonstrated compliance with this standard as reiterated above in *Section 2, Buffers and Screening*. Please refer to Sheets C101 and L100 of the attached plan set for further information.

C. Water quality, stormwater management, and erosion control

1. All development shall be designed to minimize total area of impervious surface on the site and both the volume and rate of runoff from the lot. Provisions for stormwater management shall demonstrate the following:

a. Any stormwater draining onto or across the lot in its pre-improvement state will not be impeded or redirected so as to create ponding on, or flooding of, adjacent lots.

b. Any increase in volume or rate of stormwater draining from the lot onto an adjacent lot or City

property following the improvement can be handled on the adjacent lot or City property without creating ponding, flooding or other drainage problems and that the owner of the lot being improved has the legal right to increase the flow of stormwater onto the adjacent lot or City property.

c. Any increase in volume or rate of stormwater draining from the lot into the City's storm sewer system can be accommodated in the system without creating downstream problems or exceeding the capacity of the storm sewer system.

The proposed stormwater management system has been designed to minimize peak flow rates to the greatest extent practicable. In addition, the applicant intends to pay the compensation fee to meet the Urban Impaired Stream Standard as outlined in the Stormwater Management Report (see Attachment 6). The applicant is proposing the use of a large subsurface sand filter, and three drip strip systems to treat and detain runoff. The proposed stormwater management system has been designed to detain runoff from upstream properties to minimize post-development flow rates. Through the use of these systems, peak flow rates to the downstream abutting properties to the south are reduced. However, small portions (950 SF total) of new impervious area are unable to be captured and as a result, produce minor increases (less than 0.2 cfs) to the municipal stormwater systems located on Forest Ave and Belfort Street. Additional details are included in the Stormwater Management Report (see Attachment 6) and Erosion and Sedimentation Control Report (see Attachment 7).

2. All development shall comply with the stormwater management standards of the Technical Manual.

The Applicant acknowledges that the development shall comply with the stormwater management standards of the Technical Manual. Additional details are included in the Stormwater Management Report (see Attachment 6).

3. Development shall not pose a risk of groundwater contamination either during or post-construction, as described in the stormwater management and water supply standards of the Technical Manual.

The proposed development does not pose a risk of groundwater contamination either during or post-construction.

4. Applicants shall demonstrate that subsurface and/or any adjacent slope conditions are suitable to support the development, and where determined necessary, shall prepare a geotechnical study to demonstrate that the development as designed will not adversely impact the development site or any abutting property. Soil surveys and/or geotechnical studies shall be prepared in accordance with the requirements of the Technical Manual.

Summit Engineering Services performed soil borings on-site and has provided the associated Exploration Location Plan and Boring Logs. These are included as Attachment 13 heron. Based on the Boring Logs, the subsurface conditions appear suitable to support the development.

13.6.3 Public infrastructure and community safety standards

A. Consistency with City master plans

1. All developments shall be designed so as to be consistent with City Council-approved master plans and facilities plans and with off-premises infrastructure.

2. The site plan shall include suitable easements, rights, and improvements to connect or continue off-premises public infrastructure as may be required by the review authority.

It is the projects intent to be consistent with the City of Portland's Plan 2030. An easement to benefit the City of Portland is proposed at the on-site public transit to allow for connection with the existing sidewalk on Forest Avenue. The public transit is proposed to support the City's goal to develop an efficient system of public facilities and services for anticipated growth and economic development. In efforts to accommodate the State's goal of encouraging and promoting affordable decent, housing opportunities, approximately 25% of the total unit count (13 units) will be affordable housing at 80% of the Area Median Income (AMI).

B. Public safety and fire prevention

1. All development shall incorporate the following public safety principles for Crime Prevention through Environmental Design (CPTED) into site design to enhance the security of public and private spaces and to reduce the potential for crime:

a. Natural surveillance that promotes visibility of public spaces and areas.

b. Access control that promotes authorized and/or appropriate access to the site.

c. Territorial reinforcement that promotes a sense of ownership and responsibility through environmental design.

In accordance with the CPTED guidelines, the site lighting has been designed to the City's standards as outlined in Section 12 of the Technical Manual to enable full observation of the site during both day and night. The layout of the site has been designed as to clearly guide the movement of vehicles and pedestrians along predictable paths.

2. All developments shall be designed to provide adequate emergency vehicle access to the site and comply with the Public Safety standards of the Technical Manual.

The primary site access point will be from Belfort Street. The site has been designed with a 20-foot wide access drive and 24-foot wide drive aisles that provide emergency vehicle access to both dwellings in the form of a hammerhead. Minimal reversing will be required to exit the site. A turning movement graphic, replicating a fire truck, is provided on Sheet T1 of the attached Plan Set.

There is an apparent active hydrant that exists at the Forest Avenue property frontage, which is within 500 feet of the proposed dwelling structures. Both dwellings will be equipped with automatic fire sprinkler systems.

C. Public utilities

1. The development shall not overburden sanitary sewers and storm drains, water lines or supply, or other public infrastructure and utilities. Development shall provide adequate utility infrastructure on-site and in connection to surrounding locations and facilities.

Water*: A 2" copper service stub exists on-site at Belfort Street. This service appears to have been installed in 2012 and is still available. The applicant is proposing a 2" domestic service from the existing stub via a water meter to service both dwellings, as well as a 6" fire service from the existing 8" ductile iron water main in Belfort Street, which will split on-site to service each building separately. A letter was sent to the Portland Water District requesting to confirm their ability to serve the project. The response received from the Portland Water District, confirming their ability to serve, is included within Attachment 8.

Sewer*: On Belfort Street, there is an existing 8" gravity sewer with a 6" gravity service stub for the project site. This service appears to have been installed in 2012 and is still available. The applicant is proposing to use the 6" gravity service stub to a terminus manhole within the City of Portland's right-of-way. The sewage is anticipated to gravity flow from each building to a 6-foot pumpstation on-site, then be pumped via 3" force main to the terminus manhole mentioned above. A letter was sent to the City of Portland's Public Works Department requesting to confirm the City's ability to serve this project. It is our understanding that a response from the Public Works Department indicating the ability to service will be determined as part of the Staff Review of the project.

Solid Waste*: Solid waste generated on-site during and after construction is anticipated to be serviced by White Rock Sanitation. An email indicating that White Rock Sanitation will have the ability to serve the proposed development is included in Attachment 8.

*Refer to the Site and Utility Plan on Sheet C101 of the attached Plan Set for additional information.

2. Electrical service shall be underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost, the need to retrofit properties not owned by the applicant, or complexity of revising existing overhead facilities.

The applicant has corresponded with Katherine Dumont, a three-phase power advisor at Central Maine Power (CMP) for the layout of electrical services. Electrical and communication services are anticipated to be extended via overhead from the pole within the right-of-way at 1597 Forest Avenue, across Forest Avenue, to a new utility pole located at the northerly portion of the site. Electrical conduits will then be installed underground from the set utility pole. Final service locations and easements will be determined by CMP and coordinated by the Applicant.

3. All sanitary sewer lines, storm drains, water lines, and other utilities proposed as part of the development shall be designed to conform with the sanitary sewer and storm drain and water supply standards of the Technical Manual.

All utilities proposed as part of the development have been designed to conform with the standards set forth in the Technical Manual.

4. All development within 200 feet of a public sanitary collection and treatment system shall connect sanitary sewer lines into the nearest available public sewer. If a public sanitary collection and treatment system is not available, a private wastewater system may be used according to the requirements of Chapter 24 of the City Code and the sanitary sewer and storm drain standards of the Technical Manual.

The applicant has proposed connecting into the existing sanitary sewer line on Belfort Street in accordance with the City Code and Technical Manual.

5. All residential development of 20 units or more, commercial development, and industrial development shall provide for the temporary storage and timely removal of all trash and recyclable materials including, at a minimum, paper, corrugated cardboard, plastics, and metals. Storage containers for recyclable materials shall be separated from trash containers. All exterior storage of trash and recyclables shall be screened from view from public sidewalks, streets, and adjacent properties.

An exterior dumpster enclosure has been provided by the Applicant in accordance with these standards. Please see Sheet C101 of the attached plan set.

13.6.4 Site design standards

A. Massing, ventilation, wind, and heat impact

1. The bulk, location, or height of proposed buildings and structures shall not result in health or safety problems from a reduction in ventilation to abutting structures or changes to the existing wind climate that would result in unsafe wind conditions for users of the site and/or adjacent public spaces.

The proposed buildings are not to cause a reduction in ventilation to abutting structures or make changes to the existing wind climate that would result in unsafe wind conditions for users of the site and/or adjacent public spaces. The apparent nearest abutting structure is approximately 55 feet away from the easterly dwelling.

2. Development shall locate all HVAC venting mechanisms to direct exhaust away from public spaces and residential properties directly adjacent to the site.

HVAC venting mechanisms are proposed to be at the back of the buildings, on the north westerly portion of the site. This portion of the site does not face any residential properties.

3. In proposed buildings or additions with an aggregate roof area greater than 2,000 square feet, measured horizontally, and, for residential projects, greater than nine residential units, a minimum of 75% of the roof area must meet the following "cool roof" Solar Reflective Index (SRI) standards: a. Roofs with a slope less than 2:12: SRI of 82+ (initial)/64+ (3-year aged) b. Roofs with a slope greater than 2:12: SRI of 25+ (initial)/25+ (3-year aged) Roof areas covered by shade structures with an SRI of 39+, including photovoltaic panels that shade the roof, area considered exempt from roof area calculations for the purposes of this standard.

The roof is proposed with an 8:12 slope therefore requires to meet the "cool roof" Solar Reflective Index (SRI) of 25+ (initial). The applicant is intending to use a Certainteed Landmark Solaris *Cool Roof* in Solaris Crystal Gray to accommodate this requirement. Refer to the Cut Sheets and Product Brochure annexed to the Architectural Plans included within Attachment 5.

B. Shadow: All development over 65 feet in height shall be designed to avoid and/or mitigate the adverse impacts of shadows cast by new structures or building additions from falling on publicly accessible open space in accordance with the shadow standards of the Technical Manual.

The proposed development is not over 65 feet in height, therefore this standard is not applicable.

C. Snow and ice loading: All development shall be designed to prevent significant amounts of accumulated snow and ice from loading or falling onto adjacent properties or public ways.

Snow storage in accordance with this ordinance have been provided to prevent significant amounts of accumulated snow and ice from falling onto adjacent properties or public ways.

D. View corridors: The massing, location, and height of development shall not substantially obstruct public view corridors identified in the City of Portland Design Manual.

The proposed development does not appear to obstruct any public view corridors as identified in the City of Portland Design Manual.

E. Historic resources

1. When a development affects a designated landmark or lies within a designated historic district or historic landscape district, such development shall be required to obtain historic preservation approval under Article 16.

The project site and abutting properties do not appear to be within a designated historic district or historic landscape district therefore it is not intended that he project will affect any designated landmark.

2. All development shall document and protect state or local archaeological resources known to exist or discovered on the site.

a. Protection may include leaving archaeological resources untouched beneath a new development through adaptation of foundation design or architectural layout.

b. Where the applicant can demonstrate that complete protection is not feasible, the applicant shall excavate and document archeological resources. Such measures shall be conducted in consultation with the City's historic preservation program and Maine Historic Preservation Commission. For resources of state significance, excavation and documentation shall be conducted by a qualified professional, incoordination with Maine Historic Preservation Commission. Local archeological resources may or may not be recognized by the Maine Historic Preservation Commission as significant and shall include the following:

i. Original seawall structure located landward of Commercial Street.

ii. Inactive historic family cemetery plots.

iii. Historic railroad beds including but not limited to the Portland Lewiston interurban railroad.

iv. Original structure and/or landforms associated with the Cumberland and Oxford Canal.

V. Buried portions of colonial and post-colonial period structures or built features located on the Portland Peninsula predating the Great Fire of 1866.

vi. Pre-colonial occupation sites identified by shell middens or other evidence.

vii. Sites listed or eligible for listing on the National Register of Historic Places.

c. In order to preserve archeological resources, the review authority may waive standards listed in the City of Portland Technical Manual where necessary if it is determined that such a waiver would not jeopardize the health, safety, or welfare of the development's occupants, the public, or the natural environment.

Based on the National Register of Historic Places, the project site and abutting properties are not considered historic places. Additionally, the Applicant has made efforts to contact the State of Maine Historic Preservation Commission requesting information on the presence of any nearby structure or area with historical, architectural, or archeological significance as defined by the National Historic Preservation Act of 1966. No response has been received by the State of Maine Historic Preservation Commission at this time, however, the response can be forwarded upon receipt. Refer to Attachment 9 for the respective correspondence.

F. Exterior lighting

1. Site lighting

a. All exterior site lighting shall be full cutoff with no light emitted above the horizontal plane or spilled onto adjacent properties. Illumination levels shall be adequate but not excessive for the safety, comfort, and convenience of occupants and users of the site, and shall conform to the lighting standards of the Technical Manual.

b. Where light from a proposed development may adversely impact adjacent residential properties, exterior lighting shall employ building side shielding.

2. Architectural and specialty lighting.

a. Architectural and specialty lighting of such features as architectural details, monuments, public art, or other site features shall be designed to illuminate specific details or attributes only and shall meet the lighting standards of the Technical Manual.

b. Up-lighting by any method is prohibited except for public buildings and parklands; clock towers and steeples; landscape features; designated historic landmarks; flags of state, federal, or national

jurisdictions; and public art. Such light fixtures, brackets, conduits, and all other components shall be designed by a lighting professional and shall be scaled and placed to minimize their visibility and installed in accordance with the lighting standards of the Technical Manual.

3. Street lighting. All development shall provide municipal street lighting adequate for the safety and comfort of pedestrians, bicyclists, and motorists and, where applicable, conforming to specific lighting district requirements as specified in the street lighting standards of the Technical Manual.

Exterior lighting information provided by Swaney Lighting Associates, Inc., in accordance with the City's of Portland's Ordinance and Technical Manual, is included in Attachment 10.

G. Noise and vibration: All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment shall meet applicable state and federal emissions requirements and shall be located to the interior of the site, away from abutting properties.

HVAC equipment will meet applicable state and federal emission requirements. The equipment is proposed to be on the back of the buildings, at the north westerly portion of the site which does not directly abut any surrounding residential properties.

H. Signage and wayfinding

1. On-site directional traffic signage may be provided to enable users to safely and easily navigate into, around and out of the site.

2. Signage shall not adversely affect visibility at intersections on or off the site.

Appropriate signage has been provided for the development. Please see Sheet C101 of the attached plan set for proposed signage.

I. Design standards

1. Development of certain types and/or proposed in certain zones, as specified in the City of Portland Design Manual, shall meet the design standards of the Design Manual in order to ensure that building and site design contribute to and enhance the goals and policies for specific zones within the city. The City of Portland Design Manual is incorporated by reference as part of this Land Use Code.

It is the intent of the design to be architecturally compactible with the residential buildings in the surrounding neighborhood as required by the City of Portland's Design Manual.

2. If the development is located in a historic district or associated with a historic landmark, the standards of Article 16 shall supersede.

The proposed development is not located in a historic district or associated with a historic landmark as mentioned above.

Closure

The Project Team looks forward to the Department's review of this Major Site Plan Application. If you have any questions with regards to the submission material or need additional copies, please contact our office.

Sincerely,

GORRILL-PALMER



Douglas E. Reynolds, PE
Project Manager
Phone 207-772-2515
DReynolds@GorrillPalmer.com

Attachments:
1 – Site Plan Checklist & Agent Authorization
2 – Evidence of Title, Right, or Interest
3 – Financial Capacity
4 – Project Site Figures
5 – Architectural Plans
6 – Stormwater Management Report
7 – Erosion and Sedimentation Control Report
8 – Utility Correspondence
9 – Environmental, Natural, and Historic Resource Correspondence
10 – Photometric Plan and Lighting Cut Sheets
11 – Traffic Reports
12 – Fire Truck Turning Figure
13 – Geotechnical Study
14 – Cost Estimate for City of Portland Performance Guarantee
Plan Set

cc: Alexander Coupe, Acre Properties

ATTACHMENT 1

SITE PLAN CHECKLIST & AGENT AUTHORIZATION

Alexander Coupe
27 Cypress Street
Portland, Maine 04103

November 26, 2024

Subject: Agent Authorization
Residential Development
1582 Forest Avenue, Portland, Maine 04103
Parcel: 299, D1011001

To Whom It May Concern:

Alexander P Coupe, President of Acre Properties, authorizes Gorrill-Palmer to execute development permit applications on behalf of Acre Properties for the referenced project.

If you have any questions or if I can be any further assistance, please contact me.

Very truly yours,

Alexander Coupe

Alexander P Coupe

CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN
GENERAL DOCUMENT AND DRAWINGS CHECKLIST

Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

**** PLEASE FILL OUT AND UPLOAD THE ZONING ASSESSMENT TABLE AND WAIVER TABLE SEPARATELY AS NOTED BELOW ****

At the time of application submission, please contact the Department of Public Works regarding E-911 addressing for your project.

GENERAL APPLICATION DOCUMENTS	
Yes NA	**Project Description** • Cover letter with detailed project description
Yes NA	**Completed Checklist** (this document)
Yes NA	**Evidence of Right, Title, and Interest** • Deeds, leases, or purchase and sales agreements
Yes NA	**Evidence of State or Federal Approvals** • Permits or letters of non-jurisdiction, if applicable
Yes NA	**Zoning Assessment** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes NA	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) • Summary of project compliance with site plan standards of the land use code
Yes NA	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** • Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes NA	**Waiver Requests** (see Waiver Table) • Written request for waiver describing request and compliance with applicable waiver standards
Yes NA	**Financial Capability** • Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes NA	**Technical Capability** • Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN
STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

TRANSPORTATION	
Yes NA	**Impact on Surrounding Street Systems (14-14.6.1(A))** • Describe incremental volume of traffic impacts and mitigation measures. If needed
Yes NA	**Access and Circulation (14-14.6.1(B))** Identify and describe the following: • Site access and internal circulation, including ADA access • Drive-up features, if applicable • Loading and servicing needs, routes, and geometry, providing turning templates for delivery vehicles, if applicable • Sidewalks and condition along street frontages and internal walkways • Engineered details for ADA ramps and public sidewalks, meeting sidewalk material policy and construction requirements (Technical Manual, Section 1)
Yes NA	**Public Transit (14-14.6.1(C)), if applicable** Identify and describe the following: • Existing available transit service and proposed transit improvements, including design details, such as easement, pad base, and shelter
Yes NA	**Off-Street Parking (14-14.6.1(D)), if applicable** Identify and describe the following: • Proposed vehicular and bicycle parking supply (including ADA-compliant parking) in relation to applicable parking requirements in Article 19 of the land use code • Curb cut separation and parking layout (Technical Manual, Section 1) • Construction details for bicycle racks • Management plan for snow storage and removal
Yes NA	**Transportation Demand Management (TDM) (14-14.6.1(E)), if applicable** • Provide TDM plan drafted in accordance with Technical Manual Section 1 requirements

ENVIRONMENTAL		
Yes	NA	**Preservation of Significant Natural Features (14-14.6.2(A)), if applicable** Identify and describe the following: • High and moderate value waterfowl and wading habitat • Aquifers (for Casco Bay Islands) • Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) • Proposed preservation areas and protection measures • Documentation from environmental compliance consultants and determinations from applicable state and federal agencies
Yes	NA	**Landscape Preservation (14-14.6.2(B))** Identify and describe the following: • Measures to preserve trees, including within required zoning setbacks (Technical Manual, Section 4) • Measures to protect existing vegetation during construction
Yes	NA	**Site Landscaping and Buffers (14-14.6.2(C))** Identify and describe the following: • Overall landscaping approach and consistency with standards • The use of screening and buffering of service areas and between non-residential and residential uses • Existing Heritage or Feature Trees on site and measures to preserve • Compliance with street tree requirements
Yes	NA	**Water Quality, Stormwater Management, and Erosion Control (14-14.6.2(D))** Identify and describe the following: • Erosion and sedimentation control plan and measures • Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater law, as applicable • Subsurface sanitary sewage disposal and groundwater protection measures

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY	
Yes NA	**Consistency with City Master Plans (14-14.6.3(A))** • Describe proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes NA	**Public Safety and Fire Prevention (14-14.6.3(B))** Identify and describe the following: • Compliance with Crime Prevention through Environmental Design (CPTED) requirements (Technical Manual, Section 3) • Emergency vehicle access • Consistency with public safety standards (Technical Manual, Section 3)
Yes NA	**Availability and Adequacy of Public Utilities (14-14.6.3(C)) (Technical Manual, Sections 2 & 9)** Identify and describe the following: • Electrical services, including providing underground services • Existing and proposed connections for public utilities and required public utility upgrades • Sewer line connections
SITE DESIGN	
Yes NA	**Massing, Ventilations and Wind Impact (14-14.6.4(A))** Identify and describe the following: • Wind and ventilation impacts on adjoining structures and/or adjacent public spaces, including wind study, if applicable • Bulk, location, or height impacts on adjoining structures
Yes NA	**Shadows (14-14.6.4(B)), if applicable** • Provide shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes NA	**Snow and Ice Loading (14-14.6.4(C))** • Describe building design measures to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes NA	**View Corridors (14-14.6.4(D)), if applicable** • Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
Yes NA	**Historic Resources (14-14.6.4(E)), if applicable** Identify and describe the following: • The site's status as a designated landmark, within a historic district or historic landscape district, or within 100 feet of any designated landmark, historic district, or historic landscape district • Compliance with standards for preservation and documentation of archaeological resources

Yes NA	**Exterior Lighting (14-14.6.4(F))** • Describe how the proposed site lighting will adhere to photometrics requirements as it relates to light trespass and full cutoff fixture design, pursuant to Technical Manual Section 12
Yes NA	**Noise and Vibration (14-14.6.4(G))** • Provide data on noise levels for HVAC and other mechanical equipment, such as design specifications, to demonstrate consistency with state and federal noise emissions requirements as well as City code
Yes NA	**Signage and Wayfinding (14-14.6.4(H)), if applicable** • Provide signage plan showing the location, dimensions, height and setback of all existing and proposed signs • Provide drawings of all commercial and directional signage on site
Yes NA	**Zone-Related Design Standards (14-14.6.4(I))** • Address any applicable design review standards by zone, including compliance with Design Manual

MAJOR SITE PLAN
DRAWINGS CHECKLIST

Please upload the following DRAWINGS with the listed details into e-Plan as separate pdfs.

All drawings must be submitted in a 24 x 36 sheet size.

BOUNDARY SURVEY (stamped by a Maine Licensed Surveyor and drawn as per Technical Manual Sec. 13)

SITE PLAN(s) (stamped by a Maine Licensed Professional Engineer) including:

All sheets – Include a title block with project title and the following information:

- Project street address
- Name and address of property owner & applicant
- Licensed design professional, incl firm that produced plans
- North arrow
- Date of preparation and revision history block
- Tax parcel (chart, block, and lot) number

Existing Conditions Plan with the following:

- Existing structures, with distance from primary building façade(s) to the property line
- Approximate location of structures on abutting properties
- All streets and intersections adjacent to the site
- Existing driveways, pedestrian ways, and bicycle infrastructure, including dimensions and materials
- Existing public transit infrastructure
- Existing vehicle & bicycle parking areas
- Existing utilities on site and within adjacent rights-of-way
- Existing grades (two-foot contours preferred)
- Location of water courses, wetlands, and vegetation, or other significant natural features
- Existing soil conditions and location of test pits and borings
- Zoning boundary lines, including overlays
- Location of all existing easements and rights-of-way

Proposed Site Plan with the following:

- Proposed structures, including distance from primary building façade(s) to property lines
- Ground floor area, and finished floor elevations for all buildings
- Any proposed geometric modifications to streets and intersections adjacent to site
- Location, dimensions and materials of all proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
- Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
- Location and dimensions of proposed loading areas, including turning templates
- Proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications
- Location of all snow storage areas
- Exterior lighting (please see Technical Manual Sec. 12 for photometrics requirements)

- Location of fire hydrants
- Location of solid waste management receptacles
- Location of all proposed HVAC and mechanical equipment, including proposed screening, where applicable
- Location of proposed easements and rights-of-way, including dimensions
- Please utilize color-coding and/or hatches and shading to delineate changes between the pre and post development condition as needed

UTILITY PLAN including:

- Proposed electrical infrastructure
- Location, sizing and directional flows of all proposed sewer and stormwater infrastructure
- Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site
- Electric utility infrastructure

GRADING AND DRAINAGE PLAN including:

- Proposed grades
- Proposed stormwater management measures meeting Technical Manual (Section 5) standards
- Any proposed alteration of a watercourse or wetlands
- Any groundwater protection measures
- Proposed buffers and preservation measures for wetlands or significant natural features

LANDSCAPE PLAN including:

- Existing vegetation to be preserved and preservation measures
- Proposed landscaping, screening, and street trees, including caliper widths for trees
- Planting schedule, including street trees

ARCHITECTURAL PLANS AND RENDERINGS including:

- Exterior building elevations, color renderings, illustrations of all sides
- Axonometric and street-level views for structures greater than three stories in height
- Provide context drawings, if applicable (Design Manual, page 1)
- Floor plans

CONSTRUCTION MANAGEMENT PLAN including:

- Specifics on traffic control, sidewalk sheds, and pedestrian rerouting
- Include a drawing and written narrative

OTHER

- Details and cross-sections, as necessary

ATTACHMENT 2

EVIDENCE OF TITLE, RIGHT, OR INTEREST

QUITCLAIM DEED

DLN:1002240195733

KNOW ALL PERSONS BY THESE PRESENTS, that, **ALEXANDER COUPE,** of Portland, Maine, for consideration paid, release to **ACRE PROPERTIES,** a Maine Corporation, with a place of business at 1326 Washington Avenue, Portland, ME 04103, the premises in the City of Portland, Cumberland County, Maine, bounded and described as follows:

See Exhibit A attached hereto

IN WITNESS WHEREOF, the said **ALEXANDER COUPE** has caused this instrument to be signed this 31 day of May, 2022.

Witness

ALEXANDER COUPE

State of MAINE
County of CUMBERLAND

On May 31, 2022, personally appeared the above-named **ALEXANDER COUPE** and acknowledged the foregoing to be his free act and deed.

Notary Public/Attorney
Name

Charles H. McLaughlin
Attorney at Law

EXHIBIT A

Description of proposed "Lot B"

A certain lot, or parcel of land, located on the southwesterly side of Forest Avenue, in the City of Portland, County of Cumberland, State of Maine, being bound and described as follows:

Beginning on the southwesterly side of Forest Avenue, at a # 5 rebar w/cap stamped "NCS 2080" located at the easterly corner of land now or formerly (N/F) of City of Portland;

THENCE: S 53°57'26" E, along said Forest Avenue, 72.60', to a point;

THENCE: S 42°50'22" W, through land of the Grantor, 167.22', to a proposed #5 rebar w/cap stamped "NCS 2080";

THENCE: S 33°59'26" W, through land of said Grantor, 115.16', to a proposed #5 rebar w/cap stamped "NCS 2080";

THENCE: S 57°55'04" E, through land of said Grantor, 107.22', to a proposed #5 rebar w/cap stamped "NCS 2080" on the northwesterly line of land N/F of Debra J. Fowler, as described in Book 21492, Page 098;

THENCE: S 32°50'39" W, along said Fowler, 26.00', to a point;

THENCE: N 57°55'04" W, along said Fowler, 9.96', to a point;

THENCE: S 31°34'37" W, along said Fowler, 67.73', to a 1" iron pipe;

THENCE: S 58°44'22" E, along said Fowler, 98.59', to a ¾" iron pipe on the northwesterly side of Belfort Street;

THENCE: S 31°15'38" W, along said Belfort Street, 30.00', to the easterly corner of land N/F of Leroy F. Doucette and Catherine H. Doucette; as described in Book 11388, Page 090;

THENCE: N 58°44'22" W, along said Doucette, 98.76', to a point;

THENCE: S 31°34'37" W, along said Doucette, along land N/F of James P. Spizuoco and Roxanne A. Spizuoco, as described in Book 3002, Page 069, along land N/F of Caroline M. Wagner, as described in Book 33277, Page 049, and along land N/F of Milton W. Farrin and Deanna F. Farrin et. al., as described in Book 31362, Page 298, 261.46', to the

easterly corner of land N/F of Robert J. Kutch and Laura J. Kutch, as described in Book 27093, Page 051;

THENCE: N 53°28'58" W, along said Kutch, 130.98', to land of said City of Portland;

THENCE: N 31°29'06" E, along said City of Portland, 659.48', to the POINT of BEGINNING.

The above described parcel contains 66,560 square feet, more or less.

The bearings for the above described parcel are based on Maine Coordinate System of 1983, West Zone, Grid North.

The above described parcel is subject to an easement to 3 Belfort, LLC by Bernard N. Larsen, dated November 11, 2016, recorded in Book 33615, Page 279.

The above described parcel is shown on plan entitled "Boundary Survey & Lot Split, 1582 Forest Avenue, Portland, Maine", by Northeast Civil Solutions, Inc., dated May 17, 2022, NCS Project No. 41969.01.

Being a portion of the premises conveyed to Alexander Coupe by deed of even or recent date herewith to be recorded in the Cumberland County Registry of Deeds.

Att. D

City of Portland
389 Congress Street
Portland, ME 04101

June 16, 2025

Re: Belfort Landing Application

To whom it may concern,

Androscoggin Bank is engaged in early due diligence related to Alex Coupe's request to finance the construction of a 50-unit apartment community in Portland, ME.

While we have yet to begin our formal underwriting process, the Bank has been aware of the applicant's anticipated financing request since 2024. Mr. Coupe has remained transparent and in communication on the project's early progress, including the impact of rising building costs, since initial discussions first began.

Alex Coupe is an existing client of the Bank. All accounts maintained at Androscoggin Bank by Mr. Coupe have been handled as agreed. Past residential construction projects financed by the Bank for the applicant have been completed within the anticipated timeframe and as agreed with respect to design, construction, and as an owner/operator. Therefore (and while this letter indicates neither a commitment to lend nor an approval decision), there is preliminarily a reasonable level of confidence in the Borrower's capacity to execute upon the subject project assuming the project's economics satisfy the Bank's underwriting thresholds and criteria.

You may contact me with any questions at 207-518-6327.

Sincerely,

Matt Buonopane
Vice President, Commercial Banking
Androscoggin Bank
100 Middle Street
West Tower, Suite 303
Portland, ME 04101
mbuonopane@androscogginbank.com

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

Att. E

June 27, 2025

Eric Freeman, City Planner
City of Portland
389 Congress Street
Portland, ME 04101

Subject: Proposed Residential Development
1584 Forest Avenue, Portland, ME
Comment Response Letter #4

Dear Eric:

On behalf of **ACRE Properties**, our office is pleased to provide this letter to respond to comments received from the City of Portland Staff since our latest response letter dated June 13, 2025. We offer the following response for each comment, below. For ease of reference, we have repeated those comments in *italics* followed by our responses for Staff's consideration in **bold.**

City Staff Comments Received June 20th, 2025:

- *With the adjustments to the stormwater system design the applicant shall update the stormwater maintenance agreement to include a provision requiring annual inspections of the area immediately downstream of the southwesterly discharge point. The applicant shall be responsible for addressing any erosion or other impacts to the Talbot School property resulting from the project's stormwater discharge.*

Response: The Stormwater Management System Operation and Maintenance Manual has been revised to include provisions for inspection and maintenance of downstream areas (see Attachment 1). This manual is referenced in the stormwater maintenance agreement and will be appended to the final executed agreement.

- *In accordance with Section 17.2.3.C.3, workforce housing units must be integrated into the overall development and shar a common entrance with market-rate units. The current application materials do not identify which units are designated as workforce units. The applicant must update the building floor plans to clearly indicate which units will be designated as workforce housing. Please note that these units must be distributed throughout the building and may not be clustered in a single location.*

Response: The attached floor plans depict the locations of the 13 workforce housing units. These units are spread out across the 3 floors of the building and include 6 one-bedroom units and 7 two-bedroom units

- *The applicant submitted a revised LID scoring sheet on Wednesday, June 18, in response to City comments. City staff has received the updated scoring sheet and is currently reviewing the revisions.*

Response: No response required.

- *The applicant's rendering dated May 22, 2025 depicts a white vinyl fence installed along the property line abutting the Talbot School, while the site plan dated May 22, 2025 does not reflect the fence. The applicant shall update the site plan to either include the fence along the property boundary with the*

Talbot School, or alternatively, incorporate a shorter section of fencing specifically to screen the HVAC units, rather than extending the fence along the entire length of that side of the property.

Response: The site plan has been revised to depict a white vinyl fence adjacent to the HVAC units to provide screening.

- *In accordance with Section 13.6.4.A.3, proposed buildings with an aggregate roof area greater than 2,000 square feet (measured horizontally) and, for residential projects, more than nine residential units, must ensure that at least 75% of the roof area meets the following "cool roof" Solar Reflective Index (SRI) standards:*
  - *Roofs with a slope less than 2:12: SRI of 82+ (initial) / 64+ (3-year aged)*
  - *Roofs with a slope greater than 2:12: SRI of 25+ (initial and 3-year aged)*

  Roof areas shaded by structures with an SRI of 39+—including photovoltaic panels—are exempt from the roof area calculations under this standard.
  The current application materials do not specify how the project complies with this requirement. The site plan must be updated to clearly demonstrate compliance.

Response: The proposed roofs have a slope greater than 2:12. The elevations specify "Landmark Solaris Cool roof or similar reflective roof system with solar reflective index of min 25+; color Silver Birch, initial SRI 27, aged 28 or crystal gray initial SRI 29 aged 28". Data sheets are included in Attachment 3 of this submission.

- *As outlined in Section 13.6.2.B.1.3.a, one tree planting is required for every 750 square feet of uncovered asphalt paved parking area (including drive aisles). Based upon the square footage of the surface parking lot in the provided plans, the applicant will need to provide six additional tree plantings along the perimeter of the parking area or on the site. If additional trees cannot be planted the applicant may choose to pay a fee-in-lieu to the tree fund.*

Response: Based on conversation with the Landscape Architect there does not appear to be adequate space for the additional required plantings. Therefore, the applicant intends to pay the fee-in-lieu to the tree fund. It is our understanding that this fee would amount to $2,400 ($400/tree x 6 trees) per Section 4.1.3.B of the Technical Manual.

- *The applicant shall provide a tree preservation plan within the construction management plan demonstrating how on-site trees being preserved will be protected during the course of construction. This plan should provide specific recommendations for preservation for trees in close proximity to work areas.*

Response: The following tree preservation note has been added to the site plan and landscaping plan to outline how trees will be protected during the course of construction; "The contractor shall install construction fencing or approved equal to delineate and protect critical root zones associated with the trees to be preserved (noted on this plan). Critical root zones and protective barriers shall be inspected by the landscape architect. The contractor shall be responsible for all costs associated with damaged trees that are required to be protected, including but not limited to replacing the tree and/or paying fines."

- *Each building's primary entrance should feature a portico supposed by columns or other architectural distinctive features to provide covered access, create a defined transition between the exterior and interior, and emphasize the entrance as a focal point—consistent with the surrounding context. The current entrance design appears understated, making it unclear where visitors should be directed*

upon arrival. Its minimalist and secondary nature does not align with the scale or the traditional character reflected in the overall building design. An example of a larger multifamily building incorporating an entrance with a traditional residential design is provided below for reference.



Response: Based on discussions with city staff, this comment was drafted with the understanding that the main entrance to the buildings were located on the north side of the buildings (plan east). Upon clarifying that the main entrances are located in the northeast corner of the buildings under the cantilevered portion of the building, city staff agreed that a portico would not be appropriate. The elevations also depict signage above the main entrances ("Belfort Landing North/South") to direct visitors to the main entrances.

City Staff Comments Received June 24th, 2025:

- *The site plan and renderings do not appear to show any sidewalks or pathways connecting the development areas, or linking the building entrances to the rest of the site. As shown, it seems that people would enter and exit directly through the driveway and parking lot, with no delineation or curbing, which may not provide safe or intentional pedestrian circulation or place making. Please clarify how building access and circulation are intended to function.*

Response: Our circulation analysis is based on the fact that pedestrians will typically take the shortest route to get to their destination. For this reason, we would typically have a sidewalk running along the front of the building as it is the shortest route to the entrance. With the parking under the building, a curbed sidewalk in front is not feasible. However, the proposed building design features a 4'-9" walkway behind the 18' parking spaces to allow for safe pedestrian access. Additionally, to support the City's (and the applicant's) desire to promote alternative forms of transportation (walking, bus, & biking), we have provided walkways along Belfort Street as well as a walkway from Forest Avenue to facilitate pedestrian access from public areas to the site.

The only additional place we could add sidewalk is in front of the uncovered parking spaces which would require pedestrians to walk further away from their destination (the building) to use this sidewalk. Additionally, pedestrians would still have to traverse across the drive aisle. Therefore, we are of the opinion that a sidewalk in this location would see very little use (if any) and just add to the impervious footprint.

Attachment 4 includes a sketch depicting several anticipated pedestrian routes to the buildings. Given the low volume nature of residential developments and the 90 degree turn that vehicles will have to take to access parking spaces (which reduces speeds), we do not anticipate major conflicts with pedestrians crossing the drive aisle.

CLOSURE

We look forward to your review of this response package which includes revisions to accommodate the staff, planning board, and public comments received to date. Acre Properties and their representative(s) plan to attend the Planning Board Meeting scheduled for July 8, 2025. Please do not hesitate to contact our office if additional information is required, or if you have any questions about the information being submitted.

Sincerely,

GORRILL-PALMER



Douglas Reynolds, PE
Project Manager
Phone: 207-772-2515
dreynolds@gorrillpalmer.com

Attachments:
Attachment 1 – Revised Stormwater Management System Operation and Maintenance Manual
Attachment 2 – Revised Floor Plans and Elevations
Attachment 3 – Landmark Solaris Roof Data Sheets
Attachment 4 – Pedestrian Circulation Sketch
Revised Plan Set

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MEMORANDUM
TRAFFIC EVALUATION
1582 FOREST AVE
PORTLAND, ME
March 3, 2025

INTRODUCTION

It is our understanding that Acre Properties would like to propose the construction of two, three-story, multi-family dwellings as new residential development in Portland, Maine. Each dwelling will consist of 25 units for a total of 50 units combined. The residential development is proposed to be accessed via Belfort Street from Forest Avenue. The physical address for the site is 1582 Forest Avenue and is currently an undeveloped 1.5-acre site.

Gorrill Palmer received a comment response on their major site plan submission from Portland City Planner Eric Freeman stating that "1. *The applicant shall conduct a traffic study with the following scope: An evaluation of conditions at the Forest Avenue / Belfort Street intersection. This shall include an evaluation of traffic operations, safety conditions, pedestrian conditions, sight distance and access management conditions."*

This memorandum includes an evaluation of the following:

- Capacity Analysis
- Safety Conditions
- Pedestrian Conditions
- Sight distance and access management

TRIP GENERATION

Trip generation for the site has been calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation,* 11th Edition, the most recent edition accepted by MaineDOT. The proposed residential development will include 50 units. After review of the Land Use Codes (LUCs) provided in the 11th Edition of *Trip Generation*, the following was selected to calculate the trip generation for the proposed uses:

Proposed Trip Generation Variables

- LUC 220 – Multifamily Housing (Low-Rise)

The ITE provides two methodologies for determining trip generation; fitted curve and average rate. Because the number of units for the ITE studies are over 200, and 50 units are being proposed, using the fitted curve equation does not appear to yield realistic results. Therefore, the average rate was used for this evaluation. Trip generation calculations are provided in Attachment A.

The following Table 1 summarizes the trip generation for Multifamily Housing (Low-Rise)

Table 1 – Trip Generation (LUC 220 – 50 units**)**

Time Period	Trip Generation (Trip Ends)	
	Trip Gen Rates	Trip Generation
Weekday	6.74	337
AM Peak Hour of Adjacent Street	0.40	20
PM Peak Hour of Adjacent Street	0.51	26
AM Peak Hour Generator	0.47	24
PM Peak Hour Generator	0.57	28
Saturday Peak Hour Generator*	0.41	21

* Trip gen rates based on one study

TRAFFIC COUNT

Gorrill Palmer (GP) completed a turning movement count at the intersection of Forest Avenue / Belfort Street on Tuesday, February 25, 2025, from 2:00 PM – 6:00 PM and on Wednesday, February 26, 2025, from 7:00 AM – 9:00 AM. These time periods were approved by the City prior to counting. Raw traffic volumes on Forest Avenue were adjusted to peak summer conditions using the 2024 weekly group mean factors (1.04 / 0.87 = 1.20). This site is expected to be constructed in 2025, therefore it does not require an annual growth adjustment. Traffic figures are located in Attachment B.

CAPACITY ANALYSIS

A capacity analysis was completed for the intersection of Forest Avenue / Belfort Street for two scenarios; AM & PM peak hours for the predevelopment and postdevelopment conditions, Figures 2 & 4 respectively.

Capacity analysis was completed using Synchro/SimTraffic computer analysis software (Version 12). Hard copies of the capacity analysis are provided in Attachment D. Level of service rankings are similar to the academic rankings system where an 'A' is good with little control delay and an 'F' represents poor traffic conditions. If the level of service falls below a 'D' an evaluation should be made to determine if mitigation is warranted.

The following Table 2 summarizes the level of service for an unsignalized intersection based on the Highway Capacity Manual.

Table 2 – Unsignalized Intersection

Level of Service	Control Delay per Vehicle (s)
A	Less than 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The following Table 3 summarizes the results of AM pre & postdevelopment conditions.

Table 3 – AM Capacity Analysis

Intersection Movement*	Predevelopment (delay sec./LOS)		Postdevelopment (delay sec./LOS)	
Belfort Street NB LR	9	A	10	A
Forest Avenue SEB TR	2	A	2	A
Forest Avenue NWB LT	2	A	2	A

**L=left, T=Through, R=Right, EB=Eastbound, NB=Northbound, SB=Southbound*

The following Table 4 summarizes the results of PM pre & postdevelopment conditions.

Table 4 – PM Capacity Analysis

Intersection Movement*	Predevelopment (delay sec./LOS)		Postdevelopment (delay sec./LOS)	
Belfort Street NB LR	8	A	8	A
Forest Avenue SEB TR	2	A	2	A
Forest Avenue NWB LT	3	A	4	A

**L=left, T=Through, R=Right, EB=Eastbound, NB=Northbound, SB=Southbound*

Based on the results from Tables 3 & 4, the intersection movements are forecast to operate at acceptable LOSs for all movements. The addition of the residential development is not forecast to have a significant impact on the operations of the intersection. Capacity analysis results are provided in Attachment C

SAFETY CONDITIONS

Gorrill Palmer requested and reviewed the latest three-year MaineDOT crash history (2021-2023) for the anticipated study area. Crash history is provided in Attachment D.

To evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:

2. A minimum of eight crashes over the same three-year period.

Based on a review of the crash history, there were two crashes at the Belfort St. / Forest Ave. intersection in the three-year time period 2021-2023. There are no high crash locations in the immediate study area.

In addition, GP reviewed the safety information on the MaineDOT Crash Query website for the period of 2021-2023 to check for pedestrian and bicycle crashes. There are no reported pedestrian or bicycle crashes in the immediate study area.

PEDESTRIAN CONDITIONS

Overall pedestrian counts were completed for the intersection of Forest Avenue / Belfort Street. The pedestrian count was completed for the full time period of 7:00 AM – 9:00 AM and 2:00 PM – 6:00 PM with no peak hour designation. There was a total of approximately 10 pedestrians that crossed Belfort Street and a total of approximately 10 pedestrians that crossed Forest Avenue at the crosswalk from 7:00 AM – 9:00 AM. There was a total of approximately 33 pedestrians that crossed Belfort Street and a total of approximately 16 pedestrians that crossed Forest Avenue at the crosswalk from 2:00 PM – 6:00 PM.

There are sidewalks provided on both sides of Forest Avenue and Belfort Street. A crosswalk is striped directly to the right exiting Belfort Street with no crosswalk striped across Belfort Street. There are not pedestrian landings provided at the Forest Avenue crosswalk ends or on either corner of Belfort Street. This is an existing condition and not the responsibility of the proposed project.

There is a bicycle lane provided on both sides of Forest Avenue.

SIGHT DISTANCE & ACCESS MANAGEMENT

The site is proposed to be accessed via one full movement unsignalized driveway off Belfort Street. Per the request of the City, sight distance was measured at the intersection of Forest Avenue / Belfort Street.

Sight Distance:

The City of Portland and MaineDOT use the same standards for sight distance. The following Table 5 presents the sight distance standards for MaineDOT.

Table 5 – Standards for Sight Distance

Speed Limit (mph)	Passenger Vehicle – MaineDOT (ft)
25	200
30	250
35	305
40	360
45	425

MaineDOT sight distance evaluation methodology is as follows:

Driveway Observation Point:	10 feet from traveled way
Height of Eye at Driveway:	3.5 feet above the ground
Height of Approaching vehicle:	4.25 feet above the ground

Based on the MaineDOT Map Viewer, Forest Avenue in the site vicinity is 30 mph. This speed was used for the sight distance evaluation.

The following Table 6 summarizes the measured sight distances exiting Belfort Street onto Forest Avenue looking left and right.

Table 6 – Sight Distance Summary

Driveway	Passenger Vehicle Required (feet)	Observed Looking Left (feet)	Observed Looking Right (feet)
Belfort Street	250	Approximately 270 to intersection	400+

As seen from the results in Table 6, the available sight distances exceed MaineDOT minimum requirements, provided parked vehicles in the area do not block sight distances.

It was observed during the traffic count that vehicles parking adjacent to and in front of a local store on the southwesterly corner of the intersection causes sight-distance issues looking to the left leaving Belfort Street.

This is a long-standing existing condition and is not the responsibility of the proposed development to address.

Access Management:

The adjacent store has two significantly wide curb cuts (greater than 50 feet each) on Forest Avenue and a third curb cut located on Belfort Street approximately 25 feet from the intersection with Forest Avenue. In addition to the store, the business on the opposite side of Belfort Street, also has a significantly wide curb cut (approximately 100 feet) close to Forest Avenue.

In our opinion, the access management in the immediate area is very poor, but it is a long-standing existing condition that is not the responsibility of the proposed development to address.

Attachments:

Attachment A – Trip Generation
Attachment B – Trip Figures
Attachment C – Capacity Analysis
Attachment D – Safety Review

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Attachment A

Trip Generation

Land Use: 220
Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.
- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.
- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.
- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

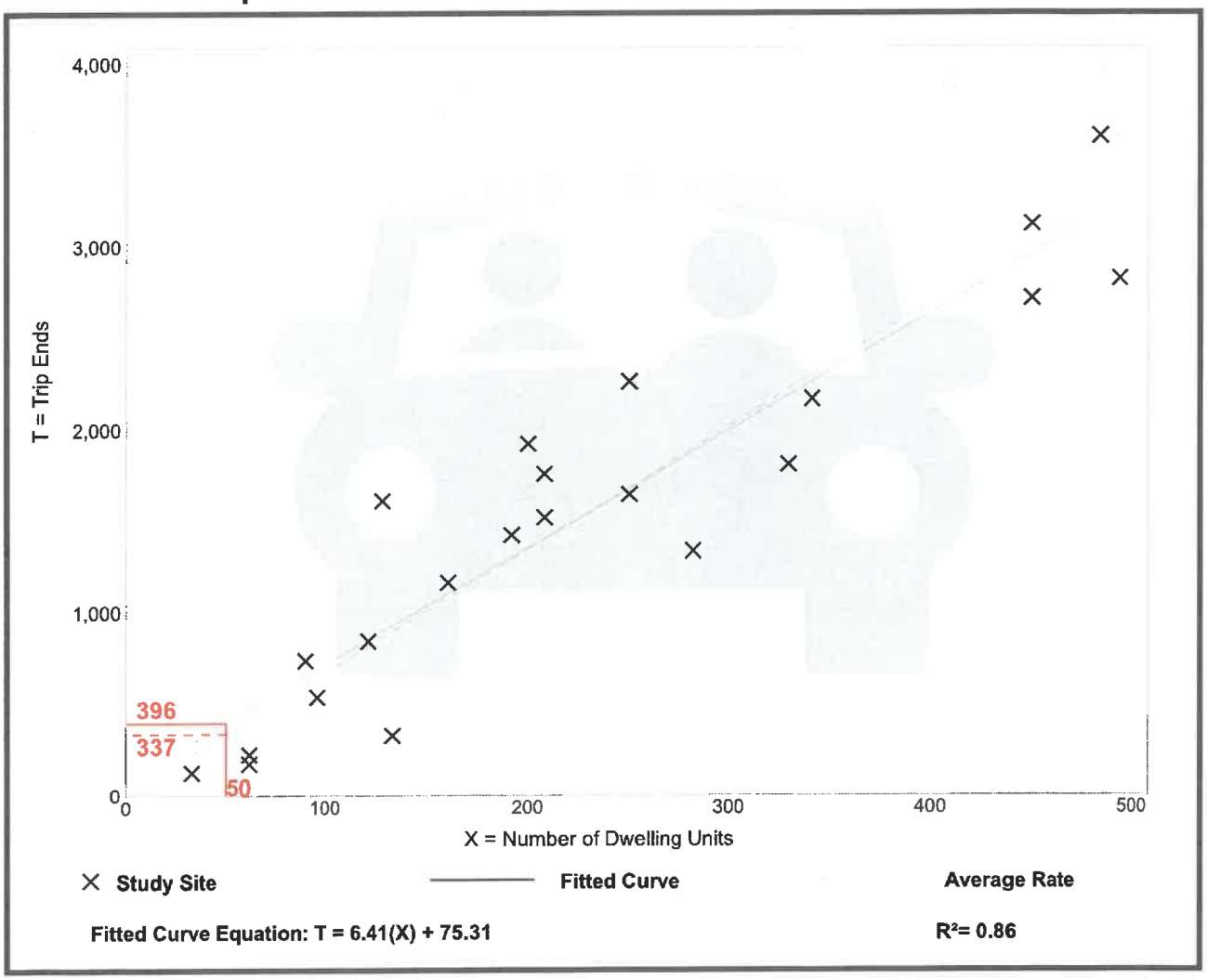
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

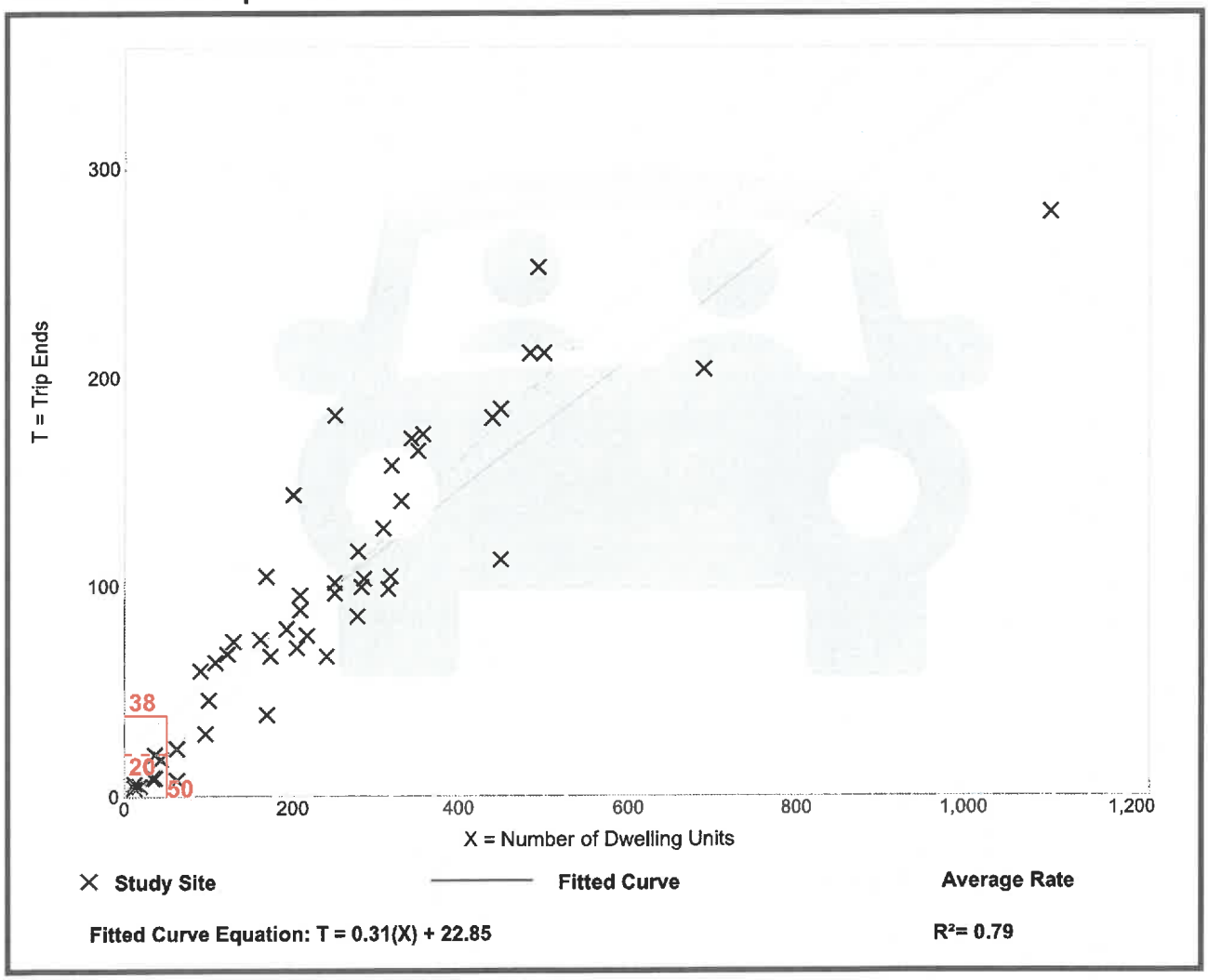
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 49
Avg. Num. of Dwelling Units: 249
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



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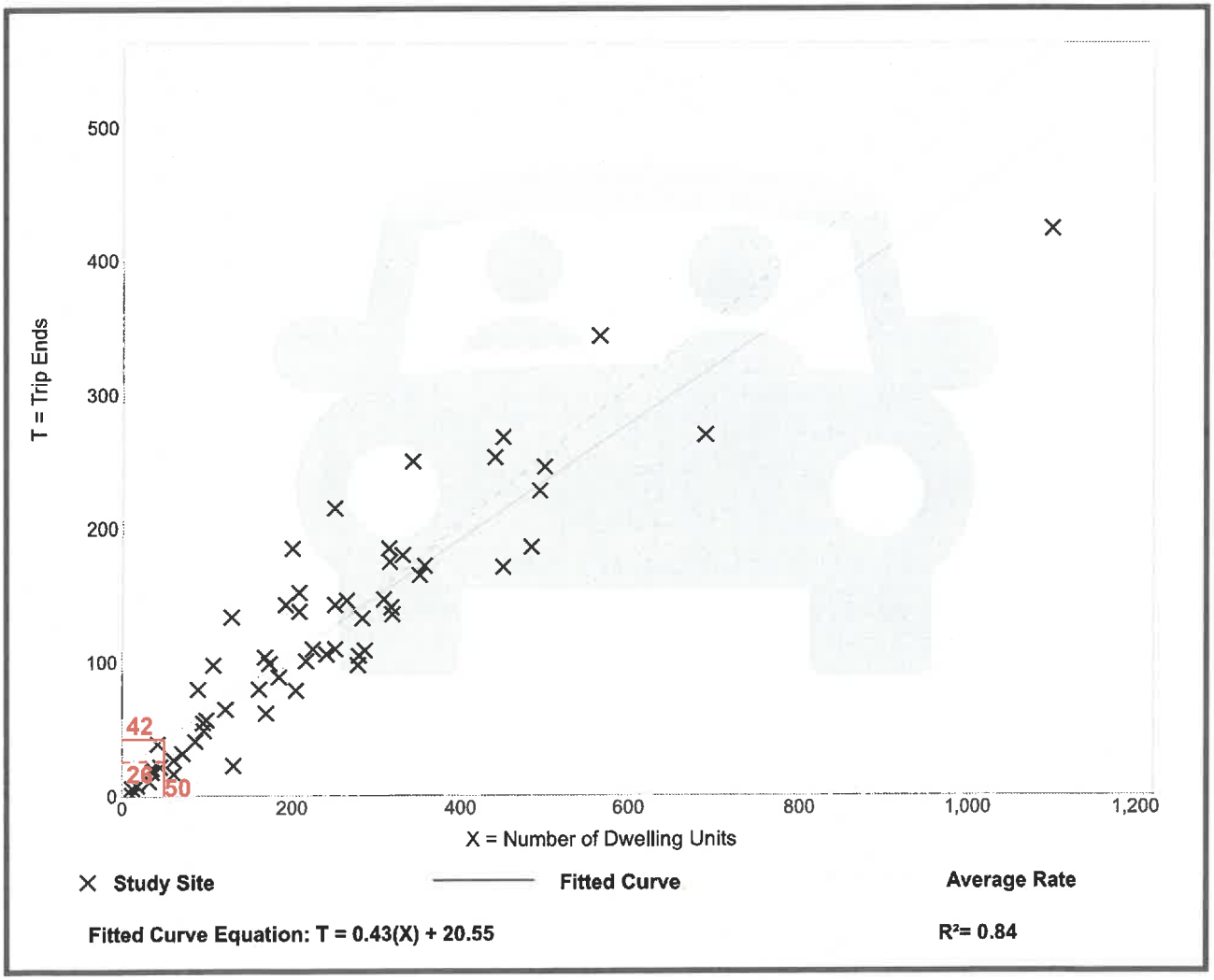
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 59
Avg. Num. of Dwelling Units: 241
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



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Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

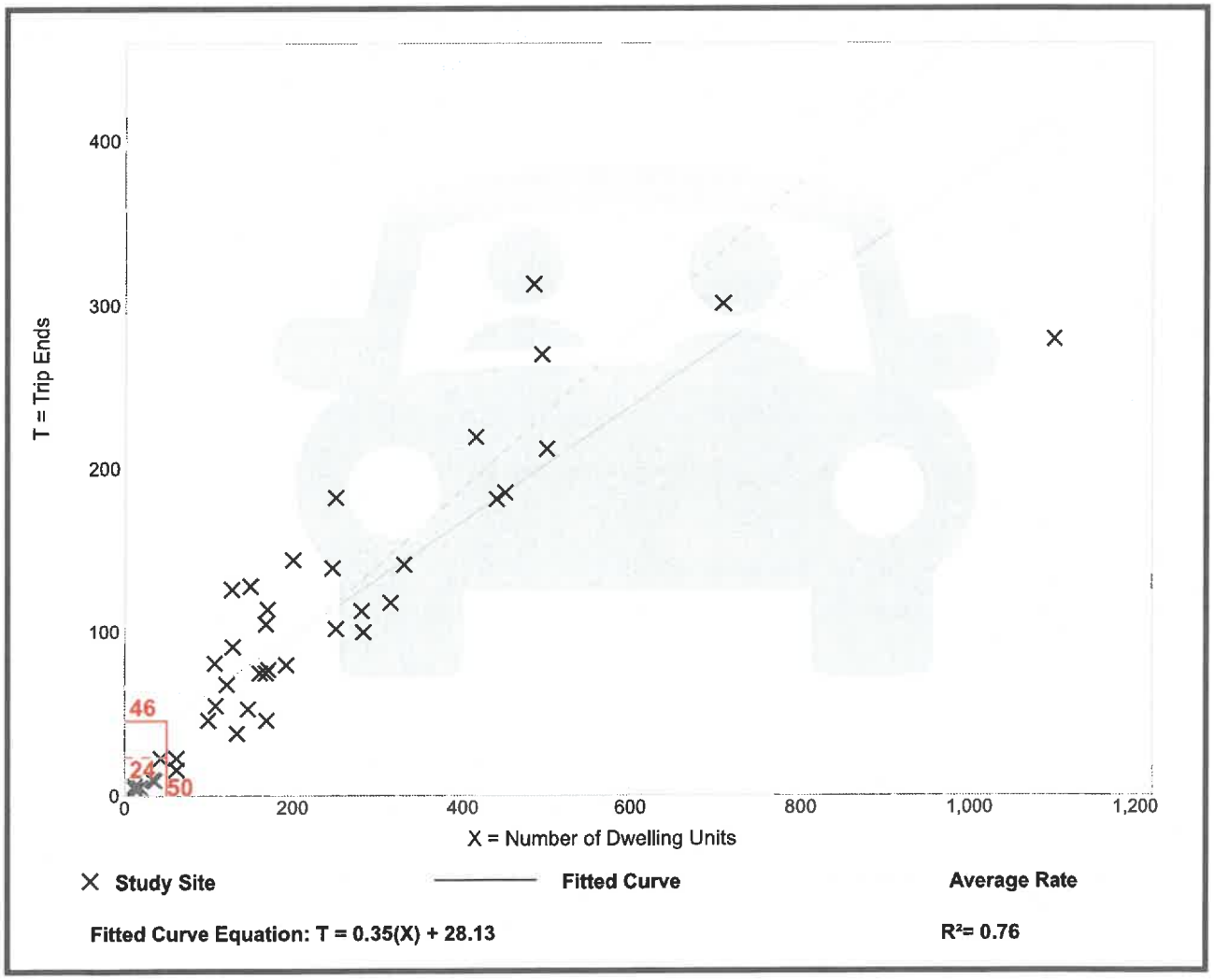
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 40
Avg. Num. of Dwelling Units: 234
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.25 - 0.98	0.16

Data Plot and Equation



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Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

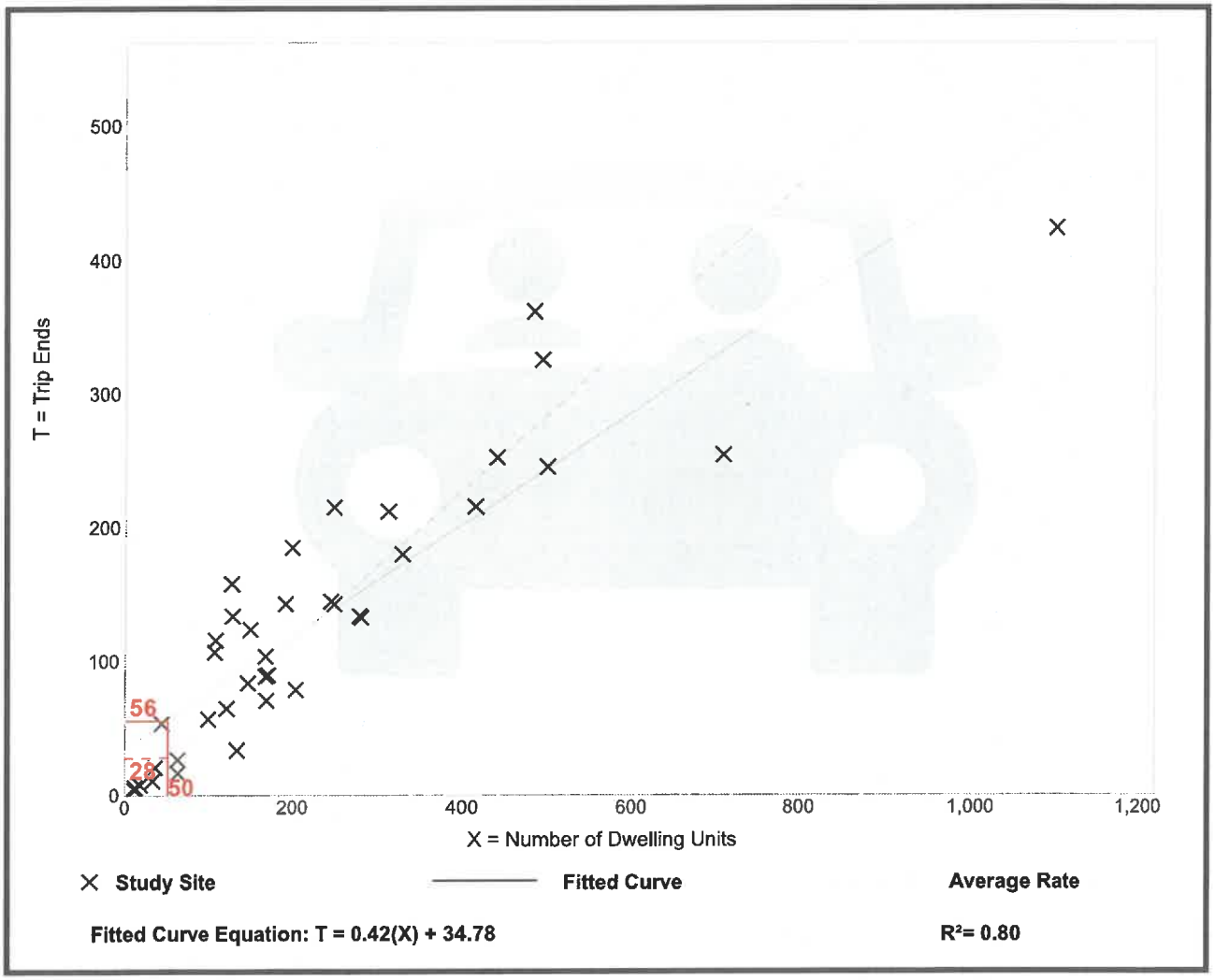
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 38
Avg. Num. of Dwelling Units: 231
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.25 - 1.26	0.20

Data Plot and Equation



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Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

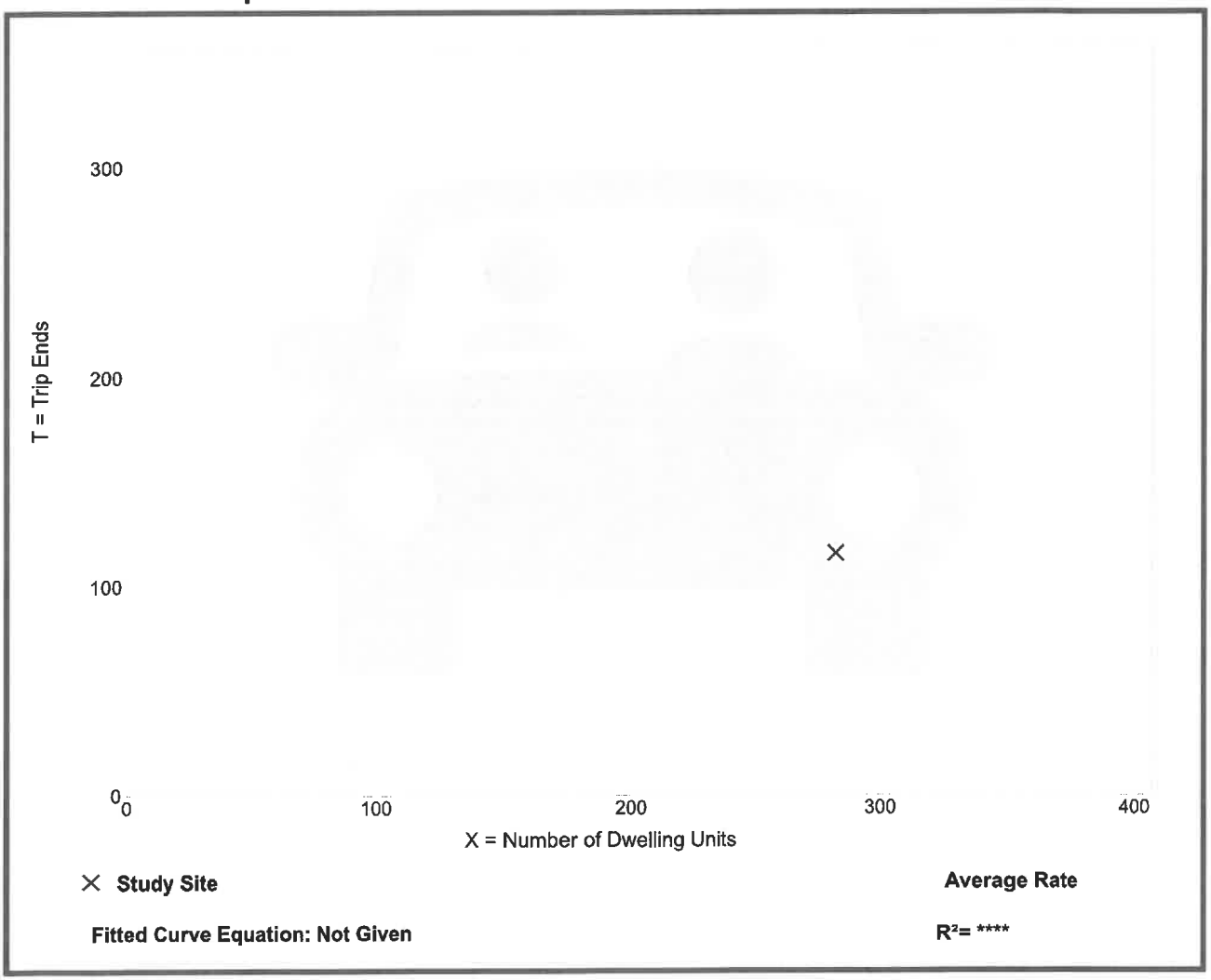
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: Not Available

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.41 - 0.41	*

Data Plot and Equation

Caution – Small Sample Size



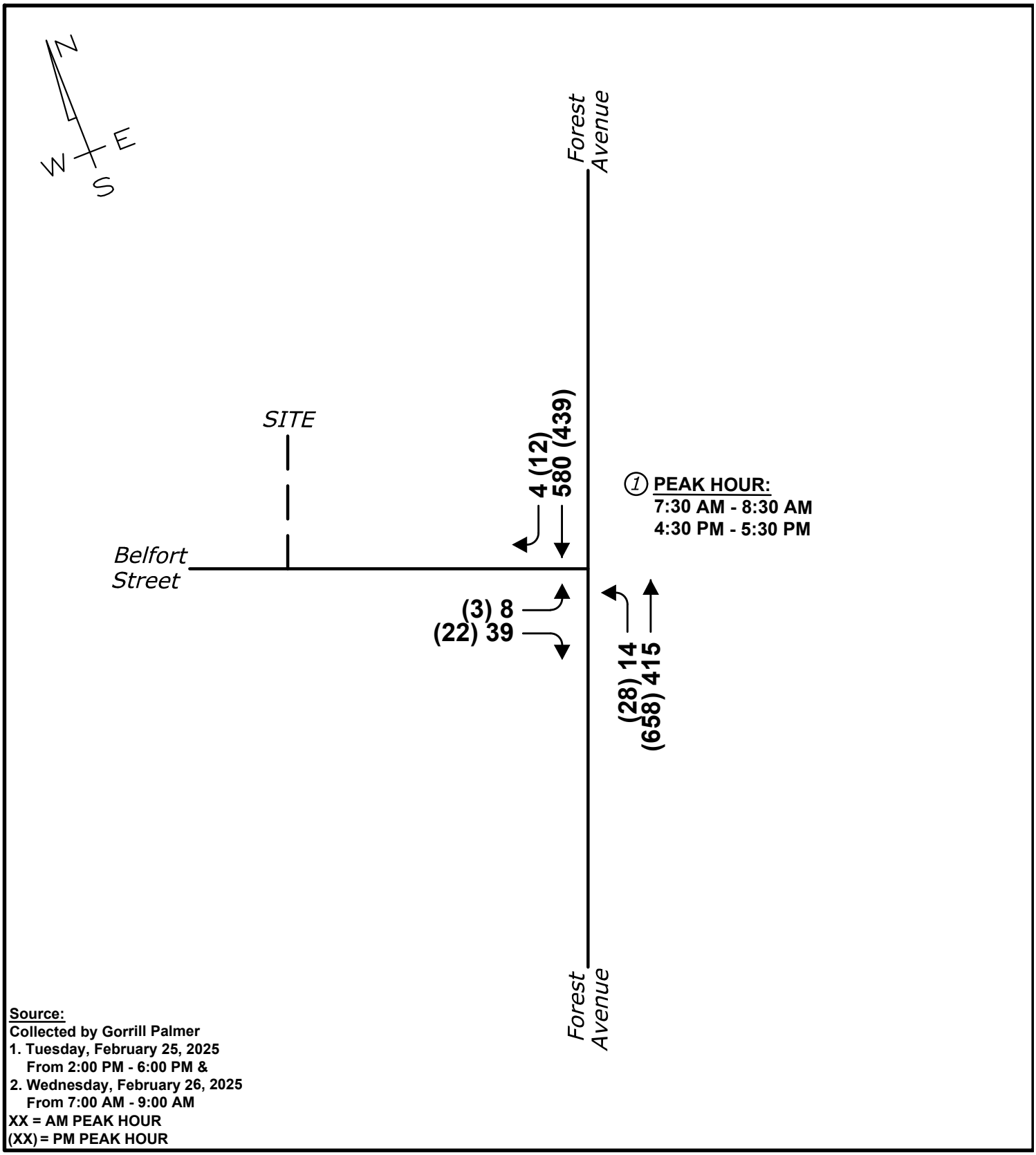
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Attachment B
Trip Figures

RAW VOLUMES

Figure No. 1



Source:
Collected by Gorrill Palmer
1. Tuesday, February 25, 2025
From 2:00 PM - 6:00 PM &
2. Wednesday, February 26, 2025
From 7:00 AM - 9:00 AM
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

158 FOREST AVE
PORTLAND, MAINE

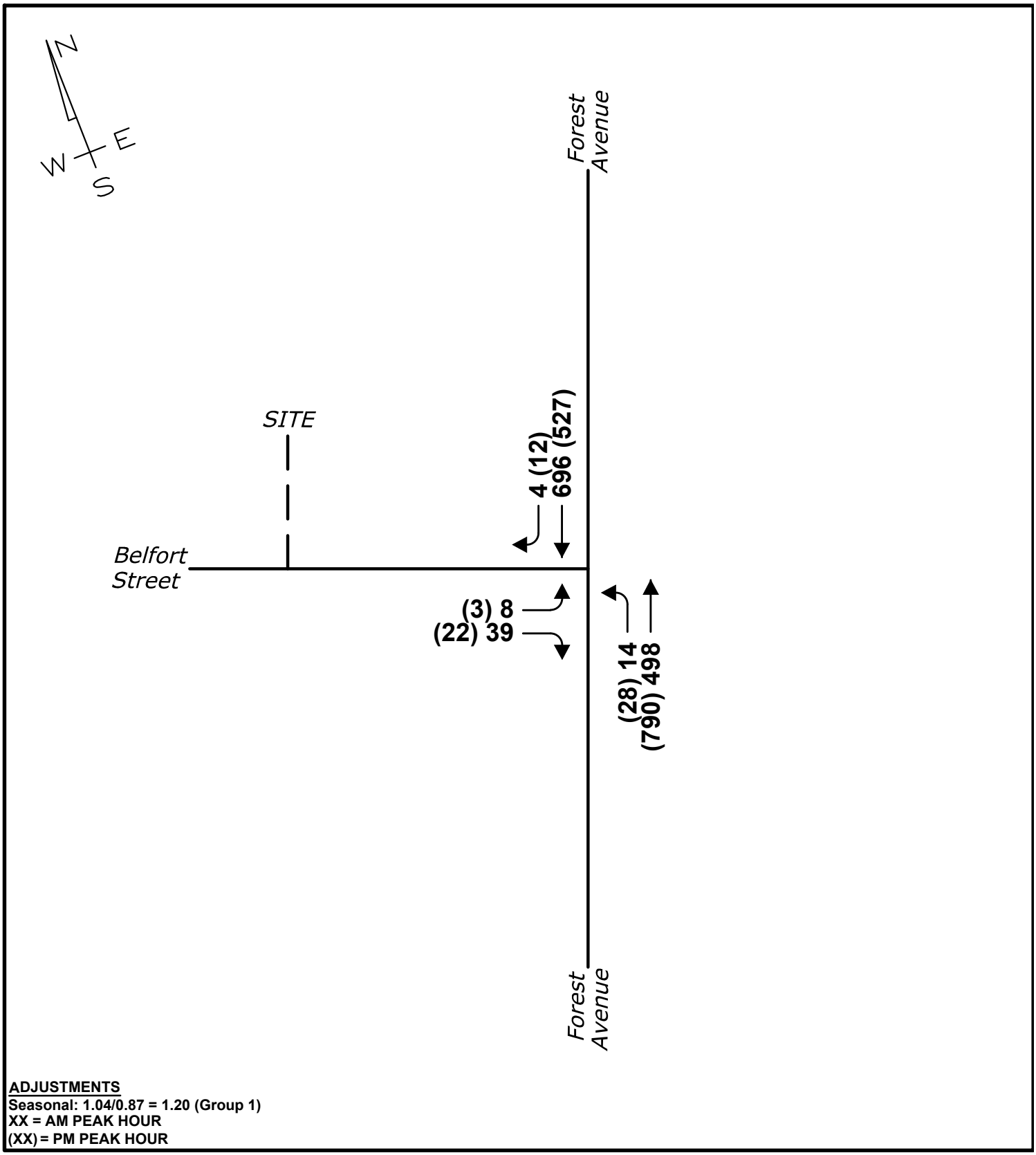
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Draft:	KJB	Date:	2/28/2025
Checked:	RED	File Name:	Figure Set-TD.dwg

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ADJUSTED VOLUMES

Figure No. 2



158 FOREST AVE
PORTLAND, MAINE

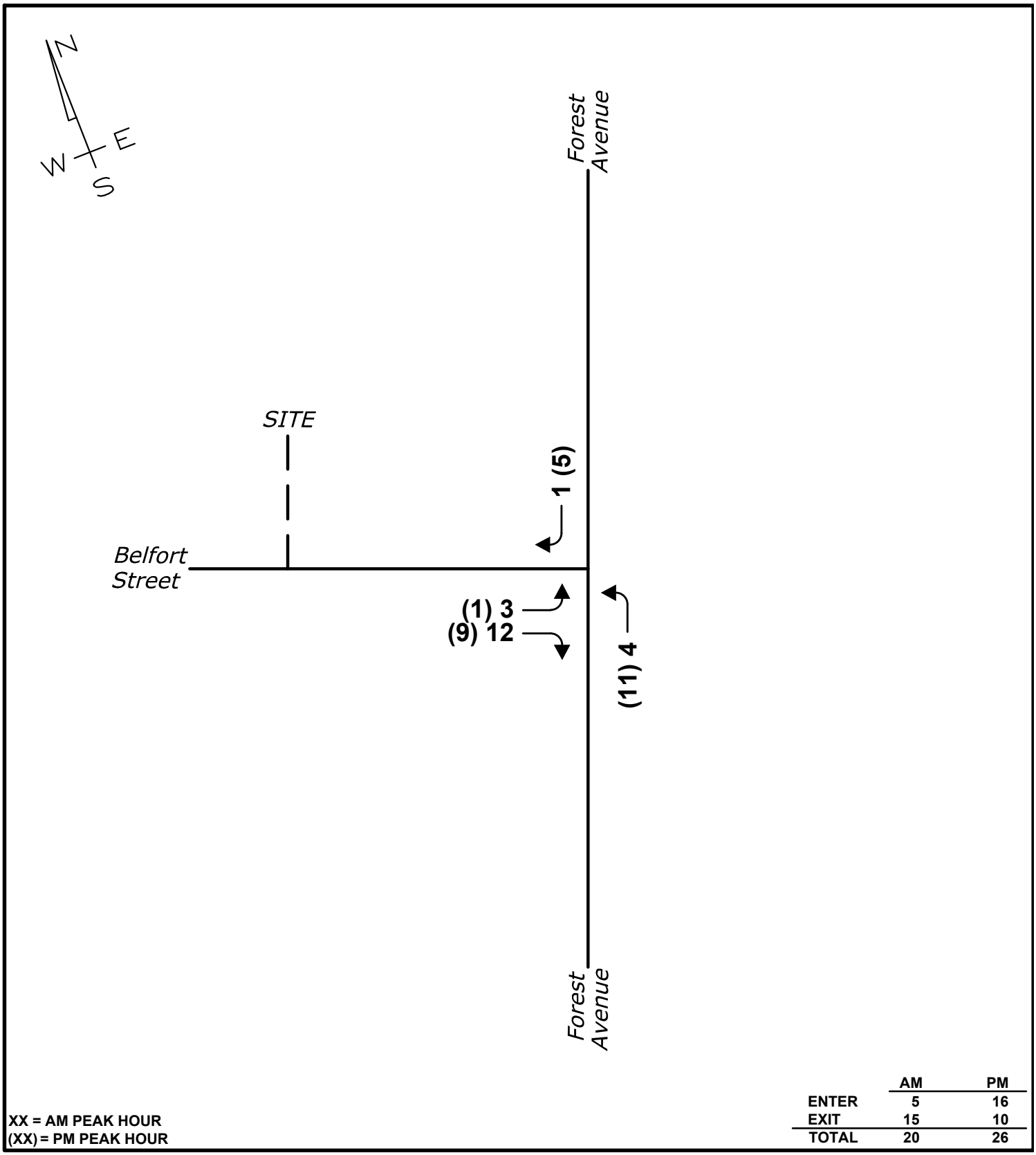
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Checked: RED File Name: Figure Set-TD.dwg

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TRIP DISTRIBUTION

Figure No. 3



	AM	PM
ENTER	5	16
EXIT	15	10
TOTAL	20	26

XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

158 FOREST AVE
PORTLAND, MAINE

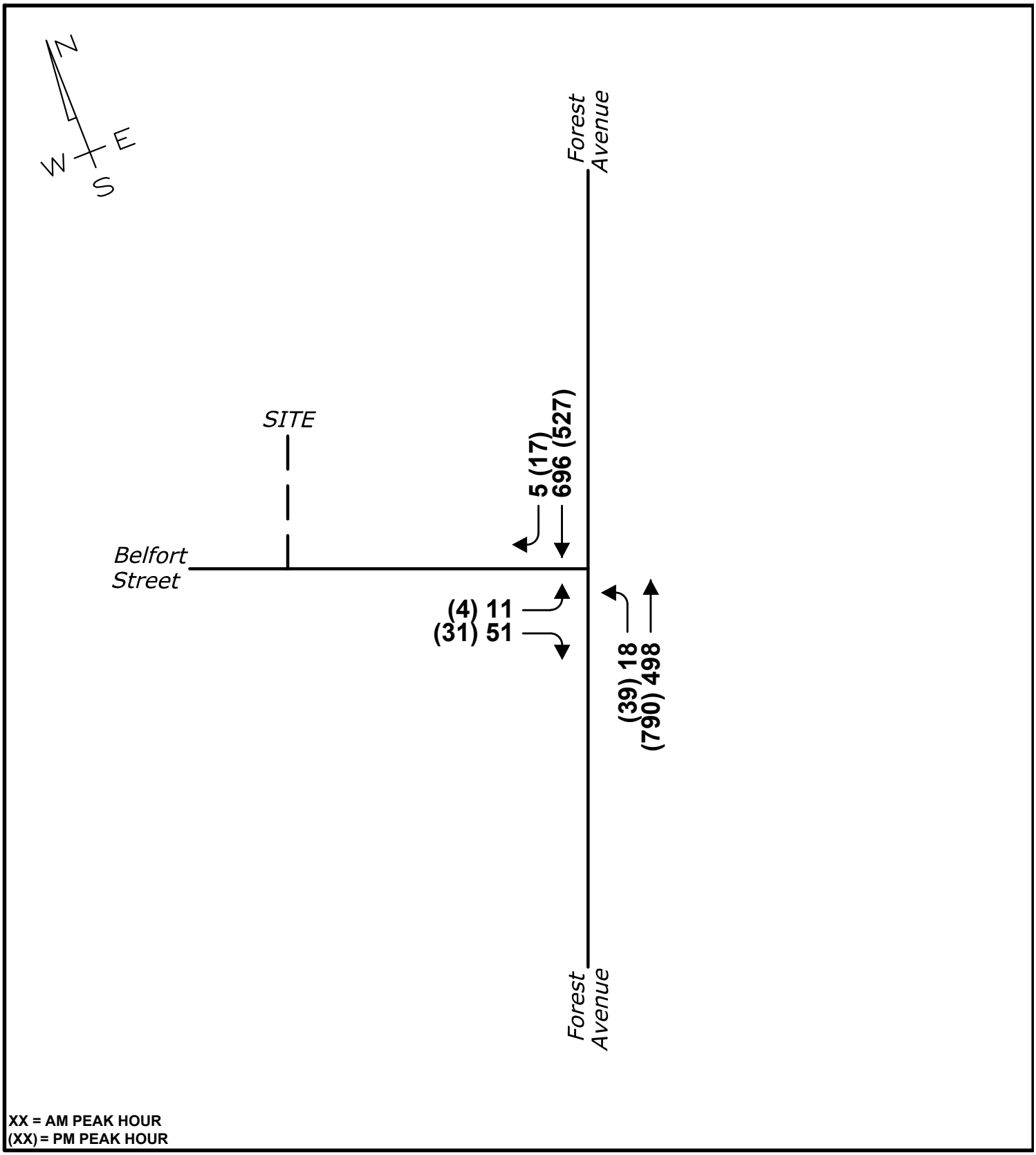
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POSTDEVELOPMENT

Figure No. 4



158 FOREST AVE
PORTLAND, MAINE

Design:	KJB	Scale:	NONE
Draft:	KJB	Date:	2/28/2025
Checked:	RED	File Name:	Figure Set-TD.dwg

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Attachment C
Capacity Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:30	7:30	7:30	7:30	7:30	7:30
End Time	8:35	8:35	8:35	8:35	8:35	8:35
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1319	1313	1258	1243	1206	1268
Vehs Exited	1316	1321	1264	1241	1205	1270
Starting Vehs	22	25	30	16	23	21
Ending Vehs	25	17	24	18	24	20
Travel Distance (mi)	682	681	655	645	627	658
Travel Time (hr)	24.9	24.8	23.9	23.2	22.8	23.9
Total Delay (hr)	1.7	1.7	1.7	1.5	1.6	1.6
Total Stops	62	71	58	64	58	63
Fuel Used (gal)	20.2	20.1	19.4	18.9	18.4	19.4

Interval #0 Information Seeding

Start Time	7:30
End Time	7:35
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:35
End Time	8:35
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1319	1313	1258	1243	1206	1268
Vehs Exited	1316	1321	1264	1241	1205	1270
Starting Vehs	22	25	30	16	23	21
Ending Vehs	25	17	24	18	24	20
Travel Distance (mi)	682	681	655	645	627	658
Travel Time (hr)	24.9	24.8	23.9	23.2	22.8	23.9
Total Delay (hr)	1.7	1.7	1.7	1.5	1.6	1.6
Total Stops	62	71	58	64	58	63
Fuel Used (gal)	20.2	20.1	19.4	18.9	18.4	19.4

3: Belfort Street & Forest Avenue Performance by lane

Lane	NB	SE	NW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	9.0	1.5	1.7	1.9

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	4.1

Intersection: 3: Belfort Street & Forest Avenue

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	65	112
Average Queue (ft)	28	12
95th Queue (ft)	54	56
Link Distance (ft)	977	1464
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:30	7:30	7:30	7:30	7:30	7:30
End Time	8:35	8:35	8:35	8:35	8:35	8:35
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1334	1340	1271	1253	1216	1283
Vehs Exited	1333	1347	1274	1253	1216	1285
Starting Vehs	23	25	30	17	23	22
Ending Vehs	24	18	27	17	23	21
Travel Distance (mi)	690	694	660	649	631	665
Travel Time (hr)	25.2	25.3	24.1	23.5	23.0	24.2
Total Delay (hr)	1.7	1.8	1.7	1.5	1.6	1.7
Total Stops	72	87	73	90	76	80
Fuel Used (gal)	20.4	20.5	19.6	19.1	18.6	19.6

Interval #0 Information Seeding

Start Time	7:30
End Time	7:35
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:35
End Time	8:35
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1334	1340	1271	1253	1216	1283
Vehs Exited	1333	1347	1274	1253	1216	1285
Starting Vehs	23	25	30	17	23	22
Ending Vehs	24	18	27	17	23	21
Travel Distance (mi)	690	694	660	649	631	665
Travel Time (hr)	25.2	25.3	24.1	23.5	23.0	24.2
Total Delay (hr)	1.7	1.8	1.7	1.5	1.6	1.7
Total Stops	72	87	73	90	76	80
Fuel Used (gal)	20.4	20.5	19.6	19.1	18.6	19.6

3: Belfort Street & Forest Avenue Performance by lane

Lane	NB	SE	NW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	9.2	1.5	1.8	2.0

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	4.1

Intersection: 3: Belfort Street & Forest Avenue

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	69	96
Average Queue (ft)	32	15
95th Queue (ft)	56	59
Link Distance (ft)	977	1464
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:35	5:35	5:35	5:35	5:35	5:35
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1423	1461	1398	1336	1372	1399
Vehs Exited	1425	1470	1410	1325	1373	1401
Starting Vehs	30	31	31	14	17	24
Ending Vehs	28	22	19	25	16	23
Travel Distance (mi)	739	761	728	690	712	726
Travel Time (hr)	27.0	28.0	26.7	25.2	26.2	26.6
Total Delay (hr)	2.0	2.3	2.0	1.9	2.1	2.0
Total Stops	59	49	52	50	47	51
Fuel Used (gal)	22.0	22.4	21.6	20.3	21.0	21.5

Interval #0 Information Seeding

Start Time	4:30
End Time	4:35
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:35
End Time	5:35
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1423	1461	1398	1336	1372	1399
Vehs Exited	1425	1470	1410	1325	1373	1401
Starting Vehs	30	31	31	14	17	24
Ending Vehs	28	22	19	25	16	23
Travel Distance (mi)	739	761	728	690	712	726
Travel Time (hr)	27.0	28.0	26.7	25.2	26.2	26.6
Total Delay (hr)	2.0	2.3	2.0	1.9	2.1	2.0
Total Stops	59	49	52	50	47	51
Fuel Used (gal)	22.0	22.4	21.6	20.3	21.0	21.5

3: Belfort Street & Forest Avenue Performance by lane

Lane	NB	SE	NW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.6
Total Del/Veh (s)	7.4	1.3	2.8	2.3

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	4.6

Intersection: 3: Belfort Street & Forest Avenue

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	47	133
Average Queue (ft)	16	23
95th Queue (ft)	42	84
Link Distance (ft)	977	1464
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:35	5:35	5:35	5:35	5:35	5:35
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1434	1487	1408	1347	1402	1416
Vehs Exited	1441	1496	1420	1339	1408	1421
Starting Vehs	32	31	30	18	22	25
Ending Vehs	25	22	18	26	16	22
Travel Distance (mi)	745	772	732	696	728	735
Travel Time (hr)	27.4	28.6	26.9	25.6	26.9	27.1
Total Delay (hr)	2.1	2.4	2.1	2.0	2.2	2.2
Total Stops	71	79	75	69	75	74
Fuel Used (gal)	22.2	22.9	21.9	20.7	21.6	21.8

Interval #0 Information Seeding

Start Time	4:30
End Time	4:35
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:35
End Time	5:35
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1434	1487	1408	1347	1402	1416
Vehs Exited	1441	1496	1420	1339	1408	1421
Starting Vehs	32	31	30	18	22	25
Ending Vehs	25	22	18	26	16	22
Travel Distance (mi)	745	772	732	696	728	735
Travel Time (hr)	27.4	28.6	26.9	25.6	26.9	27.1
Total Delay (hr)	2.1	2.4	2.1	2.0	2.2	2.2
Total Stops	71	79	75	69	75	74
Fuel Used (gal)	22.2	22.9	21.9	20.7	21.6	21.8

3: Belfort Street & Forest Avenue Performance by lane

Lane	NB	SE	NW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.6
Total Del/Veh (s)	7.5	1.3	3.1	2.5

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	4.8

Intersection: 3: Belfort Street & Forest Avenue

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	47	145
Average Queue (ft)	21	31
95th Queue (ft)	46	97
Link Distance (ft)	977	1464
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

GORRILL PALMER
An LJB Engineering Company

Attachment D
Safety Review

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Portland
Forest Ave (Rte 302) from Westlawn Dr-Commonwealth Dr (16881) to Newton St (16884) & Belfort St from Por,Belfast,Elbert St (13297) to Forest Ave (16882)

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: **0302X**	Start Node: **16881**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **16884**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560050**	Start Node: **16882**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **13297**	End Offset: **0**	☐ **Exclude Last Node**
Route: **3209864**	Start Node: **69084**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **69085**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
16883	0302X - 3.15	Int of FOREST AV HARRIS AV	2	2	0	0	0	0	2	0.0	6.325	0.11	0.32	0.00
											Statewide Crash Rate:	0.13		
P16884	0302X - 3.20	Int of FOREST AV NEWTON ST	9	3	0	0	0	0	3	0.0	6.566	0.15	1.17	0.00
											Statewide Crash Rate:	0.71		
16882	0302X - 3.13	Int of BELFORT ST FOREST AV	2	2	0	0	0	0	2	0.0	6.219	0.11	0.32	0.00
											Statewide Crash Rate:	0.13		
16881	0302X - 3.07	Int of COMMONWEALTH DR FOREST AV WESTLAWN RD	2	0	0	0	0	0	0	0.0	6.172	0.00	0.32	0.00
											Statewide Crash Rate:	0.13		
A69084	0302X - 3.19	Int of ENT TO RIVERTON SCHOOL FOREST AV	9	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
											Statewide Crash Rate:	0.71		
16882	0560050 - 0	Int of BELFORT ST FOREST AV	2	2	0	0	0	0	2	0.0	6.219	0.11	0.32	0.00
											Statewide Crash Rate:	0.13		
13297	0560050 - 0.24	0503711 POR,BELFAST,ELBERT ST.	2	0	0	0	0	0	0	0.0	0.219	0.00	0.51	0.00
											Statewide Crash Rate:	0.13		
A69084	3209864 - 0	Int of ENT TO RIVERTON SCHOOL FOREST AV	9	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
											Statewide Crash Rate:	0.71		
69085	3209864 - 0.01	End of ENT TO RIVERTON SCHOOL	2	0	0	0	0	0	0	0.0	0.002	0.00	-78.64	0.00
											Statewide Crash Rate:	0.13		
Study Years:	3.00	**NODE TOTALS:**		9	0	0	0	0	9	0.0	31.722	0.09	0.38	0.25

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
16881	16882	3130491	0 - 0.06	0302X - 3.07	0.06	2	1	0	0	0	0	1	0.0	0.00359	92.72	498.87	0.00
Int of COMMONWEALTH DR FOREST AV WESTLAWN RD				US 302											Statewide Crash Rate: 197.04		
16882	16883	3131657	0 - 0.02	0302X - 3.13	0.02	2	2	0	0	0	0	2	0.0	0.00123	542.27	656.88	0.00
Int of BELFORT ST FOREST AV				US 302											Statewide Crash Rate: 197.04		
16883	69084	3506324	0 - 0.04	0302X - 3.15	0.04	2	2	0	0	0	0	2	0.0	0.00252	264.45	546.72	0.00
Int of FOREST AV HARRIS AV				US 302											Statewide Crash Rate: 197.04		
69084	16884	3506325	0 - 0.01	0302X - 3.19	0.01	2	0	0	0	0	0	0	0.0	0.00065	0.00	758.42	0.00
Int of ENT TO RIVERTON SCHOOL FOREST AV				US 302											Statewide Crash Rate: 197.04		
13297	16882	187995	0 - 0.24	0560050 - 0	0.24	2	2	0	0	0	0	2	0.0	0.00072	928.09	1205.03	0.00
0503711 POR,BELFAST,ELBERT ST.				RD INV 05 60050											Statewide Crash Rate: 369.86		
69084	69085	3506326	0 - 0.01	3209864 - 0	0.01	2	0	0	0	0	0	0	0.0	0.00000	0.00	-408907.96	0.00
Int of ENT TO RIVERTON SCHOOL FOREST AV				RD INV 3209864											Statewide Crash Rate: 369.86		
Study Years: 3.00				**Section Totals:**	0.38		7	0	0	0	0	7	0.0	0.00872	267.63	423.70	0.63
				Grand Totals:	0.38		16	0	0	0	0	16	0.0	0.00872	611.73	563.63	1.09

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
16881	16882	3130491	0 - 0.06	0302X - 3.07	1	0	0	0	0	1	2023-30715	10/23/2023	3.08	PD
16882	16883	3131657	0 - 0.02	0302X - 3.13	2	0	0	0	0	2	2022-38909	12/25/2022	3.14	PD
											2021-11664	05/16/2021	3.14	PD
16883	69084	3506324	0 - 0.04	0302X - 3.15	2	0	0	0	0	2	2021-18414	07/17/2021	3.17	PD
											2022-17687	06/25/2022	3.17	PD
69084	16884	3506325	0 - 0.01	0302X - 3.19	0	0	0	0	0	0				
13297	16882	187995	0 - 0.24	0560050 - 0	2	0	0	0	0	2	2021-27983	10/17/2021	0.08	PD
											2021-4659	02/22/2021	0.21	PD
69084	69085	3506326	0 - 0.01	3209864 - 0	0	0	0	0	0	0				
				Totals:	7	0	0	0	0	7				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day PM													
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	4
TUESDAY	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FRIDAY	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
Totals	1	1	0	0	0	0	1	2	0	0	0	0	0	1	3	2	1	2	2	0	0	0	0	0	0	**16**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	13
2-(Sport) Utility Vehicle	11
3-Passenger Van	0
4-Cargo Van (10K lbs or Less)	1
5-Pickup	6
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	1
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0
23-Bicyclist	0
24-Witness	2
25-Other	0
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	**34**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	3	8	1	0	0	0	12
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	1	0	0	0	0	0	1
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	0	0	0	0	0	0	0
Improper Backing	2	0	0	0	0	0	2
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	6	4	0	0	0	0	10
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	2	1	0	0	0	0	3
Unknown	1	0	0	0	0	0	1
Total	**16**	**13**	**1**	**0**	**0**	**0**	**30**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	14	13	1	0	0	0	28
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	0	0	0	0	0	0	0
Total	**15**	**13**	**1**	**0**	**0**	**0**	**29**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	3	0	0	0	0	3
20-24	3	0	0	0	0	3
25-29	1	0	0	0	0	1
30-39	12	0	0	0	0	12
40-49	3	0	0	0	0	3
50-59	6	0	0	0	0	6
60-69	1	0	0	0	0	1
70-79	1	0	0	0	0	1
80-Over	0	0	0	0	0	0
Unknown	2	0	0	0	0	2
Total	**32**	**0**	**0**	**0**	**0**	**32**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**32**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	30		
14-Parked Motor Vehicle	2		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	5
2-Traffic Signals (Flashing)	1
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	2
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	8
14-Other	0
Total	**16**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	0	0
PD	16	0
Total	**16**	**0**

Road Character

Road Grade	Total
1-Level	14
2-On Grade	2
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**16**

Light

Light Condition	Total
1-Daylight	12
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	3
5-Dark - Not Lighted	1
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**16**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	0	0	0	0
FEBRUARY	3	1	0	4
MARCH	0	0	0	0
APRIL	0	0	0	0
MAY	2	0	0	2
JUNE	0	3	0	3
JULY	1	0	2	3
AUGUST	0	0	1	1
SEPTEMBER	0	0	0	0
OCTOBER	1	0	1	2
NOVEMBER	0	0	0	0
DECEMBER	0	1	0	1
Total	**7**	**5**	**4**	**16**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	3	0	9	0	0	1	0	0	0	0	0	0	0	0	13
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3**	**0**	**9**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	6	0	0	0	0	0	0	0	0	0	1	7
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	3	0	0	0	0	0	0	0	0	0	0	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	0	0	0	0	0	0	1	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	1	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	1	0	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**10**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**16**

Att. G

BASIC STANDARDS

EROSION AND SEDIMENTATION CONTROL REPORT

THE BELFORT LANDING

RESIDENTIAL DEVELOPMENT

PORTLAND , MAINE

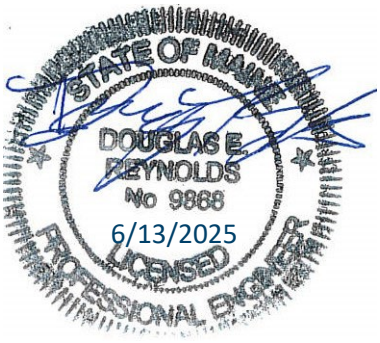
Prepared for

ACRE PROPERTIES
27 CYPRESS STREET
PORTLAND, ME 04103

Prepared by

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JUNE 2025



Overview

This Exhibit demonstrates the developer has made adequate provision for controlling erosion and sedimentation.

Gorrill Palmer has been retained by ACRE Properties to prepare an Erosion and Sedimentation Control Report for a proposed two building 50-unit residential development in Portland, Maine.

Figure 1 is a map showing the project location. This narrative contains the general erosion and sedimentation control measures, which are appropriate for the construction of the project.

This narrative contains the general erosion and sedimentation control measures, which are appropriate for the construction of the project. Erosion and sedimentation control plans and details have also been prepared by Gorrill Palmer to accompany this report.

Existing Conditions and Soil Types

The proposed project site is 66,560 S.F. +/-. The City of Portland identifies the property on the Maine Parcel Viewer as Parcel 299, Lot D1011001. Based on field reconnaissance, the existing site is currently undeveloped with the central portion of the site appearing to be previously cleared and compacted by vehicles

Topography in the area of the proposed construction slopes in a generally southerly direction towards Empire Way with slopes in the range of 2% to 10%. A portion of the site drains to the north towards Forest Avenue, to the municipal stormwater system. Another portion of the site drains southeast directly onto Belfort Street into the same closed drainage system. The drainage is conveyed further southeast via a closed drainage system to the end of Belfort Street, which appears to ultimately drain to Capisic Brook.

Abutting land uses include:

- North –Residential Homes and Forest Avenue
- West – Gerald E. Talbot Community School (Developed)
- South – Residential Homes and Empire Way
- East – Residential Homes and Belfort Street

The Medium Intensity Soil Survey for Cumberland County as prepared by the Natural Resources Conservation Service was utilized in identifying the on-site soils. The soil report for this vicinity follows this page. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. The higher values are indicative of the more erodible soils. The following table lists the soils found in the proposed development area and their K values:

Map Symbol	Soil Type	K Value	Hydrologic Soil Group
EmB	Elmwood Fine Sandy Loam	0.32	B
WmB	Windsor Loamy Sand	0.17	A

Based on the review of the K Values, the on-site soils have moderate susceptibility to erosion.

Existing Erosion Problems

Gorrill Palmer is not aware of any existing erosion problems at the project site.

Protected Natural Resources

Preliminary review of available data published by the State of Maine suggests that no significant habitats or protected natural resources lie within the area proposed for development. According to the National Wetland Inventory database it appears no wetlands are present on the proposed parcel.

Based upon the FEMA maps, the site is not located in a 100-year floodplain.

Critical Areas

No critical areas that would require special attention during construction are present on site.

Erosion Control Measures and Site Stabilization

The primary emphasis of the erosion/sedimentation control plan, which will be implemented for this project, is as follows:

- Development of a careful construction sequence.
- Rapid revegetation of denuded areas to minimize the period of soil exposure.
- Rapid stabilization of drainage paths to avoid rill and gully erosion.
- The use of on-site measures to capture sediment (hay bales/stone check dams/silt fence, etc.)

The following temporary and permanent erosion and sediment control devices will be implemented as part of the site development. These devices shall be installed as indicated on the plans or as described within this report. For further reference, see the latest edition of the Maine Erosion and Sediment Control Practices Field Guide for Contractors.

A. Dewatering

Water from construction trench dewatering shall pass first through a filter bag or secondary containment structure (e.g. hay bale lined pool) prior to discharge. The discharge site shall be selected to avoid flooding, icing, and sediment discharges to sensitive areas. If dewatering is anticipated to discharge to City infrastructure, the Contractor shall submit a dewatering plan and application as detailed in the City of Portland Rules and Regulations for Use of the Sewer System. The written plan and application detailing the operating procedures, equipment and devices to be used for removing sediment, and if required, petroleum or hazardous substances, from approved discharges will be provided from the contractor and approved by the City prior to commencement of construction.

B. Inspection and Construction Monitoring

Maintenance measures shall be applied as needed during the entire construction season. Before and within 24 hours after each wet weather event that produces more than 0.5 inch of rainfall in a consecutive 24-hour period, snowstorm, or period of thawing and runoff, the qualified contractor knowledgeable of DEP standards shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to insure their continuous function. Additionally, inspections shall be performed at least once a week. Following the temporary and/or final seeding and mulching, the contractor shall in the spring inspect and repair any damages and/or unestablished spots. Established vegetative cover means a minimum of 90% of areas vegetated with vigorous growth.

C. Temporary Erosion Control Measures

The following measures are planned as temporary erosion/sedimentation control measures during construction:

1. A crushed stone-stabilized construction entrance shall be placed at the approved access drive as depicted on the plans.

2. Siltation fence or wood waste compost berms shall be installed downstream of any disturbed areas to trap runoff- borne sediments until grass areas are revegetated. The silt fence and/or wood waste compost berms shall be installed per the details provided in this package and inspected at least once a week and before and immediately after a storm event of 0.5 inches or greater, and at least daily during

prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence or berm line. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam. Wood waste compost berms are not to be used adjacent to wetland areas that are not to be disturbed.

3. Straw or hay mulch including hydroseeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and October 15th on slopes of less then 15 percent shall be anchored by applying water; mulch placed on slopes of equal to or steeper than 15 percent shall be covered by a fabric netting and anchored with staples in accordance with manufacturer's recommendation. Fabric netting and staples shall be used on disturbed areas within 50' of lakes, streams, and wetlands regardless of the upstream slope. Mulch placed between October 15th and April 15th on slopes equal to or steeper than 8 percent shall be covered with a fabric netting and anchored with staples in accordance with the manufacturer's recommendations. Slopes steeper than 3:1 and equal to or flatter than 2:1, which are to be revegetated, shall receive curlex blankets by American Excelsior or equal. Slopes steeper than 2:1 shall receive riprap as noted on the plans. The mulch application rate for both temporary and permanent seeding is 75 lbs per 1000 sf as identified in Appendix A of this section. Mulch shall not be placed over snow.

4. Temporary stockpiles of stumps, grubbings, or common excavation will be protected as follows:

   a.) Temporary stockpiles shall not be located within 50 feet of any wetlands which will not be disturbed and shall be located away from drainage swales.

   b.) Stockpiles shall be stabilized within 7 days by either temporarily seeding the stockpile by a hydroseed method containing an emulsified mulch tackifier or by covering the stockpile with mulch, such as hay, straw, or erosion control mix.

   c.) Stockpiles shall be surrounded by sedimentation barrier at the time of formation.

5. All denuded areas that are within 50 feet of an undisturbed wetland, which have been rough graded and are not located within a building pad, parking area, or access drive subbase area, shall receive mulch or erosion control mesh fabric within 48 hours of initial disturbance of soil. All areas within 100 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window. In other areas, the time period may be extended to 7 days.

6. For work, which is conducted between October 15th and April 15th of any calendar year, all denuded areas, shall be covered with hay mulch or erosion control mix, applied at twice the normal application rate and anchored with a fabric netting. The time period for applying mulch shall be limited to 2 days for all areas.

7. Belfort Street shall be swept to control mud and dust as necessary.

8. During grubbing operations stone check dams shall be installed at any evident concentrated flow discharge points and as directed on the Erosion Control Plans.

9. Silt fencing with a minimum stake spacing of 6 feet shall be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence shall be anchored.

10. Wood waste compost/bark berms may be used in lieu of siltation fencing. Berms shall be removed and spread in a layer not to exceed 3" thick once upstream areas are completed and a 90% catch of vegetation is attained.

11. Water and/or calcium chloride shall be furnished and applied in accordance with MDOT specifications – Section 637 – Dust Control.

12. Loam and seed is intended to serve, as the primary permanent revegetative measure for all denuded areas not provided with other erosion control measures, such as riprap. Application rates are provided in Appendix A of this section. Seeding shall not occur over snow.

D. Permanent Erosion Control Measures

The following permanent erosion control measures have been designed as part of the Erosion and Sedimentation Control Plan:

1. All areas disturbed during construction, but not subject to other restoration (paving, riprap, gravel subbase, etc.) will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas as noted in Temporary Erosion Control Measures paragraph 4 of this report. Native topsoil shall be stockpiled and reused for final restoration when it is of sufficient quality.

2. All storm drain pipe outlets shall have riprap aprons at their outlet to protect the outlet and receiving channel from scour and deterioration. Installation details are provided in the plan set. The aprons shall be installed and stabilized to the extent practicable prior to directing runoff to the tributary pipe or culvert.

Implementation Schedule

The following construction sequence shall be required to ensure the effectiveness of the erosion and sedimentation control measures are optimized:

It is anticipated that construction will begin in spring of 2025, with first occupancy anticipated in the fall of 2026.

Note: For all grading activities, the contractor shall exercise extreme caution not to overexpose the site, this shall be accomplished by limiting the disturbed area. Area shall be limited to no more than the contractor can mulch in one day.

1. Install stabilized construction entrances at the approved location(s).
2. Install perimeter silt fence and/or wood waste berms.
3. Install diversion dikes, or check dams (clear only those areas necessary to install BMP's)
4. Clear and grub site. Install stone check dams at any evident concentrated flow discharge points.
5. Commence installation of drainage appurtenances.
6. Commence earthwork for stormwater facilities.
7. Commence earthwork and grading to subgrade.
8. Commence installation of retaining walls.
9. Commence installation of water and sewer lines.
10. Continue earthwork and grading to subgrade as necessary for construction.
11. Complete installation of underground utilities to within 5' of future buildings.
12. Install light pole foundations and light poles.
13. Complete remaining earthwork operations.

14. Complete installation of drainage appurtenances.

15. Install sub-base and base gravel within parking areas, walkways, and all driveways.

16. Install curbing in parking areas as needed.

17. Install base course paving for drives and parking area as well as concrete surfaces.

18. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.

19. Install surface course paving for drives and parking areas. Stripe per plan.

20. Once the site is stabilized and a 90% catch of vegetation has been obtained, remove all temporary erosion control measures.

21. Touch up loam and seed.

Prior to construction of the project, the contractor shall submit to the owner a schedule for the completion of the work, which will satisfy the following criteria:

1. The above construction sequence should generally be completed in the specified order; however, several separate items may be constructed simultaneously. Work must also be scheduled or phased to reduce the extent of the exposed areas as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as silt fence and construction entrances in place before large areas of land are denuded.

2. The work shall be conducted in sections which shall:

    - Limit the amount of exposed area to those areas in which work is expected to be undertaken during the proceeding 30 days.

    - Revegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event; or temporarily stabilized within 48 hours of initial disturbance of soil for areas within 50 feet of an undisturbed wetland and 7 days for all other areas. Areas within 50 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window.

    - Incorporate planned inlets and drainage system as early as possible into the construction phase. The ditches shall be immediately lined or revegetated as soon as their installation is complete.

Erosion, Sedimentation and Stabilization Control Plan

The Erosion Control information is included in the plan set.

Details and Specifications

The Erosion Control details and specifications are included in the plan set.

Winter Stabilization Plan

The winter construction period is from November 1 through April 15. If the construction site is not stabilized with pavement, a road gravel base, or riprap by November 15 then the site needs to be protected with over-winter stabilization. An area considered open is any area not stabilized with pavement, vegetation, mulching, erosion control mats, riprap or gravel base on a road.

Winter excavation and earthwork shall be completed such that any area left exposed can be controlled by the contractor. Limit the exposed area to one acre or an area that can be mulched in one day prior to any snow event.

All areas shall be considered to be denuded until the subbase gravel is installed in parking areas or the areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch rate shall be a minimum of 150 lbs./1,000 square-feet (3 tons/acre) and shall be properly anchored.

For work, which is conducted between October 15th and April 15th of any calendar year, all denuded areas, shall be covered with hay mulch or erosion control mix, applied at twice the normal application rate and anchored with a fabric netting. The time period for applying mulch shall be limited to 2 days for all areas.

The contractor shall install any added measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions. Continuation of earthwork operations on additional areas shall not begin until the exposed soil surface on the area being worked has been stabilized, in order to minimize areas without erosion control protection.

1. **Soil Stockpiles**

   Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or at 150 lbs./1,000 square-feet (3 tons per acre) or with a four-inch layer of wood waste erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpile shall not be placed (even covered with hay or straw) within 50 feet from any natural resources.

2. **Natural Resources Protection**

   Any areas within 75 feet from any natural resources, if not stabilized with a minimum of 90% mature vegetation catch, shall be mulched by December 1 and anchored with plastic netting or protected with erosion control mats. During winter construction, a double line of sediment barriers (i.e. silt fence backed with hay bales or erosion control mix) shall be placed between any natural resource and the disturbed area. Projects crossing the natural resource shall be protected a minimum distance of 75 feet on either side from the resource. Existing projects not stabilized by December 1 shall be protected with the second line of sediment barrier to ensure functionality during the spring thaw and rains.

3. **Sediment Barriers**

   During frozen conditions, sediment barriers shall consist of wood waste filter berms as frozen soil prevents the proper installation of hay bales and sediment silt fences.

4. **Mulching**

   An area shall be considered denuded until areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 square-feet or 1.5 tons/acre) and shall be properly anchored. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched with straw or hay at a rate of 150 lb. per 1,000 square feet (3 tons/acre) and adequately anchored that ground surface is not visible through the mulch.

   Between the dates of November 1 and April 15, all mulch shall be anchored by peg line, mulch netting, asphalt emulsion chemical, or wood cellulose fiber. When ground surface is not visible

through the mulch then cover is sufficient. After November 1st, mulch and anchoring of all bare soil shall occur at the end of each final grading workday.

5. **Mulching of Slopes and Ditches**

   Slopes shall not be left exposed for any extended time of work suspension unless fully mulched and anchored with peg and netting or with erosion control blankets. Mulching shall be applied at a rate of 230 lbs./1,000 square feet on all slopes greater than 8%.

   Mulch netting shall be used to anchor mulch in all drainage ways with a slope greater than 3% for slopes exposed to direct winds and for all other slopes greater than 8%. Erosion control blankets shall be used in lieu of mulch in all drainage ways with slopes greater than 8%. Erosion control mix can be used to substitute erosion control blankets on all slopes except ditches.

6. **Seeding**

   Between the dates of October 15 and April 1st, loam or seed will not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has been loamed, final graded with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched. Dormant seeding may be selected to be placed prior to the placement of mulch and fabric netting anchored with staples. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 square-feet. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 90% catch) shall be revegetated by replacing loam, seed, and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

7. **Winter Construction Inspection**

   After each rainfall, snowstorm or period of thawing and runoff, the qualified contractor knowledgeable of DEP standards shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to insure their continuous function. Inspections shall be performed a minimum of once per week and shall be conducted in accordance with the Erosion Control Measures and Site Stabilization within the Erosion Control Report.

Standards for Timely Stabilization of Construction Sites During Winter

1. Standard for the timely stabilization of ditches and channels - The applicant shall construct and stabilize all stone-lined ditches and channels on the site by November 15. The applicant shall construct and stabilize all grass-lined ditches and channels on the site by September 1. If the applicant fails to stabilize a ditch or channel to be grass-lined by September 1, then the applicant will take one of the following actions to stabilize the ditch for late fall and winter.

Install a sod lining in the ditch - The applicant shall line the ditch with properly installed sod by October 1. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, watering the sod to promote root growth into the disturbed soil, and anchoring the sod with jute or plastic mesh to prevent the sod strips from sloughing during flow conditions.

Install a stone lining in the ditch - The applicant shall line the ditch with stone riprap by November 15. The applicant shall hire a registered professional engineer to determine the stone size and lining thickness

needed to withstand the anticipated flow velocities and flow depths within the ditch. If necessary, the applicant shall regrade the ditch prior to placing the stone lining so to prevent the stone lining from reducing the ditch's cross-sectional area.

2. Standard for the timely stabilization of disturbed slopes - The applicant shall construct and stabilize stone-covered slopes by November 15. The applicant shall seed and mulch all slopes to be vegetated by September 1. The department shall consider any area having a grade greater than 15% to be a slope. If the applicant fails to stabilize any slope to be vegetated by September 1, then the applicant shall take one of the following actions to stabilize the slope for late fall and winter.

Stabilize the soil with temporary vegetation and erosion control mats - By September 1 the applicant shall seed the disturbed slope with winter rye at a seeding rate of 3 pounds per 1,000 square feet and apply erosion control mats over the mulched slope. The applicant shall monitor the growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 75% of the disturbed slope by November 1, then the applicant shall cover the slope with a layer of wood waste compost as described in item iii of this standard or with stone riprap as described in item iv of this standard.

Stabilize the slope with sod - The applicant shall stabilize the disturbed slope with properly installed sod by September 1. Proper installation includes the applicant pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The applicant shall not use late-season sod installation to stabilize slopes having a grade greater than 33% (3H:1V).

Stabilize the slope with wood waste compost - The applicant shall place a six-inch layer of wood waste compost on the slope by November 15. Prior to placing the wood waste compost, the applicant shall remove any snow accumulation on the disturbed slope. The applicant shall not use wood waste compost to stabilize slopes having grades greater than 50% (2H:1V) or having groundwater seeps on the slope face.

Stabilize the slope with stone riprap - The applicant shall place a layer of stone riprap on the slope by November 15. The applicant shall hire a registered professional engineer to determine the stone size needed for stability and to design a filter layer underneath the riprap.

3. Standard for the timely stabilization of disturbed soils - By September 15 the applicant shall seed and mulch all disturbed soils on areas having a slope less than 15%. If the applicant fails to stabilize these soils by this date, then the applicant shall take one of the following actions to stabilize the soil for late fall and winter.

Stabilize the soil with temporary vegetation - By September 1 the applicant shall seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1000 square feet and anchor the mulch with plastic netting. The applicant shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 90% of the disturbed soil before November 1, then the applicant shall mulch the area for over-winter protection as described below.

Stabilize the soil with sod - The applicant shall stabilize the disturbed soil with properly installed sod by September 15. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

Stabilize the soil with mulch - By November 15 the applicant shall mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1000 square feet on the area so that no soil is visible through the mulch. Prior to applying the mulch, the applicant shall remove any snow accumulation on the disturbed area. Immediately after applying the mulch, the applicant will anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

Maintenance of Facilities

The stormwater facilities will be maintained by the Applicant, ACRE Properties, LLC or their assigned heirs. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion Control Report. Long-term operation/maintenance recommended for the stormwater facilities is presented below.

The responsible party may contract with such professionals, as may be necessary in order to comply with this provision and may rely on the advice of such professionals in carrying out its duty hereunder, provided, that the following operation and maintenance procedures are hereby established as a minimum for compliance with this section. A maintenance log of the inspections shall be kept by the responsible party.

Inspection and Maintenance Frequency and Corrective Measures:

The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Culverts: Inspect culverts 2 times per year (preferably in Spring and Fall) to ensure that the culverts are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit and repair any erosion damage at the culvert's inlet and outlet.

Vegetated Areas: Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

Roadways and Parking Surfaces: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

Stormdrain Outlets: Inspect outlets 2 times per year (preferably in Spring and Fall) to ensure that the outlets are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the outlet and within the conduit Repair any erosion damage at the stormdrain outlet.

Ditches, Swales and other Open Stormwater Channels: Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. Correct any erosion of the channel's bottom or sideslopes. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

Stone Bermed Level Lip Spreader: Inspect 2 times per year (preferably in Spring and Fall) to ensure that they are free of debris and no undesirable growth is impeding water flow through the berm. In addition, the stone bermed level lip spreaders shall be inspected to ensure that runoff is not bypassing the bermed spreader.

Subsurface Detention Chambers: Inspect chambers per manufacturer's recommendation. At a minimum inspect chambers 2 times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove sediment from Isolator row when depth of sediment reaches 3 inches.

Drip Strips: The drip strip will be inspected within the first three months after construction; thereafter the filter will be inspected 2 times per year (preferable in Spring and Fall) to ensure that the filter is draining within 24 to 48 hours of a rain event to equivalent to 1" or more. Adjustments will be made to the outlet valve to ensure that the drip strip drains within 24 to 48 hours. Failure to drain in 72 hours will require part or all of the soil filter media to be removed and replaced with new material meeting the soil filter gradation. The facilities will be inspected after major storms and any identified deficiencies will be corrected. Inspect for unwanted and invasive plants and remove as necessary. Remove debris from the surface. Since the Roofline Drip edge is part of the approved stormwater management plan, it cannot be paved over or altered in any way. Gutters shall not be installed along the roofline.

Recertification

As part of the Stormwater Permit, the applicant is required to meet the standards in Appendix B of the Chapter 500 Rules. Appendix B states that a project must submit a certification of the following to the department within three months of the expiration of each five-year interval from the date of issuance of the permit.

(a) Identification and repair of erosion problems. All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) Inspection and repair of stormwater control system. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.

(c) Maintenance. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained.

(d) Proprietary Systems. All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning, and general maintenance.

Annual report: The owner or operator of a BMP shall hire a professional Qualified to perform Post-Construction BMP Annual Inspections (as defined in Section 32-1 of the local ordinance), to provide on or by June 30 of each year, a completed and signed certification to the DPW in a form provided by the DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan. If, at the time of inspection, the BMP(s) required maintenance or repair, the professional Qualified to perform Post Construction BMP Annual Inspections (as defined in Section 32-1 of this ordinance) hired by that person shall provide of the deficiency and corrective action(s) taken to the DPW in no later than 60 days following the date the deficiency was identified. If 60 days is not possible, then the DPW must establish an expeditious schedule for the owner or operator of the BMP to complete the maintenance and establish a record of the deficiency and corrective action(s) taken.

Appendix C – Good Housekeeping

The City of Portland requires a Good Housekeeping and Pollution Prevention Plan as part of a Comprehensive ESC Plan. As required by the City of Portland the Erosion Control Plan shall discuss the following:

Spill Prevention. Controls must be used to prevent pollutants from construction and waste materials stored on-Site from entering stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The Site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the Site draining to an infiltration area. An infiltration area is any area of the Site that by design or as a result of soils, topography, and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the Site for the purposes of storage and handling of these materials.

Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance shall be included to minimize tracking of mud and sediment. If off-Site tracking occurs, public roads shall be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, shall wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

Debris and other materials. Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source. Sediment generated by concrete or mortar mixing, brick cutting & saw cutting activities must be contained (e.g., sausage boom, straw bales, etc.) and cleaned up using dry methods (i.e., sweeping or vacuuming) to prevent it from entering drainage structures or water resources. These activities shall be done on vegetated areas whenever possible and away from drainage structures and water resources.

Excavation dewatering. Excavation dewatering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or otherwise treated to collect the maximum amount of sediment possible, like a coffer dam sedimentation or sediment filter bag. Avoid allowing the water to flow over Disturbed Areas of the Site. If the Maine DEP has approved equivalent measures, provide proof of approval. Note that discharge of excavation dewater fluids from the Site must be visually clear (no visible suspended or settleable solids). Any dewatering discharges from a site to the City right-of way or infrastructure are prohibited unless the City has provided

approval of a Dewatering Plan and Application submitted by the Contractor. Discharges from the Site into the City's storm drain or sewer system must first obtain City approval through the Dewatering Program, as detailed in the Rules and Regulations for Use of the Sewer System.

Washout from concrete, stucco, paint, curing compounds, or other construction materials. If washout/cleanout is to be completed on the Site, a designated area(s) shall be established and marked on the Erosion and Sedimentation Control Plan. This area shall be a minimum of 50 feet from all drainage structures, ditches, waterbodies, and resource areas, as well as property boundaries if possible. The area shall not have an outlet to discharge wastes or flows. No detergents shall be used or vehicles washed in this location. A leak-proof pit or container shall be established in the washout area(s), to which washings shall be directed. This area shall be used for washout containment and dewatering by evaporation only. The pit shall not allow infiltration to occur. To prevent clean water from entering the pit, the washout area shall be covered during precipitation events. Inspections of the pit shall be conducted daily to ensure no leaks are present and no discharge is occurring

Authorized non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

1. Discharges from firefighting activity;
2. Discharges from firefighting activity;
3. Fire hydrant flushings;
4. Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
5. Dust control runoff in accordance with permit conditions and Appendix (C)(3);
6. Routine external building washdown, not including surface paint removal, that does not involve detergents;
7. Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
8. Uncontaminated air conditioning or compressor condensate;
9. Uncontaminated groundwater or spring water;
10. Foundation or footer drain-water where flows are not contaminated;
11. Uncontaminated excavation dewatering (see requirements in Appendix C(5));
12. Potable water sources including waterline flushings; and
13. Landscape irrigation.

Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:

1. Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;

2. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
3. Soaps, solvents, or detergents used in vehicle and equipment washing; and
4. Toxic or hazardous substances from a spill or other release.

Conclusion

The Applicant has provided temporary and permanent erosion control measures as well as specifying a sequence of construction as measures to minimize erosion and sedimentation.

Attachments

Appendix A Seeding Plan
Appendix B Inspection Report
Appendix C Operation & Maintenance Plan

APPENDIX A

Seeding Plan

SEEDING PLAN

Project: Residential Development – Portland, ME

Site Location: Portland, ME

☐ Permanent Seeding ☒ Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _____# / acres, OR 138 # /M Sq. Ft.
3. Fertilize with _____ pounds of _____ N-P-K/ac. OR 13.8 pounds of 10-10-10 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:

   50% Winter Rye

   50% Annual Rye

6. Mulching instructions: Apply at the rate of _____per acre, OR 75 pounds per M. Sq. Ft.

	Amount	Unit # Tons. Etc.
7. TOTAL LIME	138	#/1000 sq. ft.
8. TOTAL FERTILIZER	13.8	#/1000 sq. ft.
9. TOTAL SEED	1.03	#/1000 sq. ft.
10. TOTAL MULCH	75	#/1000 sq. ft.
11. TOTAL other materials, seeds, etc.		
12. REMARKS		

Spring seeding is recommended; however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

SEEDING PLAN

Project: Residential Development – Portland, ME

Site Location: Portland, ME

☒ Permanent Seeding ☐ Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _____# / acres, OR 138 # /M Sq. Ft.
3. Fertilize with _____ pounds of _____ N-P-K/ac. OR 18.4 pounds of 10-20-20 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:

   40% Creeping Red Fescue

   30% Charger II Perennial Ryegrass

   20% KenBlue Kentucky Bluegrass

   10% Tiffany Chewings Fescue
6. Mulching instructions: Apply at the rate of _____per acre, OR 75 pounds per M. Sq. Ft.

	Amount	Unit # Tons. Etc.
7. TOTAL LIME	138	#/1000 sq. ft.
8. TOTAL FERTILIZER	18.4	#/1000 sq. ft.
9. TOTAL SEED	1.03	#/1000 sq. ft.
10. TOTAL MULCH	75	#/1000 sq. ft.
11. TOTAL other materials, seeds, etc.		
12. REMARKS		

Spring seeding is recommended, however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

APPENDIX B

Inspection Report

STORMWATER POLLUTION PREVENTION PLAN

INSPECTION REPORT

PROJECT INFORMATION

Project Name: Residential Development

Address: 1582 Forest Avenue. Access to the site will be via Belfort Street. Which is approximately 400 feet south of Belfort Street from the intersection of Belfort Street and Forest Ave.

CONTRACTOR/SUBCONTRACTOR INFORMATION

Inspector Name: _____

Firm: _____

Title: _____

Qualifications: _____

INSPECTION SUMMARY

Date of Inspection: _____

Major Observations: _____

_____

_____

_____

THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN WITH THE FOLLOWING EXCEPTIONS:

_____

_____

_____

_____

_____

ACTIONS NECESSARY TO BRING FACILITY INTO COMPLIANCE:

_____

_____

REQUIRED MODIFICATIONS TO STORMWATER POLLUTION PREVENTION PLAN
(MUST BE IMPLEMENTED WITHIN 7 DAYS OF INSPECTION):

_____

_____

_____

_____

CERTIFICATION STATEMENT:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____
Signature

_____
Typed Name

_____
Title

_____
Date

APPENDIX C

Operation & Maintenance Plan

THE BELFORT LANDING
1582 FOREST AVENUE
PORTLAND, MAINE

STORMWATER MANAGEMENT SYSTEM
OPERATION AND MAINTENANCE MANUAL FOR
STORMWATER FACILITIES

Prepared for

ACRE PROPERTIES
27 CYPRESS STREET
PORTLAND, ME 04103

Prepared by

Gorrill Palmer
300 Southborough Drive – Suite 200
South Portland, Maine 04106
207.772.2515

DECEMBER 2024

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Appendix 1 – Summary Checklist for Inspection and Maintenance

Appendix 2 – Inspection Logs

Appendix 3 – Stormwater Drainage System Maintenance Agreement

Appendix 4 – Permits for Project

I. INTRODUCTION

Runoff from developed areas, may contain a number of contaminants especially when emanating from rooftops, paved or lawn areas. This runoff can contain a significant amount of non-point contaminants, which can have an adverse impact on the receiving waters. The installation of soil media filters can significantly reduce the non-point pollution discharge from the developed area.

The effectiveness of stormwater facilities and other components of the system are dependent on their upkeep and maintenance to assure they meet their design function over an extended period of years. It is critical that the stormwater management facilities are inspected on a regularly scheduled basis, and that maintenance is performed on an as needed basis. It must also be recognized that the effectiveness of these facilities, and their maintenance requirements, are related to the stormwater drainage facilities that transport the flow to the ponds or treatment measures. Thus, maintenance should be directed to the total system.

The purpose of this document is to define in detail the inspection and maintenance requirements deemed necessary to assure that the stormwater management facilities function as intended on a long-term basis for the Belfort Landing project. This Operations and Maintenance Manual is specific to the existing and proposed stormwater measures utilized to execute a successful stormwater management plan. Subsequent sections identify individual maintenance items, give a brief commentary of the function and need of the item, a description of the work required, and a suggested frequency of accomplishment. While the suggested programs and schedules must be adapted to specific projects, the material presented should provide guidance for a successful long-term program.

A. Guidelines Overview

A summary of the individual components of stormwater management facilities for this project has been prepared. The format used in the summary is as follows:

Preface: A general description of what function/benefit the element is intended to provide. This is a short summary and not intended to provide the design basis, which can be found in other sources.

Inspection: This section provides the inspection requirements for the individual component.

Maintenance: The section provides general information on the routine maintenance requirements of this element.

Frequency: This section outlines the best judgment of the designer of the system to the frequency of maintenance.

Comments: This section provides any particular comment on the site-specific features of this element. This is a summary only. The owner/operator should review the design drawings and documents carefully to understand the particular elements of the project. The end of this section should allow the owner/operator to make notes on the specific

program. This may include the selected maintenance procedure, cross-references to applicable design drawings, etc.

A list of the individual inspection/maintenance elements is provided in the table of contents. The guidelines are proposed for initial use with adjustments made as appropriate based upon specific project experience.

This report includes the Operation and Maintenance requirements for any potential BMP identified in the Stormwater Management Report for this project.

B. Responsible Party

The responsible party for operation and maintenance of the stormwater and other site infrastructure will be the applicant or their agents or assigns. The applicant or their agents or assigns must adhere to the City of Portland Technical Manual Section 6 Erosion and Sedimentation Control Standards and the Chapter 32 of the City of Portland Code of Ordinances. A copy of an unexecuted Stormwater Drainage System Maintenance Agreement is included in Appendix 3.

II. PROJECT OVERVIEW

Key permits issued (or applied for) on the project include:

- City of Portland Major Site Plan Approval

A copy of the permits should be appended to this manual as Appendix 4. The Owner/Operator of the stormwater management system should review these permits for a general description and background of the project, as well as any specific permit conditions or requirements of the project.

The applicant has retained Gorrill Palmer for civil engineering for the development project. Gorrill Palmer has prepared the design for the stormwater management facilities and may be contacted at:

Gorrill Palmer
300 Southborough Drive, Suite 200
South Portland, Maine 04106
207.772.2515

The applicable plans and design documents which apply to the project are:

1. Civil Site Plans Prepared by Gorrill Palmer
2. The Erosion Control/Sedimentation Control Plan for the project
3. The Stormwater Management Plan for the project

A copy of these documents should be retained with this manual.

The proposed design includes inlets, stormwater conveyance lines, subsurface sand filter, and drip strips.

The site is ultimately tributary to Capisic Brook located to the south of the site.

The manual is intended for general guidance; however, any substituted deviations from the manual should be reviewed with respect to provisions of Appendix 4.

III. STANDARD INSPECTION/MAINTENANCE DESCRIPTIONS

The following narratives describe the inspection/maintenance provisions for the Stormwater Management system. Proper O&M is necessary to make sure the system will provide its intended purpose of conveying runoff, removing a substantial amount of the suspended solids, and other contaminants in the stormwater runoff.

A. Stormwater Inlets

Preface: The success of any stormwater facility relies on the ability to intercept stormwater runoff at the design locations. Stormwater inlets include catch basins, open culverts, and field inlets. Inlets exist throughout the property.

Inspection: The inspection of inlet points will need to be coordinated with other maintenance items, these include:

- Building maintenance areas
- Grounds maintenance

The key elements of the inspection are to assure the inlet entry point is clear of debris and will allow the intended water entry.

Maintenance: The key maintenance is the removal of any blockage which restricts the entry of stormwater to the inlet. The removed material should be taken out of the area of the inlet and placed where it will not reenter the runoff collection system. Snow should be removed from inlets on parking lots. Grass clippings and leaves should be bagged and removed particularly near the yard inlets near the buildings and exposed culvert inlets.

Frequency: All inlets should be inspected on a quarterly basis, and after/during significant storm events i.e. >1" rainfall).

Maintenance Personnel: The maintenance personnel will perform the normal maintenance/ inspections of the inlets and tributary drainage system.

Comments: Maintenance of inlets is critical on this project.

B. Tributary Drainage System

Preface: Stormwater from most of the project will be directed through a conveyance (tributary) system which transports the flow to the proposed BMPs, and ultimately to the Capisic Brook. This conveyance system will be principally overland flow discharging to piped drain systems. Most of the sediment carried by the drainage system is intended to be trapped in structures. Maintenance of this system can play a major role in the long-term maintenance

costs and the effectiveness of the onsite systems. The primary pretreatment measure for the site will be through deep sumped catch basins with hooded outlets.

Inspection: The tributary drainage system should be periodically inspected to assure that it is operating as intended, and that the carrying capacity has not been diminished by accumulations of debris and sediment or other hydraulic impediments. On piped systems, the inlets must be inspected to ensure the rims are set at the proper elevation to optimize flow entry and are not clogged with debris.

The level of sediment in the sumps should be checked to assure their effectiveness. Pipelines connecting the inlets should be checked to determine if siltation is occurring. This will be most critical on drain lines laid at minimal slopes. This can usually be accomplished by a light and mirror procedure.

Maintenance: Maintenance of the storm drainage system must assure that it continues to serve its design function on a long-term basis, and that its operation does not transport excessive sediments to any downstream treatment device or the receiving waters. Elevations on the rim of catch basins should be adjusted as needed to assure optimal water entry. Depending on the frost susceptibility of the soil, the rims may become elevated over time causing flow to circumvent the inlet. If a temporary filter bag has been designated for the inlet during construction, silt or other deleterious materials, can significantly reduce capacity and the bags should be removed with the sediment and replaced during construction. Catch basin cleaning would normally be accomplished with vacuum trucks contracted as a maintenance service for the Development. The removed material must be disposed of at an approved site for such materials.

If sediment in the pipeline is observed, it should be removed. This may be accomplished by hydraulic flushing, or by mechanical means. If hydraulic flushing is used the downstream conditions should be analyzed.

Frequency: The tributary drainage system should be inspected on an annual basis. Adjustment of inlet rim elevations should be on an as needed basis. Cleaning catch basin sumps and pipelines will depend on the rate of accumulation.

C. Subsurface Sand Filter

Preface: The subsurface sand filter consists of storage and pretreatment chambers above a sand filter layer for the applicable surface treatment. Stormwater runoff is conveyed to the filter through a closed pipe system from surface runoff. Flow is controlled using a gate valve which can be adjusted to ensure a drainage time between 24-48 hours.

Inspection: The subsurface sand filter will have control structures and maintenance ports to inspect the pretreatment row and storage layer. Inspect system to see if runoff is draining through the system at the outlet and inlet devices. Visual inspections should also occur after large storm events (i.e. >1”).

Maintenance: The procedures for maintenance are as follows:

Inlets and Outlets

Inlets and outlets to the subsurface sand filter should be kept open and in good working condition. This is particularly important for the inlet at the pretreatment rows. Outlets should be cleared and, if necessary flushed of any build-up.

Storage Layer

Remove and dispose of any sediment and build-up in the storage layer.

Sedimentation (or Clogging) of Soil Filter Area

If the sand filter appears to be holding water for a period longer than 48-72 hours, the sand mix has, more than likely, become clogged with sediment and/or the underdrains have clogged. To correct a standing water problem, the following remedial actions are recommended:

1. Check to make sure the outlet control valve is open.
2. Evaluate the drainage area to the sand filter area to identify any potential sources of sediment, such as an erosive condition, that may be contributing to the clogging of the device. If a source is identified, it is recommended that that source be eliminated to the fullest extent practicable before proceeding with the remaining recommendations provided below.
3. Flush the underdrains. Use cleanouts to flush the underdrains. Sediment in the drains may be preventing the sand filter from draining. Make sure to provide a way to capture any flushed sediment before it enters the stream environment or storm drain system downstream of the device. If, after flushing the underdrains, the device continues to hold water, the sand filter may be contaminated and need to be replaced.

Frequency: The subsurface sand filter should be inspected semi-annually and maintained as necessary.

Comments: Pretreatment in catch basin sumps and pretreatment row is crucial to long-term function of sand filter.

D. Level Lip Spreader

Inspections should occur at least once a year and following major storms, the level spreader pool should be inspected for sand accumulation and debris that may reduce its capacity. Sediment build-up within the swale should be removed when it has accumulated to approximately 25% of design volume or channel capacity. Remove debris such as leaf litter, branches and tree growth from the spreader. Dispose of the sediments and debris appropriately. The reconstruction of the level spreader may be necessary when sheet flow from the spreader channelize into the buffer. Do not store snow within the area of the level spreader.

E. Drip Strips

Preface: The Drip Strip is critical to the stormwater management plan for the project. It will consist of a stormwater reservoir, filter layer, and a 4" underdrain pipe embedded in the underdrain layer.

Inspection/Monitoring: The drip strip will be inspected within the first three months after construction; thereafter the filter will be inspected 2 times per year (preferably in Spring and Fall) to ensure that the filter is draining within 24 to 48 hours of a rain event equivalent to 1" or more. Failure to drain in 72 hours will require pipe flushing, or it may require part or all of the filter media to be removed and replaced with new material meeting the filter gradation. The facilities will be inspected after major storms and any identified deficiencies will be corrected. Harvesting and weeding of excessive growth shall be performed as needed. Inspect for unwanted or invasive plants and remove as necessary.

Maintenance: Remove unwanted vegetation and excess leaves, sticks and debris from the filter area. Pipes may require flushing if drip strip fails to drain within 72 hours.

Frequency: Inspect the basin in the late summer or early fall at the end of the growing season. Cutting and removal of additional grass will be required for lengths in excess of 6"-8". The basin should be inspected bi-annually and weeded as necessary.

Comments: None

F. Outlet Control Devices

Preface: Outlet control devices of assorted sizes are commonly utilized to control discharge from stormwater management features. This project uses gate valves and orifices to control discharge from the bio-retention filters and subsurface sand filters.

Inspection: Inspection of gate valves should be performed after each major rainfall event to ensure that stormwater runoff is able to discharge through the gate valve and that it is not clogged or needs to be adjusted.

Maintenance: The gate valve should be opened, and all debris flushed from the pipe. Clogs may be checked with mirror and flashlight method.

Frequency: The outlet control devices should be inspected semi-annually and maintained as needed.

Comments: None

G. Ditches, Swales, and Other Open Stormwater Channels

Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation

growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. Correct any erosion of the channel's bottom or sideslopes. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

H. Roadways and Parking Surfaces

Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

I. Litter

Litter should be removed as a matter of course by workers and as part of the ground's maintenance contract.

IV. PROGRAM ADMINISTRATION

A. General

A reliable administrative structure must be established to assure implementation of the maintenance programs described in the foregoing section. Key factors that must be considered in establishing a responsive administrative structure include:

1. Administrative body must be responsible for long-term operation and maintenance of the facilities. (Maintenance continues for the lifespan of the development in accordance with this document)

2. Administrative body must have the financial resources to accomplish the inspection and maintenance program over the life of the facility.

3. The administrative body must have a responsible administrator to manage the inspection and maintenance programs.

4. The administrative body must have the staff to accomplish the inspection and maintenance programs or must have authority to contract for the required services.

5. The administrative body must have a management information system sufficient to file, retain, and retrieve all inspection and maintenance records associated with the inspection and maintenance programs.

6. A qualified post construction inspector shall be retained by the Owner. His/her duties shall include preparing schedules for the Owner's maintenance, summarizing the results of this maintenance and preparing an annual report on the operation, maintenance, and repair of the stormwater system which must be copied to the City

of Portland. (The Owner shall be responsible for retaining a separate entity to perform maintenance which cannot be performed by the management of building and property grounds.) This person shall also participate in troubleshooting of the stormwater management system if a problem develops.

If any of the above criteria cannot be met by the entity assigned inspection and maintenance responsibilities, it is likely that the system will fail to meet its water quality objectives at some point during its life. While each of the above criteria may be met by a variety of formats, it is critical to clearly establish the assigned administrative body in a responsible and sustainable manner.

B. Record Keeping

Records of all inspections and maintenance work accomplished must be kept and maintained to document facility operations. These records should be filed and retained for a minimum 5-year time span. The filing system should be capable of ready retrieval of data for periodic reviews by appropriate regulatory bodies. Where possible, copies of such records should also be filed with the designated primary regulatory agency for their review for compliance with permit conditions. Typical inspection and maintenance record forms are attached hereto as Appendix 2.

Beyond the initial 5-year time span of the original approval and maintenance plan, the stormwater management system will need to be recertified through the Maine Department of Environmental Protection every 5 years to confirm that there is conformance with the original permit documents. This process will ensure all systems function properly over time. This document will remain valid throughout any subsequent recertification processes.

On or by June 30 of each year, the qualified post construction inspector shall provide a completed and signed certification to the Department of Public Works certifying that the person has inspected, cleaned, and maintained the stormwater management facilities, describing any deficiencies found during inspection of the stormwater management facilities, and certifying that the person has repaired any deficiencies in the stormwater management facilities noted during the annual inspection.

C. Contract Services

In some instances, or at specific times, the Maintenance Personnel may not have the staff to conduct the required inspection and/or maintenance programs as outlined in this document. In such cases, the work should be accomplished on a contractual basis with a firm or organization that has the staff and equipment to accomplish the required work.

The service contract for inspection and maintenance should be formal, well written legal document which clearly defines the services to be provided, the contractual conditions that will apply, and detailed payment schedules. Liability insurance should be required in all contracts.

APPENDIX 1

Summary Checklist
Inspection and Maintenance

Stormwater Management System Maintenance Program Summary Checklist						
Item	**Commentary**	**Frequency**				
		Monthly	**Quarterly**	**Semi-Annual**	**Annual**	**Long Term**
Stormwater Inlets	Stormwater inlets allow flow entry from a surface swale to a piped system. Entry may or may not be equipped with a bar rack. Inspect entry for debris accumulation. Remove debris to allow unimpeded entry. Lawn clippings and leaves should be removed from yard areas.		X		X Clearing	
Tributary Drainage System	Inspect to assure that the carrying capacity has not been diminished by debris, sediment or other hydraulic impediments.				X	
Subsurface Sand Filter	Inspect maintenance ports after rain events >1" and remove sediment. Check for signs of clogging and flush underdrains if necessary. Remove sediment from isolator row when depth of sediment reaches 3 inches.			X		
Level Lip Spreader	Remove any trash and debris from spreader and swale. Check integrity of spreader and that it does not channelize flow.			X		
Drip Strips	Remove debris from filter area. Inspect after major storm events and clear debris from orifice. May require flushing of pipes. Excessive growth shall be removed as needed.			X		
Orifice Control Devices	Inspect after major storm events and clear debris from orifice. May require flushing of pipes.			X		
Ditches Swales and Other open Stormwater Channels	Inspect to ensure the ditch is not eroding or blocked by debris.			X		
Roadways and Parking Surfaces	Remove accumulated sand.				X	
Litter	Litter should be removed daily.					

APPENDIX 2

Sample Inspection Logs

ACRE Properties
PORTLAND, MAINE

STORMWATER MANAGEMENT
SAMPLE STORMWATER INSPECTION & MAINTENANCE LOG

This log is intended to accompany the Operation and Maintenance Manual for Stormwater Management and Related Facilities. All stormwater BMPs shall be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions of the DEP Stormwater Permit, shall conduct inspections of the facilities as described in the O&M Manual and on this form, and identified deficiencies must be corrected. This log shall be kept on file for a minimum of five (5) years.

A. General Information			
Project Name:		**Inspection Date:**	
Parcel/Lot:		**Current Weather:**	
BMP Owner:		**Date/Amount Last Precip.:**	
Owner Mailing Address:		**Inspection Company:**	
Owner Phone #:		**Inspection Co. Mailing Address:**	
Owner Email:		**Inspector Name:**	
		Inspector Phone #:	
		Inspector Email:	

B. Stormwater Inlets (Catch Basins)	**Observations**
Frequency: Annually in the spring	
Accumulated sediments from inflow channels and pipes between basins have been removed and legally disposed of	☐ Yes ☐ No ☐ NA
Floating debris and large sediment particles have been removed from inlets.	☐ Yes ☐ No ☐ NA
Stormwater Inlet Notes:	

C. Tributary Drainage System	**Observations**
Frequency: Annually spring or late fall and after heavy rains	
Remove and legally dispose of sediments	☐ Yes ☐ No ☐ NA
Remove floatables and other objects	☐ Yes ☐ No ☐ NA
Check for overgrown vegetation impeding flow	☐ Yes ☐ No ☐ NA
Check pipelines for siltation and clogging	☐ Yes ☐ No ☐ NA
Repair any slumping side slopes or erosion	☐ Yes ☐ No ☐ NA
Replace any riprap on areas where any underlying fabric or underlying gravel is exposed.	☐ Yes ☐ No ☐ NA
Tributary Drainage System Notes:	

D. Subsurface Sand Filter	Observations
Frequency: Semi-annually	
Inspect for debris	☐ Yes ☐ No ☐ NA
Sediment greater than 3”	☐ Yes ☐ No ☐ NA
System working in their intended fasion	☐ Yes ☐ No ☐ NA
Subsurface Detention Chamber Notes:	

E. Level Lip Spreader	Observations
Frequency: Semi-annually	
Inspect for debris	☐ Yes ☐ No ☐ NA
Undesirable growth impeding water flow	☐ Yes ☐ No ☐ NA
Ensure runoff is not bypassing the bermed spreader, repair as necessary	☐ Yes ☐ No ☐ NA
Level Lip Spreader Notes:	

F. Drip Strip	Observations
Frequency: Semi-annually	
Check for signs of clogging, or water is not draining within 48-72 hours	☐ Yes ☐ No ☐ NA
Inspect for debris	☐ Yes ☐ No ☐ NA
No excessive growth, remove as necessary	☐ Yes ☐ No ☐ NA
Roofline / Infiltration Drip Strip Notes:	

F. Outlet Control Devices	Observations
Frequency: Semi-annually	
Check for debris blocking orifice	☐ Yes ☐ No ☐ NA
If applicable, flush underdrain pipe	☐ Yes ☐ No ☐ NA
Roofline / Infiltration Drip Strip Notes:	

G. Ditches, Swales, and Other Open Stormwater Channels	Observations
Frequency: Semi Annually spring and late fall and after heavy rains	
Remove and legally dispose of sediments	☐ Yes ☐ No ☐ NA
Remove floatables and other objects	☐ Yes ☐ No ☐ NA
Check for overgrown vegetation impeding flow.	☐ Yes ☐ No ☐ NA
Mow to control growth and maintain flow capacity.	☐ Yes ☐ No ☐ NA
Repair any slumping side slopes or erosion	☐ Yes ☐ No ☐ NA
Replace any riprap on areas where any underlying fabric or underlying gravel is exposed.	☐ Yes ☐ No ☐ NA
Ditches Swales and Other Channel Notes:	

H. Roadways and Parking Surfaces	**Observations**
Frequency: Annually preferably in spring	
Remove and legally dispose of accumulated winter sand	☐ Yes ☐ No ☐ NA
Repair potholes and other roadway obstructions and hazards.	☐ Yes ☐ No ☐ NA
Roadways and Parking Surfaces Notes:	

APPENDIX 3

Stormwater Drainage System Maintenance Agreement

STORMWATER DRAINAGE SYSTEM
MAINTENANCE AGREEMENT

ACRE Properties, LLC/City of Portland
City of Portland, Maine – The Belfort Landing at 1582 Forest Street

IN CONSIDERATION OF the site plan approval granted by the Planning Board of the City of Portland to the proposed **The Belfort Landing ID PL- [__TBD__] -** shown on the Overall Site Layout Plan, Grading, & Drainage Plan and Stormwater Management Plan (Exhibits A, B and C) prepared by Gorrill Palmer Consulting Engineers of 300 Southborough Drive, South Portland, Maine dated last revised [__TBD__] and pursuant to a condition thereof, ACRE Properties LLC, a Maine limited liability company with a principal place of business in Portland, Maine, and having a mailing address of 27 Cypress Street, Portland, Maine 04103, the owner/operator of The Belfort Landing, does hereby agree, for itself, its successors and assigns (the "Owner"), as follows:

Maintenance Agreement

That it, its successors and assigns, will, at its own cost and expense and at all times in perpetuity, maintain in good repair and in proper working order the subsurface sand filter, drip strips, and related onsite drainage infrastructure, (hereinafter collectively referred to as the "stormwater system"), as shown on the Stormwater Management Plan in Exhibit C and in strict compliance with the approved Stormwater Inspection and Maintenance Manual prepared for the Owner by Gorrill Palmer Consulting Engineers (copy attached in Exhibit D) and Chapter 32 of the Portland City Code.

Owner of the subject premises further agrees, at its own cost, to keep a Stormwater Maintenance Log. Such log shall be made available for inspection by the City of Portland upon reasonable notice and request and be made part of the annual Stormwater reporting duties of the applicant to the City.

Said agreement is for the benefit of the said City of Portland and all persons in lawful possession of said premises and abutters thereto; further, that the said City of Portland and said persons in lawful possession may enforce this Agreement by an action at law or in equity in any court of competent jurisdiction; further, that after giving the Owner written notice and a stated time to perform, the said City of Portland, by its authorized agents or representatives, may, but is not obligated to, enter upon said premises to maintain, repair, or replace said stormwater system in the event of any failure or neglect thereof, the cost and expense thereof to be reimbursed in full to the said City of Portland by the Owner upon written demand. Any funds owed to the City under this paragraph shall be secured by a lien on the property.

This Agreement shall also not be construed to allow any change or deviation from the requirements of the subdivision and/or site plan most recently and formally approved by the Planning Board of the City of Portland.

This agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon the Owner's successors and assigns as their interests may from time to time appear.

The Owner agrees to record a copy of this Agreement in the Cumberland County Registry of Deeds within thirty (30) days of final execution of this Agreement. The Owner further agrees to provide a copy of this Agreement to any successor or assign and to forward to the City an Addendum signed by any successor or assign in

which the successor or assign states that the successor or assign has read the Agreement, agrees to all its terms and conditions and the successor or assign will obtain and forward to the City's Department of Public Services and Department of Planning and Urban Development a similar Addendum from any other successor or assign.

For the purpose of this agreement and release "Owner" is any person or entity who is a successor or assign and has a legal interest in part, or all, of the real estate and any building. The real estate shown by chart, block and lot number in the records on file in the City Assessor's office shall constitute "the property" that may be entered by the City and liened if the City is not paid all of its costs and charges following the mailing of a written demand for payment to the owner pursuant to the process and with the same force and effect as that established by 36 M.R.S.A. §§ 942 and 943 for real estate tax liens.

Any written notices or demands required by the agreement shall be complete on the date the notice is attached to one or more doors providing entry to any buildings and mailed by certified mail, return receipt requested or ordinary mail or both to the owner of record as shown on the tax roles on file in the City Assessor's Office.

If the property has more than one owner on the tax rolls, service shall be complete by mailing it to only the first listed owner. The failure to receive any written notice required by this agreement shall not prevent the City from entering the property and performing maintenance or repairs on the stormwater system, or any component thereof, or liening it or create a cause of action against the City.

Dated at Portland, Maine this _____ day of _____, 2025.

_____
(*name of company*)

_____
(*representative of owner, name and title*)

STATE OF MAINE
CUMBERLAND, ss. Date: _____

Personally appeared the above-named _____(*name and title*), and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,

_____
Notary Public/Attorney at Law

Print name: _____

Exhibit A: Approved Site Layout Plan
Exhibit B: Approved Grading & Drainage Plan
Exhibit C: Stormwater Management Plan
Exhibit D: Approved Stormwater Inspection and Maintenance Manual

APPENDIX 4

Permits for Project

(To be Added at a Subsequent Time)

ATTACHMENT 1

REVISED STORMWATER MANAGEMENT SYSTEM OPERATION AND MAINTENANCE MANUAL

THE BELFORT LANDING
1582 FOREST AVENUE
PORTLAND, MAINE

STORMWATER MANAGEMENT SYSTEM OPERATION AND MAINTENANCE MANUAL FOR STORMWATER FACILITIES

Prepared for

ACRE PROPERTIES
27 CYPRESS STREET
PORTLAND, ME 04103

Prepared by

Gorrill Palmer
300 Southborough Drive – Suite 200
South Portland, Maine 04106
207.772.2515

JUNE 2025

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APPENDICES

Appendix 1 – Summary Checklist for Inspection and Maintenance

Appendix 2 – Inspection Logs

Appendix 3 – Stormwater Drainage System Maintenance Agreement

Appendix 4 – Permits for Project

I. INTRODUCTION

Runoff from developed areas, may contain a number of contaminants especially when emanating from rooftops, paved or lawn areas. This runoff can contain a significant amount of non-point contaminants, which can have an adverse impact on the receiving waters. The installation of soil media filters can significantly reduce the non-point pollution discharge from the developed area.

The effectiveness of stormwater facilities and other components of the system are dependent on their upkeep and maintenance to assure they meet their design function over an extended period of years. It is critical that the stormwater management facilities are inspected on a regularly scheduled basis, and that maintenance is performed on an as needed basis. It must also be recognized that the effectiveness of these facilities, and their maintenance requirements, are related to the stormwater drainage facilities that transport the flow to the ponds or treatment measures. Thus, maintenance should be directed to the total system.

The purpose of this document is to define in detail the inspection and maintenance requirements deemed necessary to assure that the stormwater management facilities function as intended on a long-term basis for the Belfort Landing project. This Operations and Maintenance Manual is specific to the existing and proposed stormwater measures utilized to execute a successful stormwater management plan. Subsequent sections identify individual maintenance items, give a brief commentary of the function and need of the item, a description of the work required, and a suggested frequency of accomplishment. While the suggested programs and schedules must be adapted to specific projects, the material presented should provide guidance for a successful long-term program.

A. Guidelines Overview

A summary of the individual components of stormwater management facilities for this project has been prepared. The format used in the summary is as follows:

Preface: A general description of what function/benefit the element is intended to provide. This is a short summary and not intended to provide the design basis, which can be found in other sources.

Inspection: This section provides the inspection requirements for the individual component.

Maintenance: The section provides general information on the routine maintenance requirements of this element.

Frequency: This section outlines the best judgment of the designer of the system to the frequency of maintenance.

Comments: This section provides any particular comment on the site-specific features of this element. This is a summary only. The owner/operator should review the design drawings and documents carefully to understand the particular elements of the project. The end of this section should allow the owner/operator to make notes on the specific

program. This may include the selected maintenance procedure, cross-references to applicable design drawings, etc.

A list of the individual inspection/maintenance elements is provided in the table of contents. The guidelines are proposed for initial use with adjustments made as appropriate based upon specific project experience.

This report includes the Operation and Maintenance requirements for any potential BMP identified in the Stormwater Management Report for this project.

B. Responsible Party

The responsible party for operation and maintenance of the stormwater and other site infrastructure will be the applicant or their agents or assigns. The applicant or their agents or assigns must adhere to the City of Portland Technical Manual Section 6 Erosion and Sedimentation Control Standards and the Chapter 32 of the City of Portland Code of Ordinances. A copy of an unexecuted Stormwater Drainage System Maintenance Agreement is included in Appendix 3.

II. PROJECT OVERVIEW

Key permits issued (or applied for) on the project include:

- City of Portland Major Site Plan Approval

A copy of the permits should be appended to this manual as Appendix 4. The Owner/Operator of the stormwater management system should review these permits for a general description and background of the project, as well as any specific permit conditions or requirements of the project.

The applicant has retained Gorrill Palmer for civil engineering for the development project. Gorrill Palmer has prepared the design for the stormwater management facilities and may be contacted at:

Gorrill Palmer
300 Southborough Drive, Suite 200
South Portland, Maine 04106
207.772.2515

The applicable plans and design documents which apply to the project are:

1. Civil Site Plans Prepared by Gorrill Palmer
2. The Erosion Control/Sedimentation Control Plan for the project
3. The Stormwater Management Plan for the project

A copy of these documents should be retained with this manual.

The proposed design includes inlets, stormwater conveyance lines, subsurface sand filter, and drip strips.

The site is ultimately tributary to Capisic Brook located to the south of the site.

The manual is intended for general guidance; however, any substituted deviations from the manual should be reviewed with respect to provisions of Appendix 4.

III. STANDARD INSPECTION/MAINTENANCE DESCRIPTIONS

The following narratives describe the inspection/maintenance provisions for the Stormwater Management system. Proper O&M is necessary to make sure the system will provide its intended purpose of conveying runoff, removing a substantial amount of the suspended solids, and other contaminants in the stormwater runoff.

A. Stormwater Inlets

Preface: The success of any stormwater facility relies on the ability to intercept stormwater runoff at the design locations. Stormwater inlets include catch basins, open culverts, and field inlets. Inlets exist throughout the property.

Inspection: The inspection of inlet points will need to be coordinated with other maintenance items, these include:

- Building maintenance areas
- Grounds maintenance

The key elements of the inspection are to assure the inlet entry point is clear of debris and will allow the intended water entry.

Maintenance: The key maintenance is the removal of any blockage which restricts the entry of stormwater to the inlet. The removed material should be taken out of the area of the inlet and placed where it will not reenter the runoff collection system. Snow should be removed from inlets on parking lots. Grass clippings and leaves should be bagged and removed particularly near the yard inlets near the buildings and exposed culvert inlets.

Frequency: All inlets should be inspected on a quarterly basis, and after/during significant storm events i.e. >1" rainfall).

Maintenance Personnel: The maintenance personnel will perform the normal maintenance/ inspections of the inlets and tributary drainage system.

Comments: Maintenance of inlets is critical on this project.

B. Tributary Drainage System

Preface: Stormwater from most of the project will be directed through a conveyance (tributary) system which transports the flow to the proposed BMPs, and ultimately to the Capisic Brook. This conveyance system will be principally overland flow discharging to piped drain systems. Most of the sediment carried by the drainage system is intended to be trapped in structures. Maintenance of this system can play a major role in the long-term maintenance

costs and the effectiveness of the onsite systems. The primary pretreatment measure for the site will be through deep sumped catch basins with hooded outlets.

Inspection: The tributary drainage system should be periodically inspected to assure that it is operating as intended, and that the carrying capacity has not been diminished by accumulations of debris and sediment or other hydraulic impediments. On piped systems, the inlets must be inspected to ensure the rims are set at the proper elevation to optimize flow entry and are not clogged with debris.

The level of sediment in the sumps should be checked to assure their effectiveness. Pipelines connecting the inlets should be checked to determine if siltation is occurring. This will be most critical on drain lines laid at minimal slopes. This can usually be accomplished by a light and mirror procedure.

Maintenance: Maintenance of the storm drainage system must assure that it continues to serve its design function on a long-term basis, and that its operation does not transport excessive sediments to any downstream treatment device or the receiving waters. Elevations on the rim of catch basins should be adjusted as needed to assure optimal water entry. Depending on the frost susceptibility of the soil, the rims may become elevated over time causing flow to circumvent the inlet. If a temporary filter bag has been designated for the inlet during construction, silt or other deleterious materials, can significantly reduce capacity and the bags should be removed with the sediment and replaced during construction. Catch basin cleaning would normally be accomplished with vacuum trucks contracted as a maintenance service for the Development. The removed material must be disposed of at an approved site for such materials.

If sediment in the pipeline is observed, it should be removed. This may be accomplished by hydraulic flushing, or by mechanical means. If hydraulic flushing is used the downstream conditions should be analyzed.

Frequency: The tributary drainage system should be inspected on an annual basis. Adjustment of inlet rim elevations should be on an as needed basis. Cleaning catch basin sumps and pipelines will depend on the rate of accumulation.

C. Subsurface Sand Filter

Preface: The subsurface sand filter consists of storage and pretreatment chambers above a sand filter layer for the applicable surface treatment. Stormwater runoff is conveyed to the filter through a closed pipe system from surface runoff. Flow is controlled using a gate valve which can be adjusted to ensure a drainage time between 24-48 hours.

Inspection: The subsurface sand filter will have control structures and maintenance ports to inspect the pretreatment row and storage layer. Inspect system to see if runoff is draining through the system at the outlet and inlet devices. Visual inspections should also occur after large storm events (i.e. >1”).

Maintenance: The procedures for maintenance are as follows:

Inlets and Outlets

Inlets and outlets to the subsurface sand filter should be kept open and in good working condition. This is particularly important for the inlet at the pretreatment rows. Outlets should be cleared and, if necessary flushed of any build-up.

Storage Layer

Remove and dispose of any sediment and build-up in the storage layer.

Sedimentation (or Clogging) of Soil Filter Area

If the sand filter appears to be holding water for a period longer than 48-72 hours, the sand mix has, more than likely, become clogged with sediment and/or the underdrains have clogged. To correct a standing water problem, the following remedial actions are recommended:

1. Check to make sure the outlet control valve is open.
2. Evaluate the drainage area to the sand filter area to identify any potential sources of sediment, such as an erosive condition, that may be contributing to the clogging of the device. If a source is identified, it is recommended that that source be eliminated to the fullest extent practicable before proceeding with the remaining recommendations provided below.
3. Flush the underdrains. Use cleanouts to flush the underdrains. Sediment in the drains may be preventing the sand filter from draining. Make sure to provide a way to capture any flushed sediment before it enters the stream environment or storm drain system downstream of the device. If, after flushing the underdrains, the device continues to hold water, the sand filter may be contaminated and need to be replaced.

Frequency: The subsurface sand filter should be inspected semi-annually and maintained as necessary.

Comments: Pretreatment in catch basin sumps and pretreatment row is crucial to long-term function of sand filter.

D. Level Lip Spreader

Inspections should occur at least once a year and following major storms, the level spreader pool should be inspected for sand accumulation and debris that may reduce its capacity. Sediment build-up within the swale should be removed when it has accumulated to approximately 25% of design volume or channel capacity. Remove debris such as leaf litter, branches and tree growth from the spreader. Dispose of the sediments and debris appropriately. The reconstruction of the level spreader may be necessary when sheet flow from the spreader channelize into the buffer. Do not store snow within the area of the level spreader.

E. Drip Strips

Preface: The Drip Strip is critical to the stormwater management plan for the project. It will consist of a stormwater reservoir, filter layer, and a 4" underdrain pipe embedded in the underdrain layer.

Inspection/Monitoring: The drip strip will be inspected within the first three months after construction; thereafter the filter will be inspected 2 times per year (preferably in Spring and Fall) to ensure that the filter is draining within 24 to 48 hours of a rain event equivalent to 1" or more. Failure to drain in 72 hours will require pipe flushing, or it may require part or all of the filter media to be removed and replaced with new material meeting the filter gradation. The facilities will be inspected after major storms and any identified deficiencies will be corrected. Harvesting and weeding of excessive growth shall be performed as needed. Inspect for unwanted or invasive plants and remove as necessary.

Maintenance: Remove unwanted vegetation and excess leaves, sticks and debris from the filter area. Pipes may require flushing if drip strip fails to drain within 72 hours.

Frequency: Inspect the basin in the late summer or early fall at the end of the growing season. Cutting and removal of additional grass will be required for lengths in excess of 6"-8". The basin should be inspected bi-annually and weeded as necessary.

Comments: None

F. Outlet Control Devices

Preface: Outlet control devices of assorted sizes are commonly utilized to control discharge from stormwater management features. This project uses gate valves and orifices to control discharge from the bio-retention filters and subsurface sand filters.

Inspection: Inspection of gate valves should be performed after each major rainfall event to ensure that stormwater runoff is able to discharge through the gate valve and that it is not clogged or needs to be adjusted.

Maintenance: The gate valve should be opened, and all debris flushed from the pipe. Clogs may be checked with mirror and flashlight method.

Frequency: The outlet control devices should be inspected semi-annually and maintained as needed.

Comments: None

G. Ditches, Swales, and Other Open Stormwater Channels

Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation

growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. Correct any erosion of the channel's bottom or sideslopes. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

H. Roadways and Parking Surfaces

Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

I. Litter

Litter should be removed as a matter of course by workers and as part of the ground's maintenance contract.

J. Downstream Areas

Areas immediately downstream of the southwesterly discharge point shall be inspected annually. The applicant shall be responsible for addressing any erosion or other impacts to the Talbot School property resulting from the project's stormwater discharge.

IV. PROGRAM ADMINISTRATION

A. General

A reliable administrative structure must be established to assure implementation of the maintenance programs described in the foregoing section. Key factors that must be considered in establishing a responsive administrative structure include:

1. Administrative body must be responsible for long-term operation and maintenance of the facilities. (Maintenance continues for the lifespan of the development in accordance with this document)

2. Administrative body must have the financial resources to accomplish the inspection and maintenance program over the life of the facility.

3. The administrative body must have a responsible administrator to manage the inspection and maintenance programs.

4. The administrative body must have the staff to accomplish the inspection and maintenance programs or must have authority to contract for the required services.

5. The administrative body must have a management information system sufficient to file, retain, and retrieve all inspection and maintenance records associated with the inspection and maintenance programs.

6. A qualified post construction inspector shall be retained by the Owner. His/her duties shall include preparing schedules for the Owner's maintenance, summarizing the results of this maintenance and preparing an annual report on the operation, maintenance, and repair of the stormwater system which must be copied to the City of Portland. (The Owner shall be responsible for retaining a separate entity to perform maintenance which cannot be performed by the management of building and property grounds.) This person shall also participate in troubleshooting of the stormwater management system if a problem develops.

If any of the above criteria cannot be met by the entity assigned inspection and maintenance responsibilities, it is likely that the system will fail to meet its water quality objectives at some point during its life. While each of the above criteria may be met by a variety of formats, it is critical to clearly establish the assigned administrative body in a responsible and sustainable manner.

B. Record Keeping

Records of all inspections and maintenance work accomplished must be kept and maintained to document facility operations. These records should be filed and retained for a minimum 5-year time span. The filing system should be capable of ready retrieval of data for periodic reviews by appropriate regulatory bodies. Where possible, copies of such records should also be filed with the designated primary regulatory agency for their review for compliance with permit conditions. Typical inspection and maintenance record forms are attached hereto as Appendix 2.

Beyond the initial 5-year time span of the original approval and maintenance plan, the stormwater management system will need to be recertified through the Maine Department of Environmental Protection every 5 years to confirm that there is conformance with the original permit documents. This process will ensure all systems function properly over time. This document will remain valid throughout any subsequent recertification processes.

On or by June 30 of each year, the qualified post construction inspector shall provide a completed and signed certification to the Department of Public Works certifying that the person has inspected, cleaned, and maintained the stormwater management facilities, describing any deficiencies found during inspection of the stormwater management facilities, and certifying that the person has repaired any deficiencies in the stormwater management facilities noted during the annual inspection.

C. Contract Services

In some instances, or at specific times, the Maintenance Personnel may not have the staff to conduct the required inspection and/or maintenance programs as outlined in this document. In such cases, the work should be accomplished on a contractual basis with a firm or organization that has the staff and equipment to accomplish the required work.

The service contract for inspection and maintenance should be formal, well written legal document which clearly defines the services to be provided, the contractual conditions that

will apply, and detailed payment schedules. Liability insurance should be required in all contracts.

will apply, and detailed payment schedules. Liability insurance should be required in all contracts.

Stormwater Management System Maintenance Program Summary Checklist						
Item	**Commentary**	**Frequency**				
		Monthly	**Quarterly**	**Semi-Annual**	**Annual**	**Long Term**
Stormwater Inlets	Stormwater inlets allow flow entry from a surface swale to a piped system. Entry may or may not be equipped with a bar rack. Inspect entry for debris accumulation. Remove debris to allow unimpeded entry. Lawn clippings and leaves should be removed from yard areas.		X		X Clearing	
Tributary Drainage System	Inspect to assure that the carrying capacity has not been diminished by debris, sediment or other hydraulic impediments.				X	
Subsurface Sand Filter	Inspect maintenance ports after rain events >1" and remove sediment. Check for signs of clogging and flush underdrains if necessary. Remove sediment from isolator row when depth of sediment reaches 3 inches.			X		
Level Lip Spreader	Remove any trash and debris from spreader and swale. Check integrity of spreader and that it does not channelize flow.			X		
Drip Strips	Remove debris from filter area. Inspect after major storm events and clear debris from orifice. May require flushing of pipes. Excessive growth shall be removed as needed.			X		
Orifice Control Devices	Inspect after major storm events and clear debris from orifice. May require flushing of pipes.			X		
Ditches Swales and Other open Stormwater Channels	Inspect to ensure the ditch is not eroding or blocked by debris.			X		
Roadways and Parking Surfaces	Remove accumulated sand.				X	
Litter	Litter should be removed daily.					
Downstream Areas	Inspect to ensure downstream areas are not eroding as a result of the proposed development. Stabilize ditch and sideslopes if necessary.				X	

Att. J

APPENDIX 2

Sample Inspection Logs

ACRE Properties
PORTLAND, MAINE

STORMWATER MANAGEMENT
SAMPLE STORMWATER INSPECTION & MAINTENANCE LOG

This log is intended to accompany the Operation and Maintenance Manual for Stormwater Management and Related Facilities. All stormwater BMPs shall be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions of the DEP Stormwater Permit, shall conduct inspections of the facilities as described in the O&M Manual and on this form, and identified deficiencies must be corrected. This log shall be kept on file for a minimum of five (5) years.

A. General Information			
Project Name:		**Inspection Date:**	
Parcel/Lot:		**Current Weather:**	
BMP Owner:		**Date/Amount Last Precip.:**	
Owner Mailing Address:		**Inspection Company:**	
Owner Phone #:		**Inspection Co. Mailing Address:**	
Owner Email:		**Inspector Name:**	
		Inspector Phone #:	
		Inspector Email:	

B. Stormwater Inlets (Catch Basins)	**Observations**
Frequency: Annually in the spring	
Accumulated sediments from inflow channels and pipes between basins have been removed and legally disposed of	☐ Yes ☐ No ☐ NA
Floating debris and large sediment particles have been removed from inlets.	☐ Yes ☐ No ☐ NA
Stormwater Inlet Notes:	

C. Tributary Drainage System	**Observations**
Frequency: Annually spring or late fall and after heavy rains	
Remove and legally dispose of sediments	☐ Yes ☐ No ☐ NA
Remove floatables and other objects	☐ Yes ☐ No ☐ NA
Check for overgrown vegetation impeding flow	☐ Yes ☐ No ☐ NA
Check pipelines for siltation and clogging	☐ Yes ☐ No ☐ NA
Repair any slumping side slopes or erosion	☐ Yes ☐ No ☐ NA
Replace any riprap on areas where any underlying fabric or underlying gravel is exposed.	☐ Yes ☐ No ☐ NA
Tributary Drainage System Notes:	

D. Subsurface Sand Filter	Observations
Frequency: Semi-annually	
Inspect for debris	☐ Yes ☐ No ☐ NA
Sediment greater than 3”	☐ Yes ☐ No ☐ NA
System working in their intended fasion	☐ Yes ☐ No ☐ NA
Subsurface Detention Chamber Notes:	

E. Level Lip Spreader	Observations
Frequency: Semi-annually	
Inspect for debris	☐ Yes ☐ No ☐ NA
Undesirable growth impeding water flow	☐ Yes ☐ No ☐ NA
Ensure runoff is not bypassing the bermed spreader, repair as necessary	☐ Yes ☐ No ☐ NA
Level Lip Spreader Notes:	

F. Drip Strip	Observations
Frequency: Semi-annually	
Check for signs of clogging, or water is not draining within 48-72 hours	☐ Yes ☐ No ☐ NA
Inspect for debris	☐ Yes ☐ No ☐ NA
No excessive growth, remove as necessary	☐ Yes ☐ No ☐ NA
Roofline / Infiltration Drip Strip Notes:	

F. Outlet Control Devices	Observations
Frequency: Semi-annually	
Check for debris blocking orifice	☐ Yes ☐ No ☐ NA
If applicable, flush underdrain pipe	☐ Yes ☐ No ☐ NA
Roofline / Infiltration Drip Strip Notes:	

G. Ditches, Swales, and Other Open Stormwater Channels	Observations
Frequency: Semi Annually spring and late fall and after heavy rains	
Remove and legally dispose of sediments	☐ Yes ☐ No ☐ NA
Remove floatables and other objects	☐ Yes ☐ No ☐ NA
Check for overgrown vegetation impeding flow.	☐ Yes ☐ No ☐ NA
Mow to control growth and maintain flow capacity.	☐ Yes ☐ No ☐ NA
Repair any slumping side slopes or erosion	☐ Yes ☐ No ☐ NA
Replace any riprap on areas where any underlying fabric or underlying gravel is exposed.	☐ Yes ☐ No ☐ NA
Ditches Swales and Other Channel Notes:	

H. Roadways and Parking Surfaces	**Observations**
Frequency: Annually preferably in spring	
Remove and legally dispose of accumulated winter sand	☐ Yes ☐ No ☐ NA
Repair potholes and other roadway obstructions and hazards.	☐ Yes ☐ No ☐ NA
Roadways and Parking Surfaces Notes:	

APPENDIX 3

Stormwater Drainage System Maintenance Agreement

STORMWATER DRAINAGE SYSTEM
MAINTENANCE AGREEMENT

ACRE Properties, LLC/City of Portland
City of Portland, Maine – The Belfort Landing at 1582 Forest Street

IN CONSIDERATION OF the site plan approval granted by the Planning Board of the City of Portland to the proposed **The Belfort Landing ID PL- [__TBD__] -** shown on the Overall Site Layout Plan, Grading, & Drainage Plan and Stormwater Management Plan (Exhibits A, B and C) prepared by Gorrill Palmer Consulting Engineers of 300 Southborough Drive, South Portland, Maine dated last revised [__TBD__] and pursuant to a condition thereof, ACRE Properties LLC, a Maine limited liability company with a principal place of business in Portland, Maine, and having a mailing address of 27 Cypress Street, Portland, Maine 04103, the owner/operator of The Belfort Landing, does hereby agree, for itself, its successors and assigns (the "Owner"), as follows:

Maintenance Agreement

That it, its successors and assigns, will, at its own cost and expense and at all times in perpetuity, maintain in good repair and in proper working order the subsurface sand filter, drip strips, and related onsite drainage infrastructure, (hereinafter collectively referred to as the "stormwater system"), as shown on the Stormwater Management Plan in Exhibit C and in strict compliance with the approved Stormwater Inspection and Maintenance Manual prepared for the Owner by Gorrill Palmer Consulting Engineers (copy attached in Exhibit D) and Chapter 32 of the Portland City Code.

Owner of the subject premises further agrees, at its own cost, to keep a Stormwater Maintenance Log. Such log shall be made available for inspection by the City of Portland upon reasonable notice and request and be made part of the annual Stormwater reporting duties of the applicant to the City.

Said agreement is for the benefit of the said City of Portland and all persons in lawful possession of said premises and abutters thereto; further, that the said City of Portland and said persons in lawful possession may enforce this Agreement by an action at law or in equity in any court of competent jurisdiction; further, that after giving the Owner written notice and a stated time to perform, the said City of Portland, by its authorized agents or representatives, may, but is not obligated to, enter upon said premises to maintain, repair, or replace said stormwater system in the event of any failure or neglect thereof, the cost and expense thereof to be reimbursed in full to the said City of Portland by the Owner upon written demand. Any funds owed to the City under this paragraph shall be secured by a lien on the property.

This Agreement shall also not be construed to allow any change or deviation from the requirements of the subdivision and/or site plan most recently and formally approved by the Planning Board of the City of Portland.

This agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon the Owner's successors and assigns as their interests may from time to time appear.

The Owner agrees to record a copy of this Agreement in the Cumberland County Registry of Deeds within thirty (30) days of final execution of this Agreement. The Owner further agrees to provide a copy of this Agreement to any successor or assign and to forward to the City an Addendum signed by any successor or assign in

which the successor or assign states that the successor or assign has read the Agreement, agrees to all its terms and conditions and the successor or assign will obtain and forward to the City's Department of Public Services and Department of Planning and Urban Development a similar Addendum from any other successor or assign.

For the purpose of this agreement and release "Owner" is any person or entity who is a successor or assign and has a legal interest in part, or all, of the real estate and any building. The real estate shown by chart, block and lot number in the records on file in the City Assessor's office shall constitute "the property" that may be entered by the City and liened if the City is not paid all of its costs and charges following the mailing of a written demand for payment to the owner pursuant to the process and with the same force and effect as that established by 36 M.R.S.A. §§ 942 and 943 for real estate tax liens.

Any written notices or demands required by the agreement shall be complete on the date the notice is attached to one or more doors providing entry to any buildings and mailed by certified mail, return receipt requested or ordinary mail or both to the owner of record as shown on the tax roles on file in the City Assessor's Office.

If the property has more than one owner on the tax rolls, service shall be complete by mailing it to only the first listed owner. The failure to receive any written notice required by this agreement shall not prevent the City from entering the property and performing maintenance or repairs on the stormwater system, or any component thereof, or liening it or create a cause of action against the City.

Dated at Portland, Maine this _____ day of _____, 2025.

_____
(*name of company*)

_____
(*representative of owner, name and title*)

STATE OF MAINE
CUMBERLAND, ss. Date: _____

Personally appeared the above-named _____(*name and title*), and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,

_____
Notary Public/Attorney at Law

Print name: _____

Exhibit A: Approved Site Layout Plan
Exhibit B: Approved Grading & Drainage Plan
Exhibit C: Stormwater Management Plan
Exhibit D: Approved Stormwater Inspection and Maintenance Manual

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

STORMWATER MANAGEMENT REPORT

RESIDENTIAL DEVELOPMENT

1582 FOREST AVENUE

PORTLAND, MAINE

Prepared for

ACRE PROPERTIES
27 CYPRESS STREET
PORTLAND, ME 04103

Prepared by

Gorrill Palmer
300 Southborough Drive – Suite 200
South Portland, Maine 04106
207.772.2515

June 2025



Stormwater Management Report

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Figure

1. Soil Map

Attachments

A. Medium Intensity USGS Web Soil Survey Report
B. Watershed Maps (Pre, Post, Water Quality)
C. TR-20 Calculations

12.1 Overview

ACRE Properties has retained Gorrill Palmer to prepare plans and permit applications for a proposed residential development located at 1582 Forest Avenue in Portland, ME. Currently, Acre Properties is seeking a Building/Land Use Permit from the City of Portland, and a Stormwater Law Permit under the City's Delegated Review.

The proposed development is required to meet the requirements of the City of Portland Stormwater Management Plans for New Development. The proposed project is subject to a Major Site Plan Application with the City of Portland, which requires the development to meet Maine DEP Chapter 500 Stormwater Management Rules, including General, Flooding, Urban Impaired Streams standards.

Runoff from the site is tributary to Capisic Brook which is listed as an Urban Impaired Stream. Therefore, the proposed development is required to comply with the Urban Impaired Stream Standard pursuant to Maine DEP Chapter 500 Stormwater Management Rules.

12.2 Development Description

This narrative contains the stormwater management report for the construction of the project. The plans prepared by GP include the infrastructure necessary to serve the project.

Gorrill Palmer (GP) has been retained by ACRE Properties to prepare a Stormwater Management Report for the proposed residential development of two, three-story, multi-unit dwellings, each with a building footprint of approximately 7,672 square feet, associated parking areas, an access drive via Belfort Street, landscaping and stormwater treatment facilities. Based on the Lot Split and Topographic Survey and prepared by Northeast Civil Solutions, dated July 5, 2022, the project site is 66,560 S.F. +/-. The City of Portland identifies the property on the Maine Parcel Viewer as Parcel 299, Lot D1011001.

In total, the proposed buildings, parking lots, and associated infrastructure will create approximately 34,177 square feet (0.78 acres) of new impervious area and 46,406 square feet (1.07 acres) of new developed area onsite. Abutting land uses include:

- North –Residential Homes and Forest Avenue
- West – Gerald E. Talbot Community School (Developed)
- South – Residential Homes and Empire Way
- East – Residential Homes and Belfort Street

Preliminary review of available data published by the State of Maine suggests that no significant habitats or protected natural resources lie within the area proposed for development. According to the National Wetland Inventory database it appears no wetlands are present on the proposed parcel.

Under the General Standard, the project is required to meet the BMP standards identified in Chapter 500 and described in Volume III of the Stormwater BMP manual. The design of this development will include a stormwater treatment system in the form of a subsurface sand filter and three drip strip systems. These

practices are described in depth under Section 12.9 Approach and Analysis for Water Quality.

The MaineDEP Basic Standard will be met as presented in the Erosion and Sedimentation Control report for this project.

12.3 Surface Water

The surface hydrology within the site conveys runoff to three Points of Interest (POIs) as shown on the Watershed Maps (see Attachment B). POI 1 is located downstream of the site to the south. POI 2 is located at the most northern part of the site and is tributary to the closed drainage system on Forest Avenue. POI 3 is a closed drainage system on Belfort Street.

No streams have been identified on or directly adjacent to the site and the site is not affected by buffers/setbacks from natural resources.

12.4 General Topography

The topography and terrain for the planned development area varies in elevation from approximately 99 to 121 feet. Most of the existing sites contain slopes ranging from approximately 2% to 10%.

12.5 Flooding

The site is not located within a mapped FEMA 100-year floodplain.

12.6 Natural Drainage Ways

The project as currently proposed does not include alteration of any natural drainage ways.

12.7 Alterations to Land Cover

Based on field reconnaissance, the existing site is currently undeveloped with the central portion of the site appearing to be previously cleared and compacted by vehicles. Changes in land cover will include the conversion of wooded and exposed dirt areas to two residential buildings with paved parking, access drives, and landscaping surrounding the building.

12.8 Stormwater Management Control

The proposed development is required to meet the requirements of the City of Portland stormwater management requirements. Since the proposed project is subject to a Major Site Plan Application the development shall submit a stormwater management plan pursuant to the regulations of Maine DEP Chapter 500 Stormwater Management Rules, including the Basic, General, Flooding, Urban Impaired Stream standards. The proposed development is required to detain runoff such that the rate of flow does not exceed pre-development rates for the 2, 10, 25-year 24-hour storm to meet the requirements of MDEP. The development is anticipated to result in approximately 0.78 acres of new impervious area on-site. The Basic Standard is presented in the Erosion Control Report included in this application package. The General Standard and Flooding Standard are presented as follows.

The development will be required to meet the MDEP's water quality and quantity standards. To meet the water quality standard, the project will utilize a subsurface sand filter and three drip strip systems. The facilities will be utilized to control the post development runoff for the 2, 10, and 25-year storm events where applicable.

The Maine Department of Environmental Protection rules and regulations regarding stormwater concentrate on four stormwater management objectives:

- Effective Pollutant Removal
- Cooling
- Channel Protection
- Flood Control

These objectives may be met either directly by providing BMP's that manage and treat the runoff after it has been created, or indirectly by incorporating low impact development site planning concepts to minimize production and contamination of runoff by maximizing infiltration and evapotranspiration.

12.9 Approach and Analysis for Water Quality

The following narrative discusses the Basic Standard and General Standard of the MaineDEP Stormwater Law. The proposed development will be required to meet the Basic Standard, and BMP Standard under the General Standard. Additionally, the project is required to meet the urban impaired stream standard by which the Applicant proposes the payment of a compensation fee. Information on meeting the urban impaired stream standard can be found in Section 12.9.3 of this report. The project is not required to meet the Phosphorous Standard as the development site is not tributary to a lake watershed. Based upon review of the five recommended and approved methods for mitigating the increased frequency and duration of channel erosive flows, as required by the BMP Standards, the applicant is proposing to construct a subsurface sand filter and three drip strip systems.

The proposed development will treat no less than 95% of the impervious area and no less than 80% of the developed area in accordance with the MaineDEP Chapter 500 Section 4.C.2(a). Water quality calculations for this portion of the site are presented in Section 12.9.2 below.

12.9.1 New Developed Required Treatment

The proposed overall development will treat no less than 95% of the impervious threshold area and no less than 80% of the developed threshold area in accordance with the MDEP Chapter 500 Section 4.C.2(a). Table 1 below outlines the required treatments for this area.

TABLE 1 – PROPOSED DEVELOPMENT TREATMENT SUMMARY

Type	Total Area (sf)	Treatment Threshold	Area Required to be Treated (sf)
Impervious	34,177	95%	32,469
Developed	46,406	80%	37,125

12.9.2 Stormwater Quality Treatment

The following section summarizes the subsurface sand filters and drip strip systems that serve as the Stormwater BMP's being utilized for the proposed development.

Subsurface Sand Filter

Subsurface Sand Filters are defined in Volume III, Chapter 7.3 of the Stormwater Management Best Management Practices Manual published by the Maine Department of Environmental Protection. The subsurface sand filter has been sized to provide the treatment of the water quality volume of at least 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped developed area. The surface area of the filter is required to be at least 5% of the subcatchment's impervious area, plus 2% of the subcatchment's landscaped area.

The sand filter consists of 75 Stormtech SC-310 Chambers and surrounding aggregate over an 18" thick sand filter and a 12" thick underdrained drainage layer (see sheet C301 for details). An additional 50 Stormtech SC-310 Chambers without a filter layer have been incorporated into the designs to provide additional channel protection storage to meet flooding control standards.

Runoff from Subcatchment 1A and 1F will be directed into catch basins throughout the driveway and parking areas and conveyed via a stormdrain network into the pre-treatment chambers. Offsite developed areas on the abutting properties tributary to the subsurface sand filter are not required to be treated and are not included as "treated area" in these calculations. Runoff from these areas are tributary to the system for detention purposes only.

Initial stormwater flows will enter the pretreatment rows of the system. From there it will flow into the rest of the water quality chambers that are sized for the water quality volume. Stormwater will then flow vertically through a sand filter section before being collected in underdrain pipes that connect to the closed conveyance system that ultimately drains to POI 1. The subsurface sand filter section was designed in accordance with Section 7.3 of the BMP's Technical Design Manual dated May 2016 and the DEP approval letter for the Stormtech Isolator Row dated July 29, 2016. Yearly maintenance of the sand filter will include monitoring the outflow after a rainfall event to ensure the outflow time is within the required parameters.

The smaller storms which generate runoff volume equal to or less than the channel protection volume will be conveyed through the pre-treatment row, sand filter, and underdrain system. A valve will be installed on the underdrain pipe which can be field adjusted to ensure that the water quality volume drains within 24-48 hours. Larger storms will be conveyed through the pre-treatment row and through the outlet control structures. Runoff greater than the water quality volume will be conveyed over a weir or 12" pipe, set at the water quality elevation, which conveys runoff to the channel protection chambers. The chambers and stone provide storage for the 2-, 10-, and 25-year storms assuming a 40% void ratio for the stone. The following table presents the sand filter sizing and design calculations:

TABLE 2 – SUBSURFACE SAND FILTER SIZING		
	Required	**Provided**
Impervious Area (sq. ft.)		24,667
Vegetated Area (sq. ft.)		3,667
Developed Area (Imp. + Landscaped) (sq. ft.)		28,334
Treatment Volume (cu. ft.)	2,178	2,233
Filter Surface Area (sq. ft.)	1,307	2,084
Pond Outflow (cfs)		0.03
Pond Release Time	24-48 Hours	24 Hours
1-Year Inflow		1.29
Isolator Row Chambers	13	25
WQV Elevation		104.07

Drip Strips

Drip Strip filtration will be utilized for the roof areas of both buildings on site and a portion of the developed area to the north of the buildings. The drip strips have been designed in accordance with Section 7.5 of the BMP's Technical Design Manual dated May 2016. The drip strips have been sized to provide the treatment of the water quality volume of at least 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped developed area. The storage of the water quality volume is provided in the 18" thick reservoir layer of the drip strips, assuming a 40% void ratio for the stone.

Runoff from each subcatchment will be directed to the drip strips via overland flow. The smaller storms which generate runoff volume equal to or less than the channel protection volume will be conveyed through the 12" filter layer, and underdrain system. A valve will be installed on the underdrain pipe which can be field adjusted to ensure that the water quality volume drains within 24-48 hours. Runoff greater than the water quality volume will be conveyed away from the buildings via overland flow, or via an open grate catch basin (Drip Strip #3) to a ditch which ultimately drains to POI 1 (see sheet C302 for details).

Table 3 below shows the sizing calculations for each drip strip.

TABLE 3 – DRIP STRIP SIZING		
Drip Strip #1		
	Required	**Provided**
Impervious Area (sq. ft.)		3,892
Vegetated Area (sq. ft.)		0
Developed Area (Imp. + Landscaped) (sq. ft.)		3,892
Treatment Volume (cu. ft.)	324	420
Pond Outflow (cfs)		0.005
Pond Release Time	24-48 Hours	24 Hours
Drip Strip #2		
	Required	**Provided**
Impervious Area (sq. ft.)		3,892
Vegetated Area (sq. ft.)		0
Developed Area (Imp. + Landscaped) (sq. ft.)		3,892
Treatment Volume (cu. ft.)	324	420
Pond Outflow (cfs)		0.005
Pond Release Time	24-48 Hours	24 Hours
Drip Strip #3		
	Required	**Provided**
Impervious Area (sq. ft.)		778
Vegetated Area (sq. ft.)		2,297
Developed Area (Imp. + Landscaped) (sq. ft.)		3,075
Treatment Volume (cu. ft.)	141	201
Pond Outflow (cfs)		0.002
Pond Release Time	24-48 Hours	24 Hours

12.9.3 Conclusion – Water Quality

Table 4 below summarizes the proposed total treatment for the proposed development, which does not include future development.

TABLE 4 – OVERALL TREATMENT FOR DEVELOPMENT		
	IMPERVIOUS	DEVELOPED (Impervious + Landscaped)
Area Treated by Drip Strip #1 (sf)	24,667	28,334
Area Treated by Drip Strip #2 (sf)	3,892	4,638
Area Treated by Drip Strip #3 (sf)	3,892	4,638
Area Treated by Subsurface Sand Filter (sf)	778	3,075
Total Area Treated (sf)	33,229	40,685
Area Untreated (sf)	948	5,721
Total Area (sf)	34,177	46,406
Percent Treated	97.3%	87.7%
Percent Required	95%	80%

Table 5 below summarizes the proposed total treatment for the project.

TABLE 5 – TOTAL NEW DEVELOPMENT TREATMENT SUMMARY		
	Required Treatment (sf)	Proposed Treatment (sf)
Impervious	32,469	33,299
Developed	37,125	40,685

The project provides stormwater quality treatment to meet the General Standards for Chapter 500 and will not cause degradation of the receiving waters due to the stormwater runoff from the site.

12.9.4 Urban Impaired Stream

The unnamed stream northwest of the site is categorized as an urban impaired stream and is subject to the Maine DEP Urban Impaired Stream Standards. To meet the urban impaired stream standard, the applicant proposes the payment of a compensation fee to the approved compensation fee utilization plan for the City of Portland. The resulting fee of $7,875 was calculated based on the overall new impervious and new landscaped areas draining to all POI's. The breakdown of new impervious and developed areas and the resulting fees as outlined in MaineDEP Chapter 501 Section 3.A. (1) are provided in the table below:

TABLE 6 – URBAN IMPAIRED STREAM FEE CALCULATIONS			
Cover Type	**Area (acres)**	**Compensation Rate (per acre)**	**Fee**
Roof	0.36	$5,000	$1,800
Paved	0.43	$12,500	$5,375
Landscaped	0.28	$2,500	$1,075
Total	**1.07**		**$7,875**

12.10 Approach and Analysis for Stormwater Quantity

The stormwater management study provides an analysis of predevelopment and post development stormwater runoff rates.

The SCS TR-20 methodology, using the HydroCAD program, was employed by Gorrill Palmer to analyze predevelopment and post-development conditions. A 24-hour, SCS Type III storm distribution for the 2, 10, and 25-year storm frequencies was used. The corresponding rainfall amounts for these storms are 3.1", 4.6", and 5.8" respectively.

The USDA NRCS Medium Intensity Soil Survey identifies the site soils to be comprised of:

Map Symbol	Soil Type	K Value	Hydrologic Soil Group
EmB	Elmwood Fine Sandy Loam	0.32	B
WmB	Windsor Loamy Sand	0.17	A

See Figure 1 'U.S.D.A Medium Intensity Soil Survey – Map K Factor, Whole Soil' on the next page. The full report for the medium intensity soil survey is included in Attachment A.

Land use cover and delineations of watershed flow paths were obtained using the following data:

- Portland West 7.5 Minute Quadrangle Maps prepared by the U.S.G.S.
- Geotechnical Evaluation performed by Summit Geoengineering Services, Inc.
- Ground survey information from Lot Split and Topographic Survey prepared by Northeast Civil Solutions, Inc.
- Aerial photography of the project site, obtained from the Maine Office of GIS.
- Field Reconnaissance


Custom Soil Resource Report
Map—K Factor, Whole Soil
WmB
EmB
Newton St
332
Map Scale: 1:1,200 if printed on A portrait (8.5" x 11") sheet.
Meters
Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84
18

Figure 1

12.10.1 Predevelopment Conditions

The drainage study analyzes the watersheds in the predevelopment condition as depicted on the Predevelopment Watershed Map WS1 in Attachment B.

Subcatchment 1S consists of a large portion of the property and a portion of the abutters properties which ultimately drain towards the site, and to the south beyond the site to POI 1. This area includes wooded and newly graded dirt areas onsite, and developed grassed and impervious areas on the abutters properties.

Subcatchment 2S is located along the northeast side of the lot along Forest Avenue (Route 302) and includes grassed cover, and a small portion of the existing parking lot. This subcatchment is ultimately tributary to POI 2 located along the northern corner of the property.

Subcatchment 3S is located along the southeast boundary of the lot along Belfort Street consists of a small wooded area that ultimately drains to a catch basin located on Belfort Street (POI 3).

Table 7 presents the peak flow rates at the point of interest in the predevelopment condition.

TABLE 7– PREDEVELOPMENT PEAK FLOW RATES (TYPE III 24-HR)

Point of Interest	Peak Flow (CFS)		
	2 Year	10 Year	25 Year
POI 1	0.21	1.08	2.09
POI 2	0.05	0.22	0.40
POI 3	0.00	0.00	0.00

Copies of the calculations for the predevelopment conditions are included in Attachment C.

12.10.2 Post development Conditions

Analysis for the post development condition consists of determining post development peak flows and limiting the post development flows to predevelopment levels for the 2, 10, and 25-year storm events. The post development condition has been modeled as five subcatchments tributary to the three POIs as described below.

Subcatchment 1A consists of new roof, driveway/parking areas, and grassed areas associated with the proposed development. This subcatchment is tributary to the subsurface sand filter and ultimately POI 1.

Subcatchment 1B consists of a portion of the building roof that is tributary to Drip Strip #1 and ultimately drains to POI 1.

Subcatchment 1C consists of a portion of the building roof that is tributary to Drip Strip #2 and

ultimately drains to POI 1.

Subcatchment 1D consists of new walkway area and grassed area associated with the proposed development. In addition, this subcatchment also includes previously developed areas upstream of the site on abutting properties. Runoff from these areas tributary to Drip Strip #3 and ultimately drains to POI 1.

Subcatchment 1E consists of developed and undeveloped vegetated area throughout the lot which is not treated. Runoff from these areas is tributary to POI 1.

Subcatchment 1F consists of previously developed areas upstream of the site on abutting properties which drain to the proposed stormwater collection facilities. This subcatchment is tributary to the subsurface sand filter and ultimately POI 1.

Subcatchment 2S is located along the northeast side of the lot along Forest Avenue (Route 302) and includes existing grassed cover, a small portion of the existing parking lot, and a portion of the proposed walkway for access to the site. This subcatchment is ultimately tributary to POI 2 located along the northern corner of the property.

Subcatchment 3S is located along the southeast boundary of the lot along Belfort Street consists of a small portion of the driveway that ultimately drains to a catch basin located on Belfort Street (POI 3).

A watershed map for the post development conditions is attached to this section as drawing number WS2 in Attachment B. Attachment C includes the TR-20 pond calculations.

A comparison of pre and post development flow without detention is presented in the following table.

TABLE 8– PEAK FLOW COMPARISON WITHOUT DETENTION

Point of Interest	Peak Flow (CFS)		
	2 Year	10 Year	25 Year
POI 1			
Pre	0.21	1.08	2.09
Post	1.41	2.86	4.22
POI 2			
Pre	0.05	0.22	0.40
Post	0.08	0.29	0.49
POI 3			
Pre	0.00	0.00	0.00
Post	0.02	0.04	0.05

As shown in the table above, the peak flow to POI 1 greatly increases, emphasizing the need for peak flow detention. The following table presents a comparison of peak flow with the proposed stormwater management system in the form of a subsurface sand filter, and the three drip strips.

TABLE 10 – PEAK FLOW COMPARISON WITH DETENTION			
Point of Interest	**Peak Flow (CFS)**		
	2 Year	**10 Year**	**25 Year**
POI 1			
Pre	0.21	1.08	2.09
Post	0.21	1.06	2.08
POI 2			
Pre	0.05	0.22	0.40
Post	0.08	0.29	0.49
POI 3			
Pre	0.00	0.00	0.00
Post	0.02	0.04	0.05

12.10.3 Conclusion – Water Quantity

As can be seen from Table 10 above, the peak flows at the abutter properties (POI 1) have been maintained to be at or below predevelopment peak levels. By inspection, the peak flows to POI 2 and POI 3 increase by a less than 0.2 cfs. These flows are tributary to the municipal stormwater system and it is our understanding that the municipal stormwater system has the capacity to accommodate these minor increases in flow. Therefore, the project is not anticipated to have any adverse impact on abutting downstream properties, or the municipal system due to stormwater runoff.

12.11 Construction BMPs

Additional water quality treatment will be provided during construction by best management practices (BMP). Standard BMPs to be employed include siltation fencing around the downslope construction perimeter, rip rap pipe outlets, stabilized construction entrances, and erosion control fabrics applied to slopes prior to revegetation.

12.12 Maintenance of Facilities, Recertification and Housekeeping

See Maintenance of Facilities, Recertification and Housekeeping sections of the Erosion and Sedimentation Control Report included in this application package.

12.13 Conclusion

Gorrill Palmer has been retained by ACRE Properties to prepare plans and permit applications for a

proposed residential development on the proposed parcel in Portland, Maine. Based upon the attached calculations, the proposed project meets or exceeds the water quality and water quantity regulations of the City of Portland and Chapter 500 of the MDEP to the greatest extent practicable and will not cause degradation of the receiving waters from the site or likely have an adverse impact on abutting or downstream properties due to the stormwater runoff.

Therefore, the proposed development meets the requirements of the MaineDEP and the City of Portland.

12.14 Attachments

Attached to this section are the following items
Attachment A – Medium Intensity USGS Web Soil Survey Report
Attachment B – Watershed Maps (Pre, Post, Water Quality)
Attachment C – TR-20 Calculations

ATTACHMENT A

MEDIUM INTENSITY USGS WEB SOIL SURVEY REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



November 27, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Map Scale: 1:1,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 21, Aug 26, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	0.7	36.3%
WmB	Windsor loamy sand, 0 to 8 percent slopes	1.3	63.7%
Totals for Area of Interest		**2.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

EmB—Elmwood fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: blh8
Elevation: 10 to 900 feet
Mean annual precipitation: 36 to 55 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Elmwood and similar soils: 88 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elmwood

Setting

Landform: Stream terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 25 inches: sandy loam
H3 - 25 to 65 inches: silty clay loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F144BY402ME - Clay Hills
Hydric soil rating: No

Minor Components

Swanton

Percent of map unit: 7 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Whately

Percent of map unit: 2 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

WmB—Windsor loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w2x2
Elevation: 0 to 1,410 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Windsor and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting

Landform: Outwash terraces, deltas, outwash plains, dunes
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Erosion Factors

Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

K Factor, Whole Soil

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.



Map Scale: 1:1,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Lines

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Points

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 21, Aug 26, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	.37	0.7	36.3%
WmB	Windsor loamy sand, 0 to 8 percent slopes	.15	1.3	63.7%
Totals for Area of Interest			**2.0**	**100.0%**

Rating Options—K Factor, Whole Soil

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): All Layers (Weighted Average)

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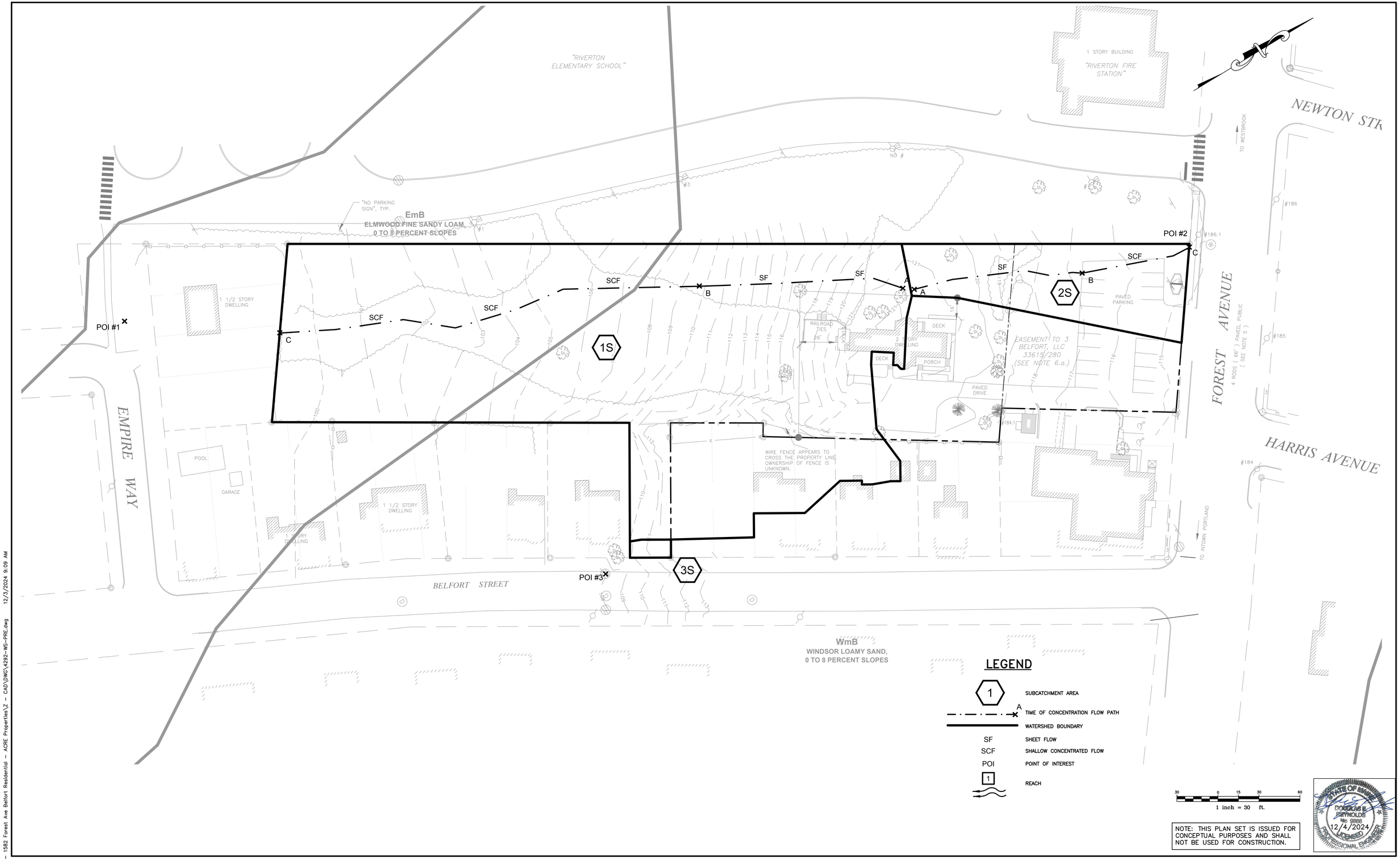
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ATTACHMENT B

WATERSHED MAPS (PRE, POST, WATER QUALITY)



LEGEND

1	SUBCATCHMENT AREA
A	TIME OF CONCENTRATION FLOW PATH
	WATERSHED BOUNDARY
SF	SHEET FLOW
SCF	SHALLOW CONCENTRATED FLOW
POI	POINT OF INTEREST
1	REACH

30 0 15 30 60

1 inch = 30 ft.

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
DOUGLAS E. REYNOLDS
No. 9868
12/4/2024
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK | Draft: CJG | Date: NOV 2024
Checked: DER | Scale: 1"=30' | Job No.: 4292
File Name: 4292-WS-PRE.dwg

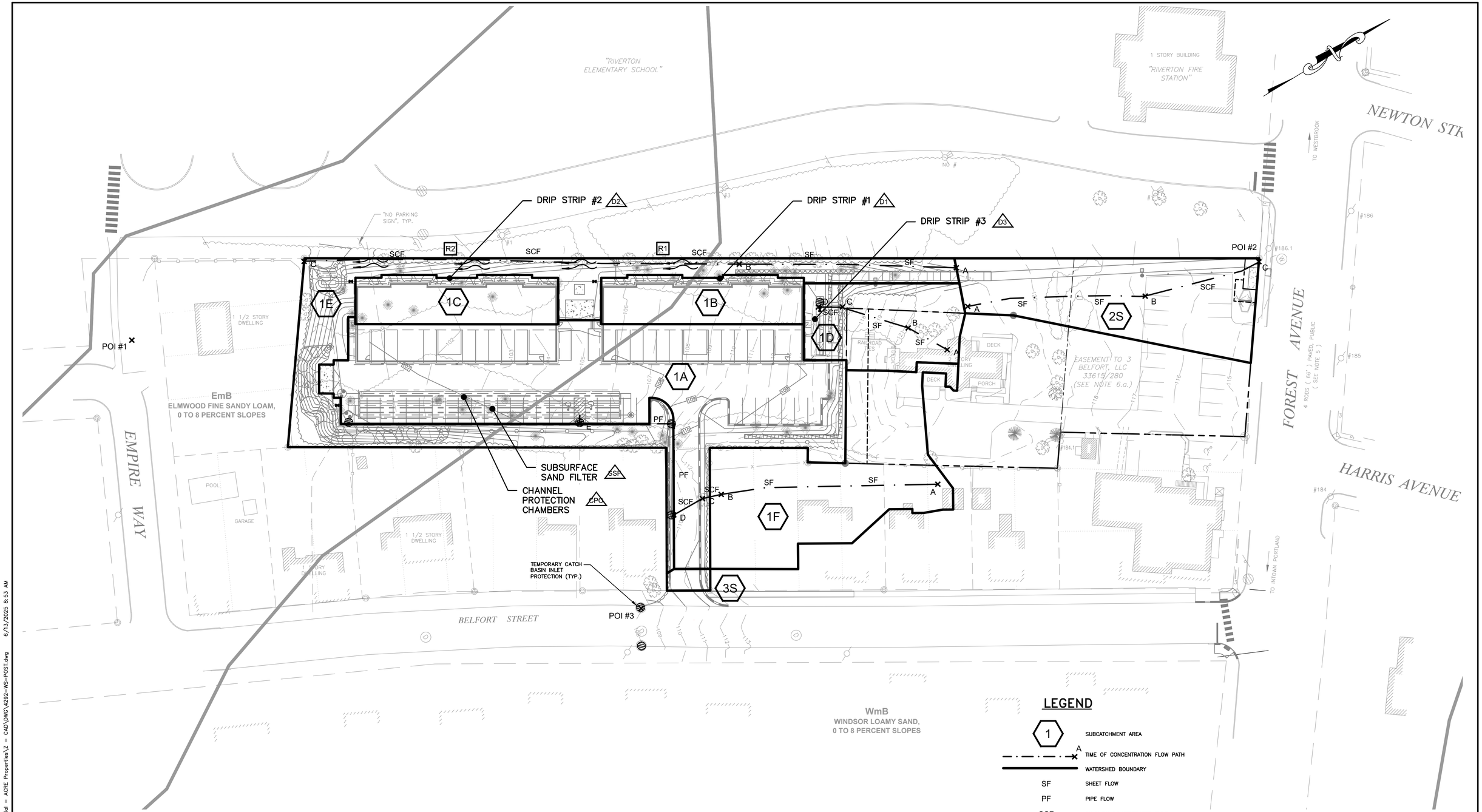
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GorrillPalmer.com
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300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: **Pre Development Watershed Map**
Project: **1582 Forest Ave Residential**, Portland, Maine
Client: **ACRE Properties**, 27 Cypress Street, Portland, Maine 04103

Drawing No. **WS1**

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LEGEND

1	SUBCATCHMENT AREA
A	TIME OF CONCENTRATION FLOW PATH
	WATERSHED BOUNDARY
SF	SHEET FLOW
PF	PIPE FLOW
SCF	SHALLOW CONCENTRATED FLOW
POI	POINT OF INTEREST
1	REACH
1	POND

30 0 15 30 60
1 inch = 30 ft.

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE DOUGLAS E. REYNOLDS No. 9686 6/12/25 LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/12/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292

File Name: 4292-WS-POST.dwg

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South Portland, ME 04106

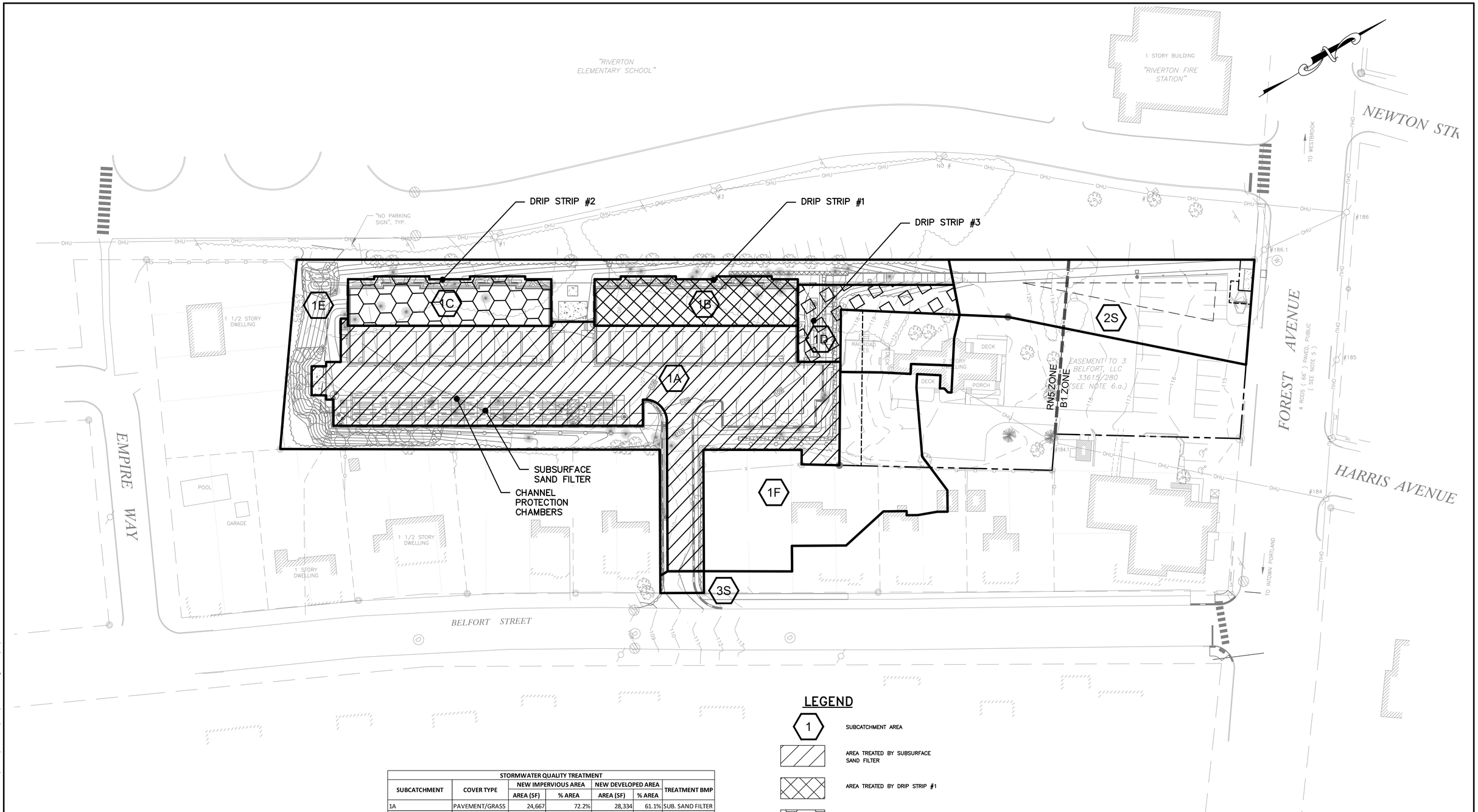
Drawing Name: **Post Development Watershed Map**

Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine

Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. *WS2*

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LEGEND

1	SUBCATCHMENT AREA
	AREA TREATED BY SUBSURFACE SAND FILTER
	AREA TREATED BY DRIP STRIP #1
	AREA TREATED BY DRIP STRIP #2
	AREA TREATED BY DRIP STRIP #3
	UNTREATED AREA

STORMWATER QUALITY TREATMENT

SUBCATCHMENT	COVER TYPE	NEW IMPERVIOUS AREA		NEW DEVELOPED AREA		TREATMENT BMP
		AREA (SF)	% AREA	AREA (SF)	% AREA	
1A	PAVEMENT/GRASS	24,667	72.2%	28,334	61.1%	SUB. SAND FILTER
1B	PAVEMENT/GRASS	3,892	11.4%	4,638	10.0%	DRIP STRIP 1
1C	PAVEMENT/GRASS	3,892	11.4%	4,638	10.0%	DRIP STRIP 2
1D	ROOF/PAVEMENT	778	2.3%	3,075	6.6%	DRIP STRIP 3
1E, 2S, 3S	ROOF/PAVEMENT	948	0.0%	5,721	0.0%	UNTREATED
TOTAL		**34,177**	**97.3%**	**46,406**	**87.7%**	

30 0 15 30 60
1 inch = 30 ft.

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STATE OF MAINE
DOUGLAS E. REYNOLDS
No. 9686
6/13/25
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK | Draft: CJG | Date: NOV 2024
Checked: DER | Scale: 1"=30' | Job No.: 4292
File Name: 4292-WQ.dwg

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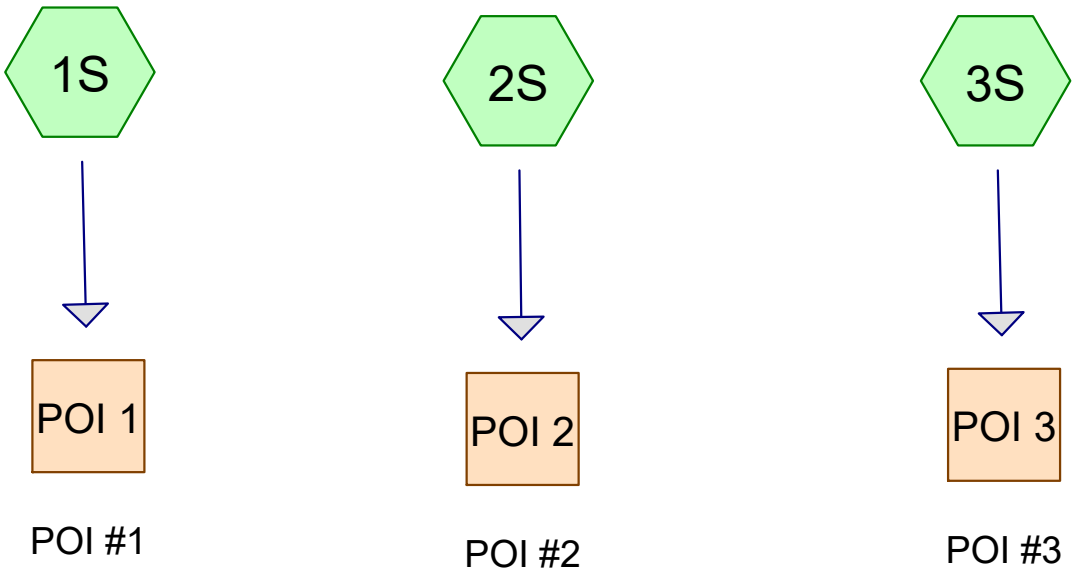
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Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine
Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

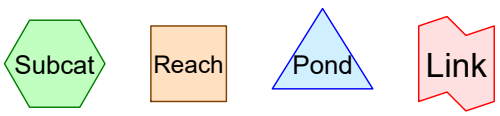
Drawing No. WQ

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ATTACHMENT C

TR-20 CALCULATIONS





Routing Diagram for Pre
Prepared by LJB, Inc, Printed 12/3/2024
HydroCAD® 10.20-5c s/n 01265 © 2023 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=72,004 sf 3.08% Impervious Runoff Depth=0.31"
Flow Length=465' Tc=18.5 min CN=56 Runoff=0.21 cfs 0.043 af

Subcatchment 2S: Runoff Area=10,805 sf 33.40% Impervious Runoff Depth=0.38"
Flow Length=205' Tc=13.1 min CN=58 Runoff=0.05 cfs 0.008 af

Subcatchment 3S: Runoff Area=390 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=30 Runoff=0.00 cfs 0.000 af

Reach POI 1: POI #1 Inflow=0.21 cfs 0.043 af
Outflow=0.21 cfs 0.043 af

Reach POI 2: POI #2 Inflow=0.05 cfs 0.008 af
Outflow=0.05 cfs 0.008 af

Reach POI 3: POI #3 Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 1.910 ac Runoff Volume = 0.051 af Average Runoff Depth = 0.32"
93.00% Pervious = 1.776 ac 7.00% Impervious = 0.134 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=72,004 sf 3.08% Impervious Runoff Depth=0.99"
Flow Length=465' Tc=18.5 min CN=56 Runoff=1.08 cfs 0.136 af

Subcatchment 2S: Runoff Area=10,805 sf 33.40% Impervious Runoff Depth=1.11"
Flow Length=205' Tc=13.1 min CN=58 Runoff=0.22 cfs 0.023 af

Subcatchment 3S: Runoff Area=390 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=30 Runoff=0.00 cfs 0.000 af

Reach POI 1: POI #1 Inflow=1.08 cfs 0.136 af
Outflow=1.08 cfs 0.136 af

Reach POI 2: POI #2 Inflow=0.22 cfs 0.023 af
Outflow=0.22 cfs 0.023 af

Reach POI 3: POI #3 Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 1.910 ac Runoff Volume = 0.159 af Average Runoff Depth = 1.00"
93.00% Pervious = 1.776 ac 7.00% Impervious = 0.134 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=72,004 sf 3.08% Impervious Runoff Depth=1.72"
Flow Length=465' Tc=18.5 min CN=56 Runoff=2.09 cfs 0.236 af

Subcatchment 2S: Runoff Area=10,805 sf 33.40% Impervious Runoff Depth=1.88"
Flow Length=205' Tc=13.1 min CN=58 Runoff=0.40 cfs 0.039 af

Subcatchment 3S: Runoff Area=390 sf 0.00% Impervious Runoff Depth=0.09"
Tc=6.0 min CN=30 Runoff=0.00 cfs 0.000 af

Reach POI 1: POI #1 Inflow=2.09 cfs 0.236 af
Outflow=2.09 cfs 0.236 af

Reach POI 2: POI #2 Inflow=0.40 cfs 0.039 af
Outflow=0.40 cfs 0.039 af

Reach POI 3: POI #3 Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 1.910 ac Runoff Volume = 0.275 af Average Runoff Depth = 1.73"
93.00% Pervious = 1.776 ac 7.00% Impervious = 0.134 ac

Summary for Subcatchment 1S:

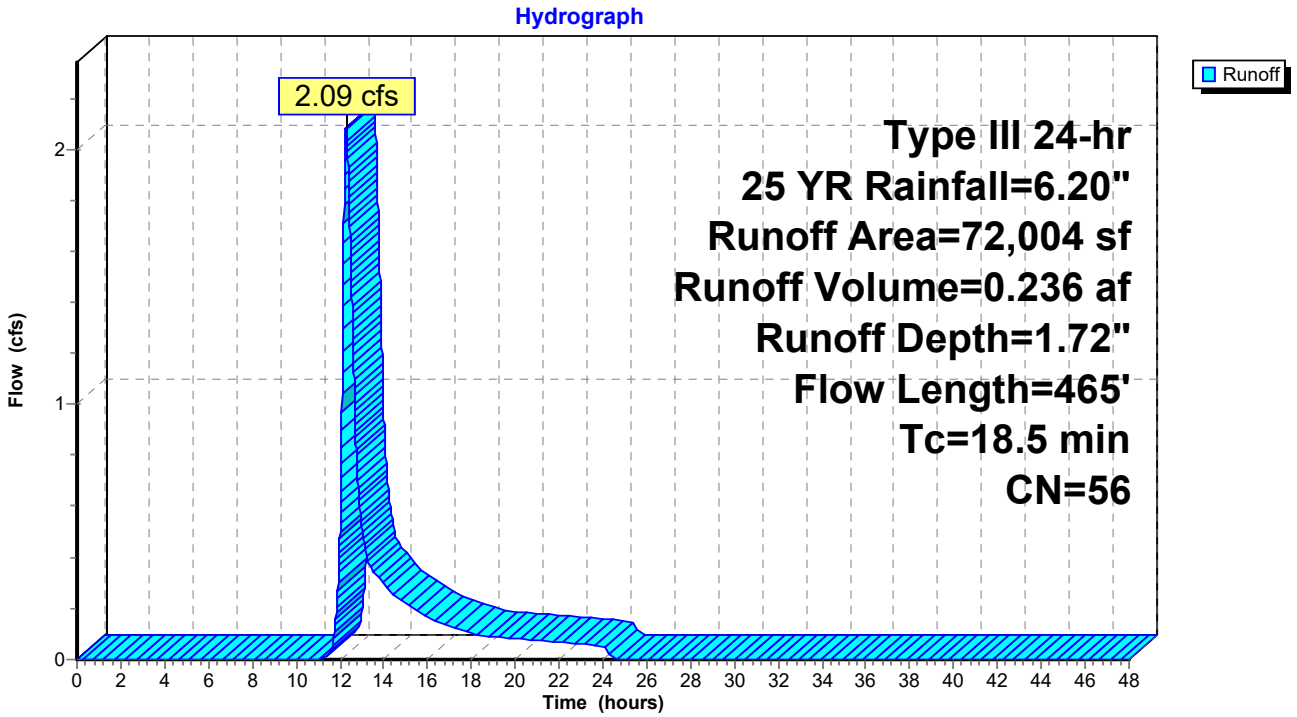
Runoff = 2.09 cfs @ 12.28 hrs, Volume= 0.236 af, Depth= 1.72"
Routed to Reach POI 1 : POI #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
2,217	98	Roofs, HSG A
14,269	72	Dirt roads, HSG A
11,678	82	Dirt roads, HSG B
13,382	30	Woods, Good, HSG A
16,036	55	Woods, Good, HSG B
14,422	39	>75% Grass cover, Good, HSG A
72,004	56	Weighted Average
69,787		96.92% Pervious Area
2,217		3.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	150	0.0800	0.15		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.30"
1.7	315	0.0350	3.01		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
18.5	465	Total			

Subcatchment 1S:



Summary for Subcatchment 2S:

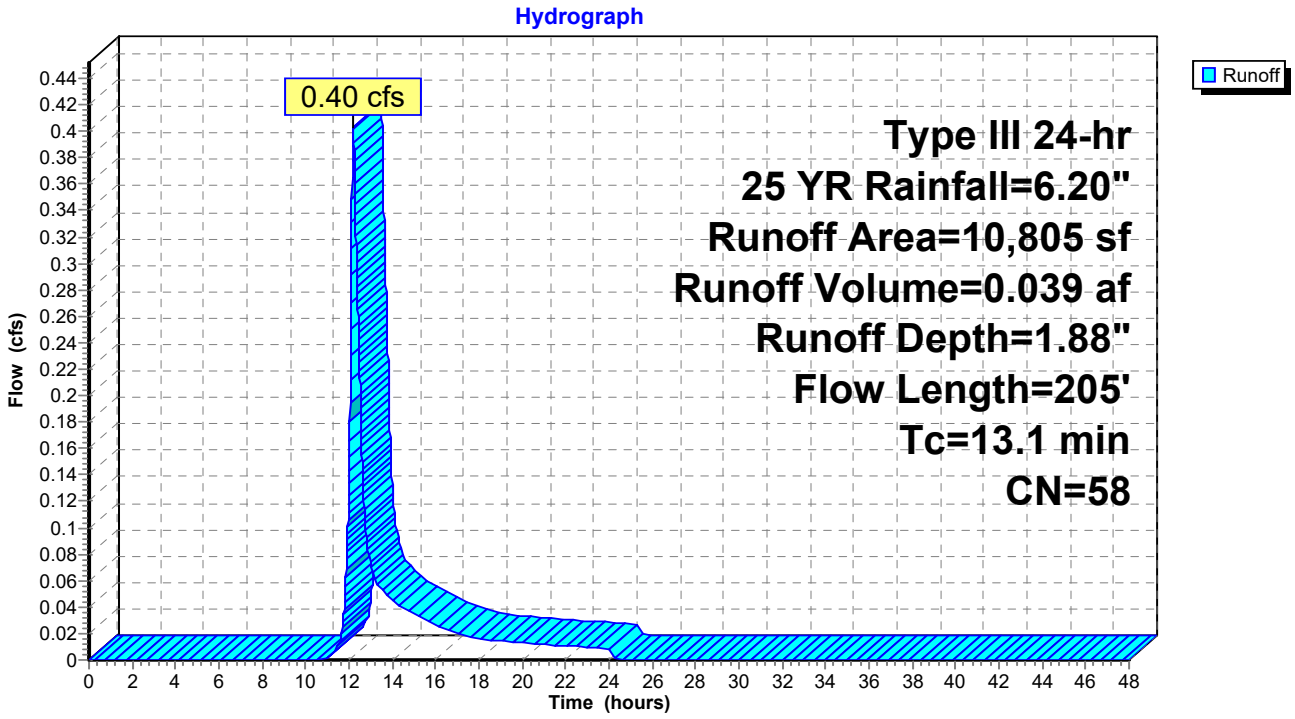
Runoff = 0.40 cfs @ 12.19 hrs, Volume= 0.039 af, Depth= 1.88"
Routed to Reach POI 2 : POI #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
6,413	39	>75% Grass cover, Good, HSG A
783	30	Woods, Good, HSG A
3,609	98	Paved parking, HSG A
10,805	58	Weighted Average
7,196		66.60% Pervious Area
3,609		33.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	125	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
0.4	80	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
13.1	205	Total			

Subcatchment 2S:



Summary for Subcatchment 3S:

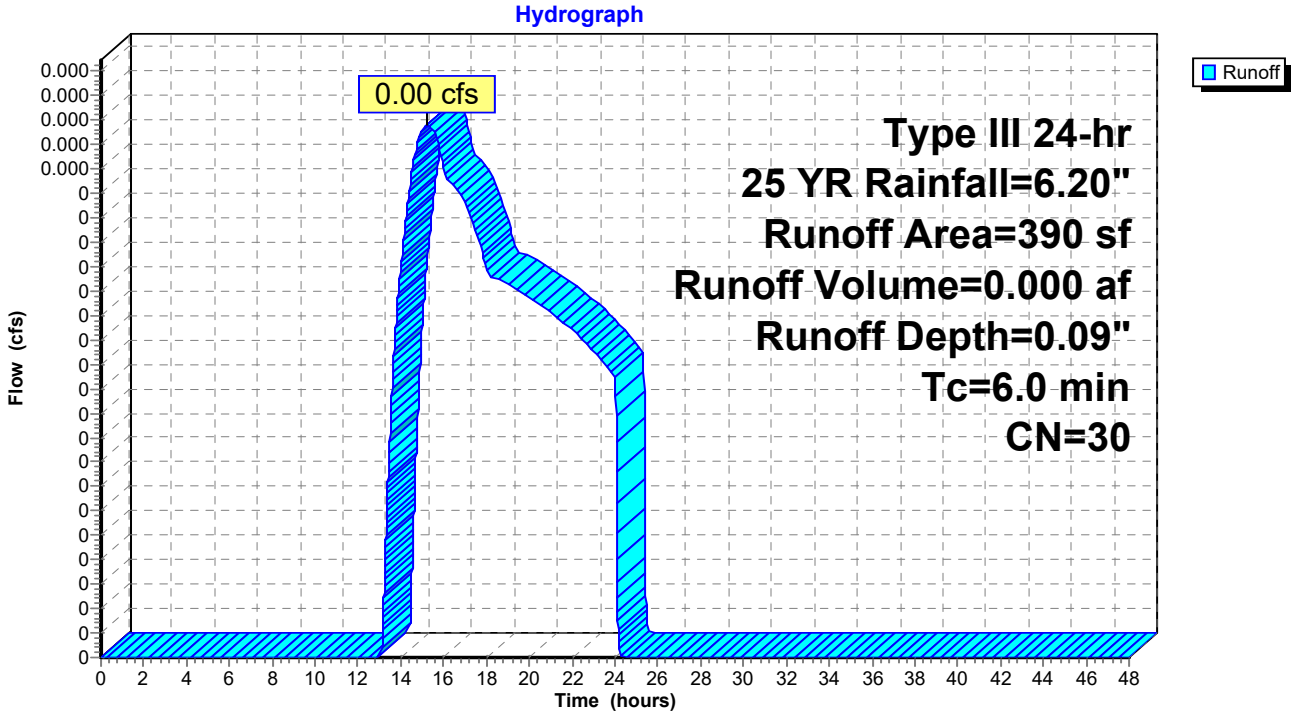
Runoff = 0.00 cfs @ 15.22 hrs, Volume= 0.000 af, Depth= 0.09"
Routed to Reach POI 3 : POI #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
390	30	Woods, Good, HSG A
390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S:

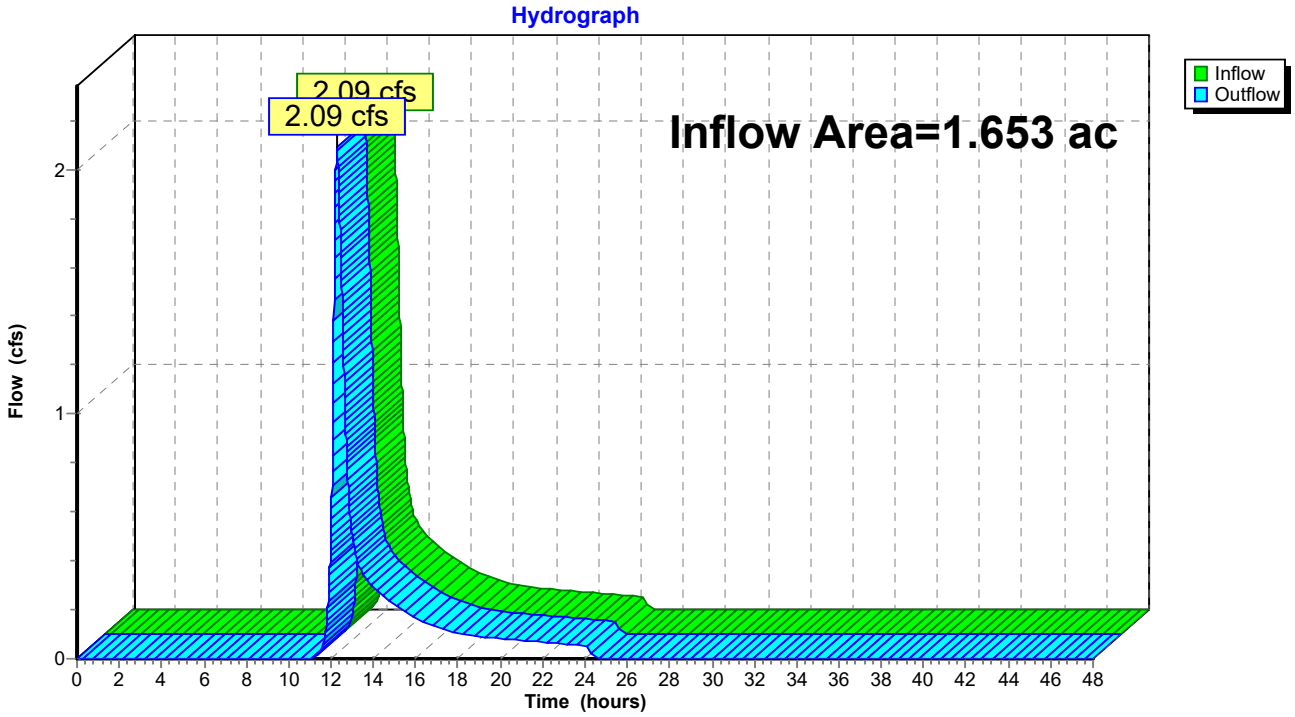

Hydrograph
Runoff
0.00 cfs
Type III 24-hr
25 YR Rainfall=6.20"
Runoff Area=390 sf
Runoff Volume=0.000 af
Runoff Depth=0.09"
Tc=6.0 min
CN=30
Flow (cfs)
0.000
0.000
0.000
0.000
0.000
0
0
0

Summary for Reach POI 1: POI #1

Inflow Area = 1.653 ac, 3.08% Impervious, Inflow Depth = 1.72" for 25 YR event
Inflow = 2.09 cfs @ 12.28 hrs, Volume= 0.236 af
Outflow = 2.09 cfs @ 12.28 hrs, Volume= 0.236 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach POI 1: POI #1

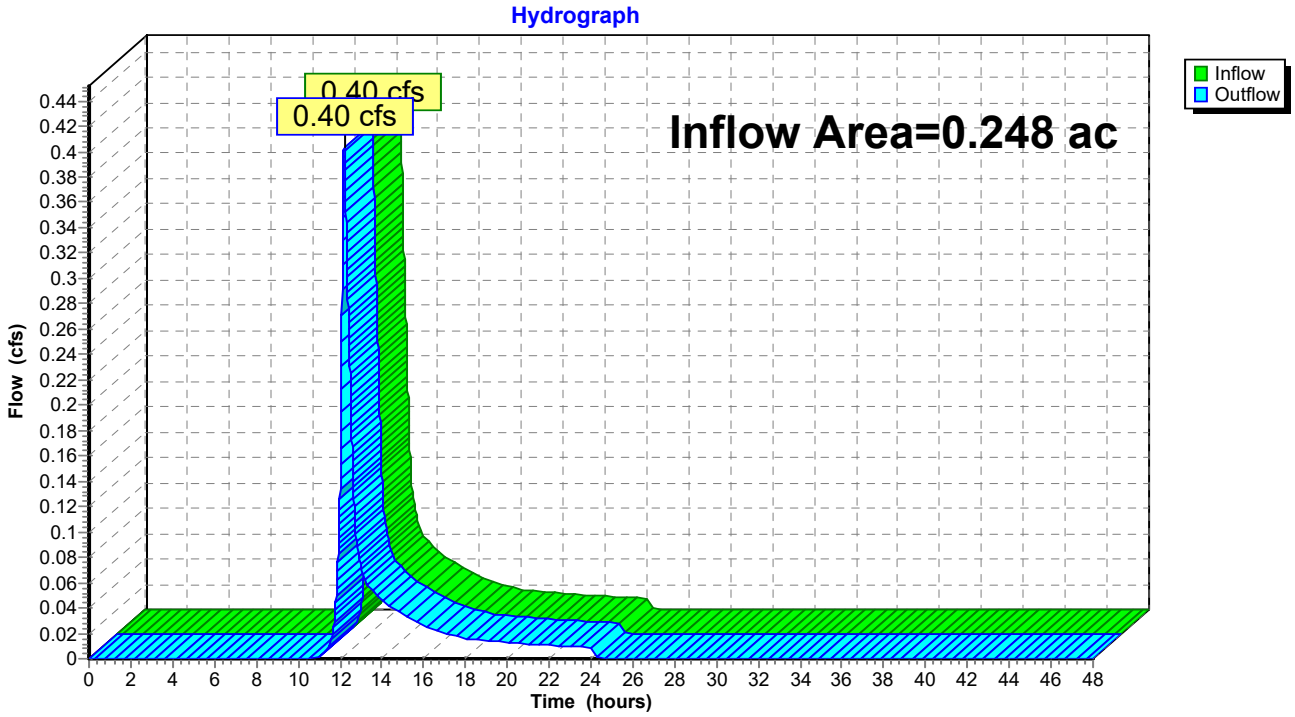


Summary for Reach POI 2: POI #2

Inflow Area = 0.248 ac, 33.40% Impervious, Inflow Depth = 1.88" for 25 YR event
Inflow = 0.40 cfs @ 12.19 hrs, Volume= 0.039 af
Outflow = 0.40 cfs @ 12.19 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach POI 2: POI #2

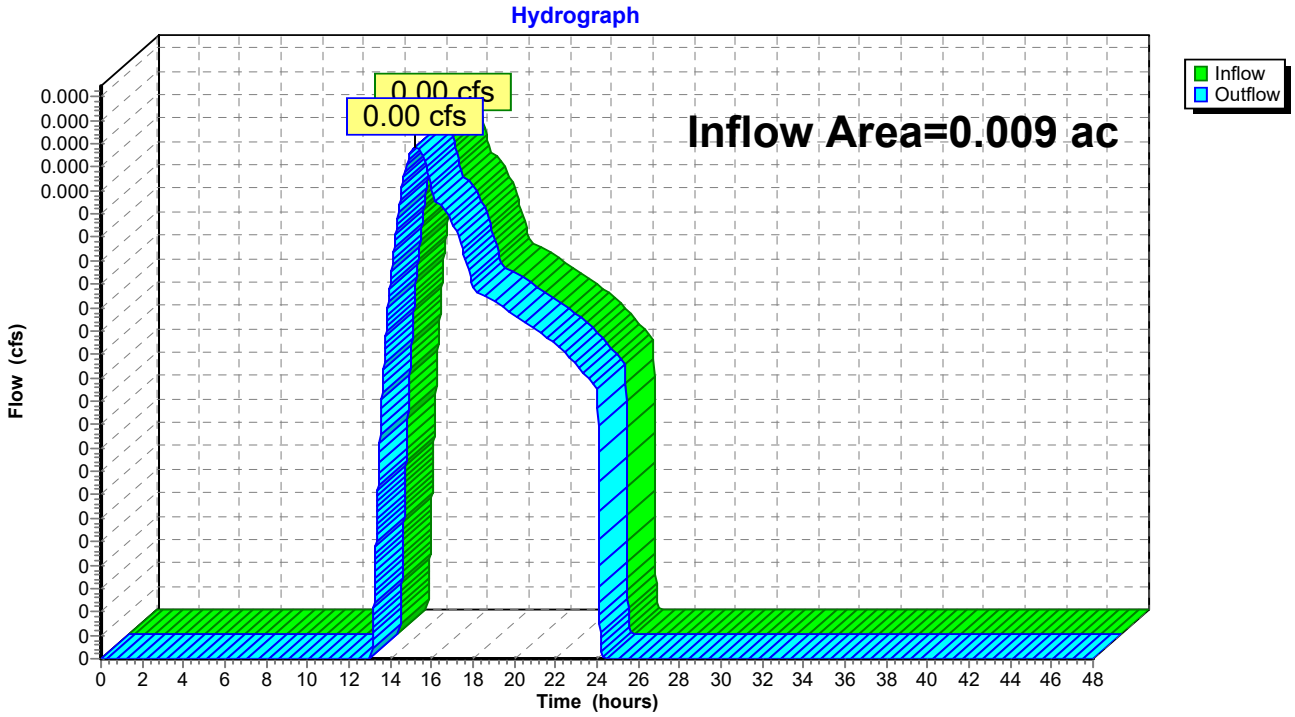


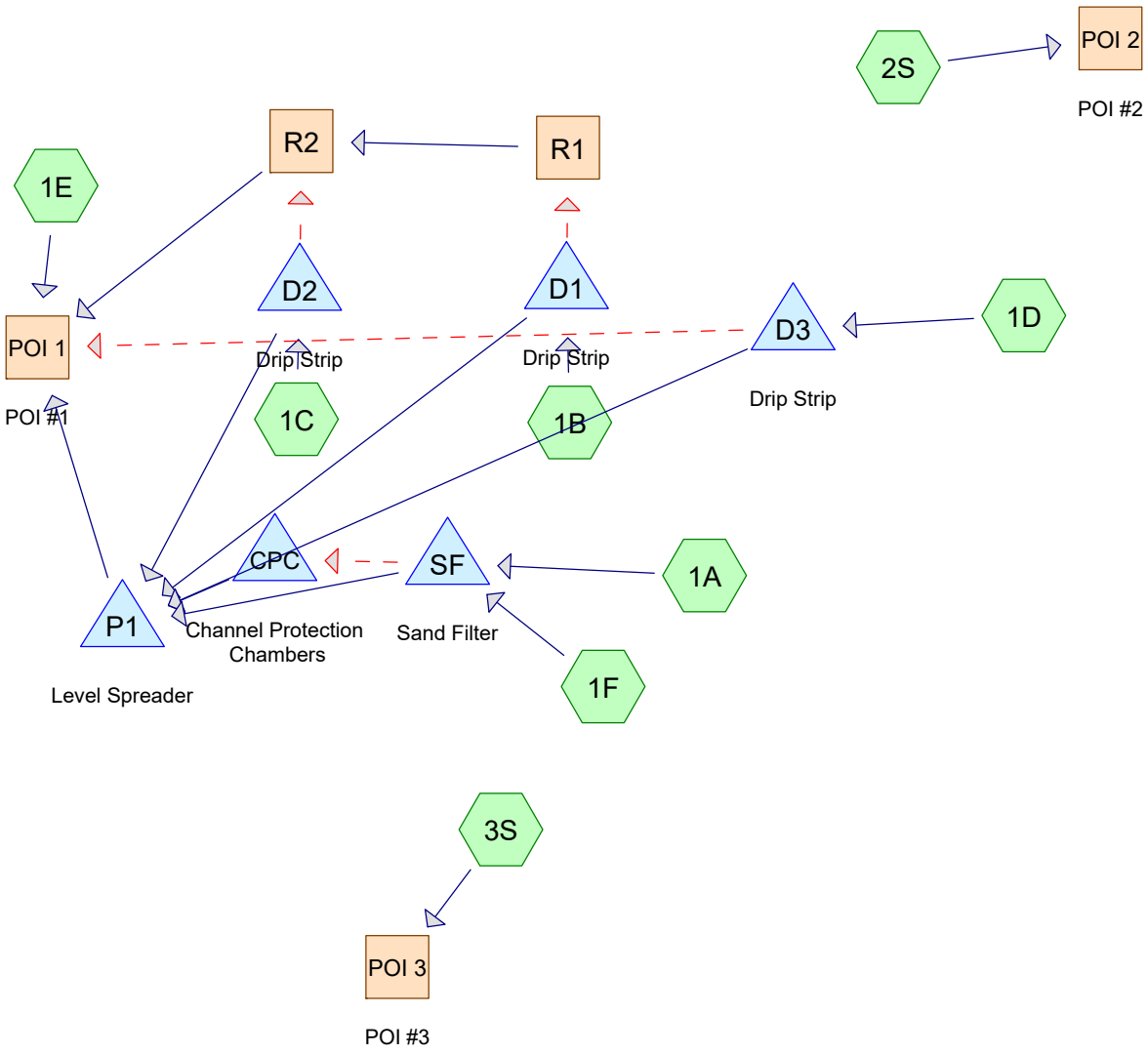
Summary for Reach POI 3: POI #3

Inflow Area = 0.009 ac, 0.00% Impervious, Inflow Depth = 0.09" for 25 YR event
Inflow = 0.00 cfs @ 15.22 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 15.22 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 2

Reach POI 3: POI #3


Hydrograph
Inflow
Outflow
0.00 cfs
0.00 cfs
Inflow Area=0.009 ac
Flow (cfs)
0.000
0.000
0.000
0.000
0.000
0
0
0



Subcat Reach Pond Link

Routing Diagram for Post
Prepared by LJB, Inc, Printed 6/13/2025
HydroCAD® 10.20-5c s/n 01265 © 2023 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: Runoff Area=12,962 sf 12.05% Impervious Runoff Depth=0.07"
Flow Length=323' Tc=15.5 min CN=46 Runoff=0.00 cfs 0.002 af

Subcatchment 1B: Runoff Area=4,638 sf 83.92% Impervious Runoff Depth=2.74"
Tc=6.0 min CN=95 Runoff=0.32 cfs 0.024 af

Subcatchment 1C: Runoff Area=4,638 sf 83.92% Impervious Runoff Depth=2.85"
Tc=6.0 min CN=96 Runoff=0.33 cfs 0.025 af

Subcatchment 1D: Runoff Area=6,197 sf 23.12% Impervious Runoff Depth=0.22"
Flow Length=97' Tc=10.7 min CN=53 Runoff=0.01 cfs 0.003 af

Subcatchment 1E: Runoff Area=15,184 sf 0.00% Impervious Runoff Depth=0.22"
Flow Length=450' Tc=18.7 min CN=53 Runoff=0.02 cfs 0.007 af

Subcatchment 1F: Runoff Area=28,334 sf 87.06% Impervious Runoff Depth=2.35"
Tc=6.0 min CN=91 Runoff=1.76 cfs 0.128 af

Subcatchment 2S: Runoff Area=10,805 sf 39.27% Impervious Runoff Depth=0.52"
Flow Length=205' Tc=13.1 min CN=62 Runoff=0.08 cfs 0.011 af

Subcatchment 3S: Runoff Area=441 sf 71.20% Impervious Runoff Depth=2.00"
Tc=6.0 min CN=87 Runoff=0.02 cfs 0.002 af

Reach POI 1: POI #1 Inflow=0.21 cfs 0.171 af
Outflow=0.21 cfs 0.171 af

Reach POI 2: POI #2 Inflow=0.08 cfs 0.011 af
Outflow=0.08 cfs 0.011 af

Reach POI 3: POI #3 Inflow=0.02 cfs 0.002 af
Outflow=0.02 cfs 0.002 af

Reach R1: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.035 L=80.0' S=0.0250 '/' Capacity=102.63 cfs Outflow=0.00 cfs 0.000 af

Reach R2: Avg. Flow Depth=0.01' Max Vel=0.49 fps Inflow=0.01 cfs 0.001 af
n=0.035 L=90.0' S=0.0389 '/' Capacity=128.00 cfs Outflow=0.01 cfs 0.001 af

Pond CPC: Channel Protection Chambers Peak Elev=102.47' Storage=720 cf Inflow=0.70 cfs 0.042 af
Outflow=0.14 cfs 0.036 af

Pond D1: Drip Strip Peak Elev=105.53' Storage=607 cf Inflow=0.32 cfs 0.024 af
Primary=0.01 cfs 0.024 af Secondary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.024 af

Pond D2: Drip Strip Peak Elev=104.00' Storage=748 cf Inflow=0.33 cfs 0.025 af
Primary=0.01 cfs 0.017 af Secondary=0.01 cfs 0.001 af Outflow=0.02 cfs 0.018 af

Pond D3: Drip Strip Peak Elev=102.51' Storage=1 cf Inflow=0.01 cfs 0.003 af
Outflow=0.01 cfs 0.003 af

Pond P1: Level Spreader Peak Elev=101.53' Storage=119 cf Inflow=0.20 cfs 0.166 af
Outflow=0.20 cfs 0.163 af

Pond SF: Sand Filter Peak Elev=104.19' Storage=2,339 cf Inflow=1.76 cfs 0.129 af
Primary=0.03 cfs 0.086 af Secondary=0.70 cfs 0.042 af Outflow=0.73 cfs 0.127 af

Total Runoff Area = 1.910 ac Runoff Volume = 0.201 af Average Runoff Depth = 1.26"
51.92% Pervious = 0.992 ac 48.08% Impervious = 0.918 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: Runoff Area=12,962 sf 12.05% Impervious Runoff Depth=0.46"
Flow Length=323' Tc=15.5 min CN=46 Runoff=0.06 cfs 0.011 af

Subcatchment 1B: Runoff Area=4,638 sf 83.92% Impervious Runoff Depth=4.32"
Tc=6.0 min CN=95 Runoff=0.50 cfs 0.038 af

Subcatchment 1C: Runoff Area=4,638 sf 83.92% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=96 Runoff=0.50 cfs 0.039 af

Subcatchment 1D: Runoff Area=6,197 sf 23.12% Impervious Runoff Depth=0.81"
Flow Length=97' Tc=10.7 min CN=53 Runoff=0.08 cfs 0.010 af

Subcatchment 1E: Runoff Area=15,184 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=450' Tc=18.7 min CN=53 Runoff=0.17 cfs 0.024 af

Subcatchment 1F: Runoff Area=28,334 sf 87.06% Impervious Runoff Depth=3.89"
Tc=6.0 min CN=91 Runoff=2.84 cfs 0.211 af

Subcatchment 2S: Runoff Area=10,805 sf 39.27% Impervious Runoff Depth=1.38"
Flow Length=205' Tc=13.1 min CN=62 Runoff=0.29 cfs 0.028 af

Subcatchment 3S: Runoff Area=441 sf 71.20% Impervious Runoff Depth=3.47"
Tc=6.0 min CN=87 Runoff=0.04 cfs 0.003 af

Reach POI 1: POI #1 Inflow=1.06 cfs 0.316 af
Outflow=1.06 cfs 0.316 af

Reach POI 2: POI #2 Inflow=0.29 cfs 0.028 af
Outflow=0.29 cfs 0.028 af

Reach POI 3: POI #3 Inflow=0.04 cfs 0.003 af
Outflow=0.04 cfs 0.003 af

Reach R1: Avg. Flow Depth=0.06' Max Vel=0.98 fps Inflow=0.16 cfs 0.008 af
n=0.035 L=80.0' S=0.0250 '/' Capacity=102.63 cfs Outflow=0.15 cfs 0.008 af

Reach R2: Avg. Flow Depth=0.10' Max Vel=1.52 fps Inflow=0.43 cfs 0.021 af
n=0.035 L=90.0' S=0.0389 '/' Capacity=128.00 cfs Outflow=0.39 cfs 0.021 af

Pond CPC: Channel Protection Chambers Peak Elev=104.01' Storage=2,113 cf Inflow=2.73 cfs 0.128 af
Outflow=0.61 cfs 0.122 af

Pond D1: Drip Strip Peak Elev=106.01' Storage=755 cf Inflow=0.50 cfs 0.038 af
Primary=0.01 cfs 0.030 af Secondary=0.16 cfs 0.008 af Outflow=0.17 cfs 0.038 af

Pond D2: Drip Strip Peak Elev=104.01' Storage=763 cf Inflow=0.50 cfs 0.039 af
Primary=0.01 cfs 0.019 af Secondary=0.43 cfs 0.013 af Outflow=0.44 cfs 0.032 af

Pond D3: Drip Strip Peak Elev=105.36' Storage=150 cf Inflow=0.08 cfs 0.010 af
Outflow=0.01 cfs 0.010 af

Pond P1: Level Spreader Peak Elev=101.57' Storage=124 cf Inflow=0.67 cfs 0.274 af
Outflow=0.67 cfs 0.271 af

Pond SF: Sand Filter Peak Elev=104.35' Storage=2,483 cf Inflow=2.84 cfs 0.222 af
Primary=0.03 cfs 0.092 af Secondary=2.73 cfs 0.128 af Outflow=2.76 cfs 0.220 af

Total Runoff Area = 1.910 ac Runoff Volume = 0.364 af Average Runoff Depth = 2.29"
51.92% Pervious = 0.992 ac 48.08% Impervious = 0.918 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: Runoff Area=12,962 sf 12.05% Impervious Runoff Depth=0.95"
Flow Length=323' Tc=15.5 min CN=46 Runoff=0.17 cfs 0.024 af

Subcatchment 1B: Runoff Area=4,638 sf 83.92% Impervious Runoff Depth=5.61"
Tc=6.0 min CN=95 Runoff=0.63 cfs 0.050 af

Subcatchment 1C: Runoff Area=4,638 sf 83.92% Impervious Runoff Depth=5.73"
Tc=6.0 min CN=96 Runoff=0.64 cfs 0.051 af

Subcatchment 1D: Runoff Area=6,197 sf 23.12% Impervious Runoff Depth=1.47"
Flow Length=97' Tc=10.7 min CN=53 Runoff=0.18 cfs 0.017 af

Subcatchment 1E: Runoff Area=15,184 sf 0.00% Impervious Runoff Depth=1.47"
Flow Length=450' Tc=18.7 min CN=53 Runoff=0.36 cfs 0.043 af

Subcatchment 1F: Runoff Area=28,334 sf 87.06% Impervious Runoff Depth=5.15"
Tc=6.0 min CN=91 Runoff=3.71 cfs 0.279 af

Subcatchment 2S: Runoff Area=10,805 sf 39.27% Impervious Runoff Depth=2.23"
Flow Length=205' Tc=13.1 min CN=62 Runoff=0.49 cfs 0.046 af

Subcatchment 3S: Runoff Area=441 sf 71.20% Impervious Runoff Depth=4.71"
Tc=6.0 min CN=87 Runoff=0.05 cfs 0.004 af

Reach POI 1: POI #1 Inflow=2.08 cfs 0.447 af
Outflow=2.08 cfs 0.447 af

Reach POI 2: POI #2 Inflow=0.49 cfs 0.046 af
Outflow=0.49 cfs 0.046 af

Reach POI 3: POI #3 Inflow=0.05 cfs 0.004 af
Outflow=0.05 cfs 0.004 af

Reach R1: Avg. Flow Depth=0.13' Max Vel=1.42 fps Inflow=0.55 cfs 0.018 af
n=0.035 L=80.0' S=0.0250 '/' Capacity=102.63 cfs Outflow=0.50 cfs 0.018 af

Reach R2: Avg. Flow Depth=0.16' Max Vel=2.02 fps Inflow=1.02 cfs 0.041 af
n=0.035 L=90.0' S=0.0389 '/' Capacity=128.00 cfs Outflow=0.99 cfs 0.041 af

Pond CPC: Channel Protection Chambers Peak Elev=104.87' Storage=2,651 cf Inflow=3.33 cfs 0.206 af
Outflow=1.26 cfs 0.201 af

Pond D1: Drip Strip Peak Elev=106.01' Storage=766 cf Inflow=0.63 cfs 0.050 af
Primary=0.01 cfs 0.032 af Secondary=0.55 cfs 0.018 af Outflow=0.56 cfs 0.050 af

Pond D2: Drip Strip Peak Elev=104.02' Storage=768 cf Inflow=0.64 cfs 0.051 af
Primary=0.01 cfs 0.021 af Secondary=0.63 cfs 0.023 af Outflow=0.64 cfs 0.044 af

Pond D3: Drip Strip Peak Elev=106.02' Storage=226 cf Inflow=0.18 cfs 0.017 af
Outflow=0.07 cfs 0.017 af

Pond P1: Level Spreader Peak Elev=101.61' Storage=130 cf Inflow=1.32 cfs 0.366 af
Outflow=1.32 cfs 0.363 af

Pond SF: Sand Filter Peak Elev=104.91' Storage=2,967 cf Inflow=3.76 cfs 0.303 af
Primary=0.03 cfs 0.095 af Secondary=3.33 cfs 0.206 af Outflow=3.36 cfs 0.301 af

Total Runoff Area = 1.910 ac Runoff Volume = 0.514 af Average Runoff Depth = 3.23"
51.92% Pervious = 0.992 ac 48.08% Impervious = 0.918 ac

Summary for Subcatchment 1A:

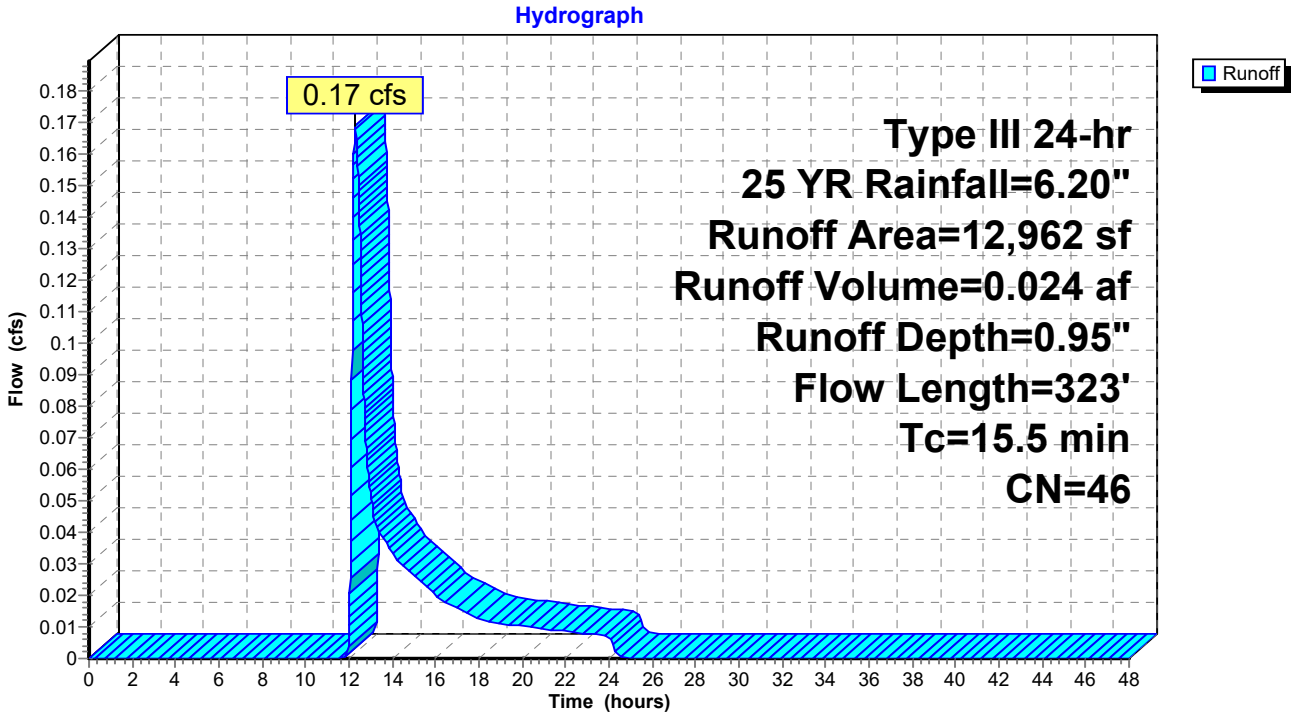
Runoff = 0.17 cfs @ 12.28 hrs, Volume= 0.024 af, Depth= 0.95"
Routed to Pond SF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

	Area (sf)	CN	Description
*	1,562	98	(OFFSITE) Impervious, HSG A
*	11,400	39	(OFFSITE) >75% Grass cover, Good, HSG A
	12,962	46	Weighted Average
	11,400		87.95% Pervious Area
	1,562		12.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	150	0.0400	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
0.1	15	0.0400	3.00		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
0.1	23	0.0350	3.80		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.6	135	0.0050	3.47	2.73	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Corrugated PP, smooth interior
15.5	323	Total			

Subcatchment 1A:



Summary for Subcatchment 1B:

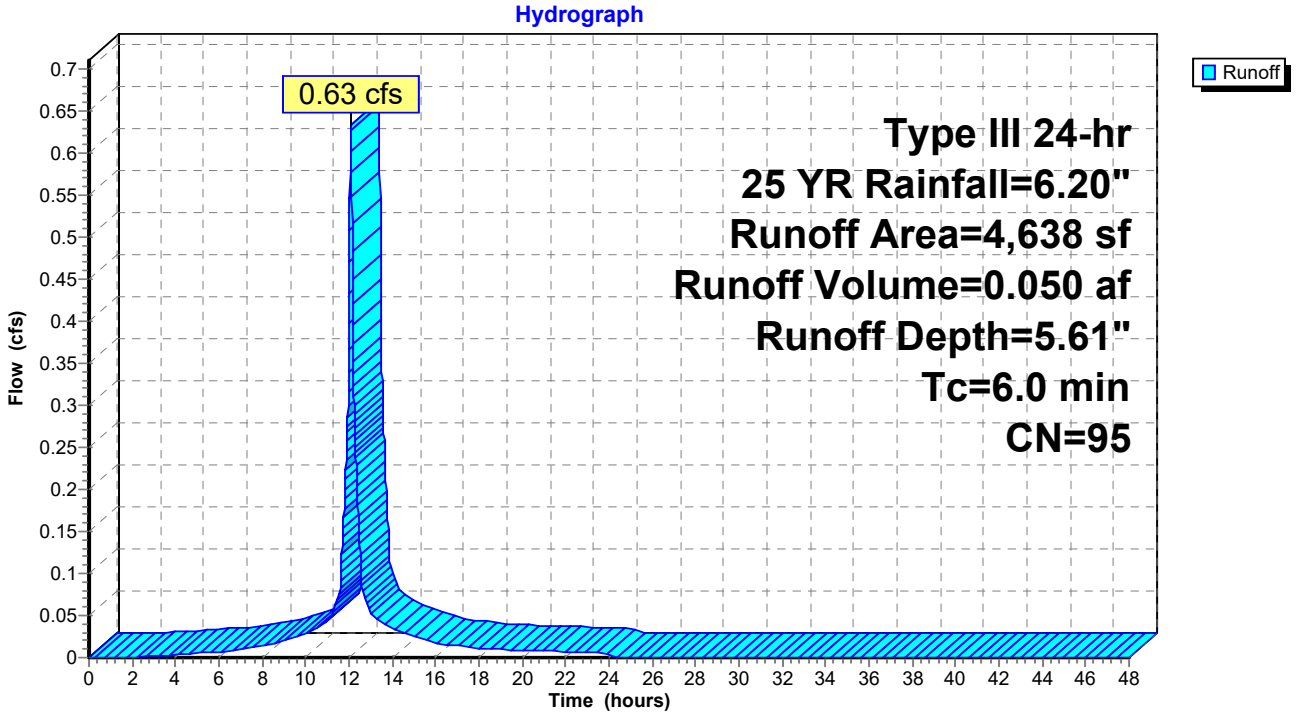
Runoff = 0.63 cfs @ 12.08 hrs, Volume= 0.050 af, Depth= 5.61"
Routed to Pond D1 : Drip Strip

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
3,892	98	Paved parking, HSG A
380	77	Newly graded area, HSG A
366	86	Newly graded area, HSG B
4,638	95	Weighted Average
746		16.08% Pervious Area
3,892		83.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1B:



Summary for Subcatchment 1C:

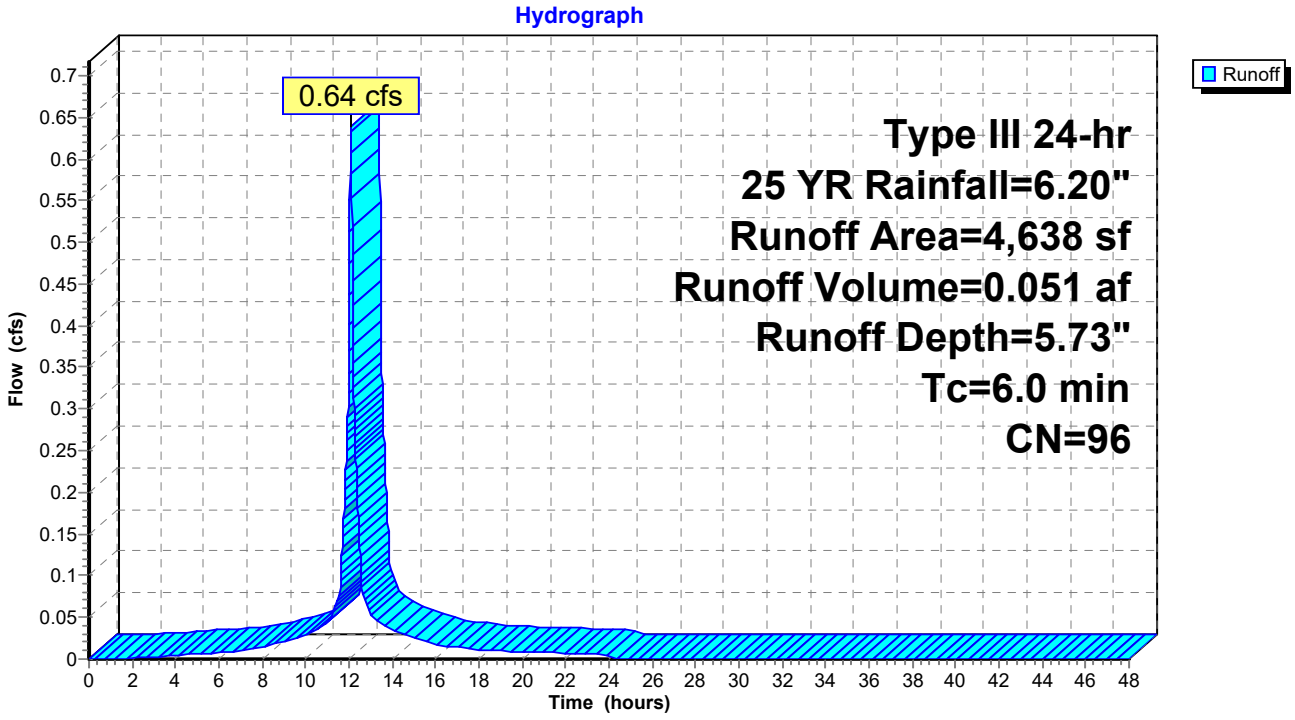
Runoff = 0.64 cfs @ 12.08 hrs, Volume= 0.051 af, Depth= 5.73"
Routed to Pond D2 : Drip Strip

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
3,892	98	Paved parking, HSG A
746	86	Newly graded area, HSG B
4,638	96	Weighted Average
746		16.08% Pervious Area
3,892		83.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1C:



Summary for Subcatchment 1D:

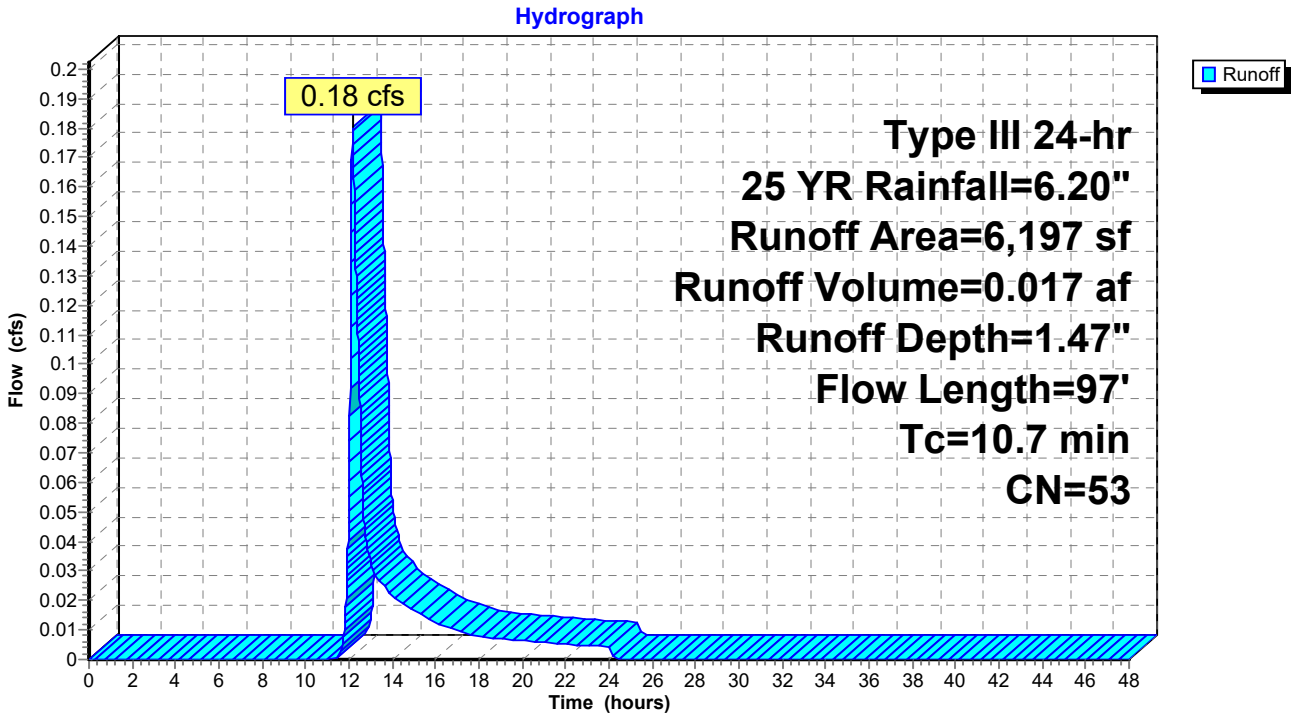
Runoff = 0.18 cfs @ 12.17 hrs, Volume= 0.017 af, Depth= 1.47"
Routed to Pond D3 : Drip Strip

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

	Area (sf)	CN	Description
	778	98	Paved parking, HSG A
*	655	98	(OFFSITE) Impervious, HSG A
	2,297	39	>75% Grass cover, Good, HSG A
*	2,467	39	(OFFSITE) >75% Grass cover, Good, HSG A
	6,197	53	Weighted Average
	4,764		76.88% Pervious Area
	1,433		23.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	31	0.0450	0.13		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
6.7	50	0.0900	0.13		**Sheet Flow, B-C** Woods: Light underbrush n= 0.400 P2= 3.30"
0.0	16	0.5000	10.61		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
10.7	97	Total			

Subcatchment 1D:



Summary for Subcatchment 1E:

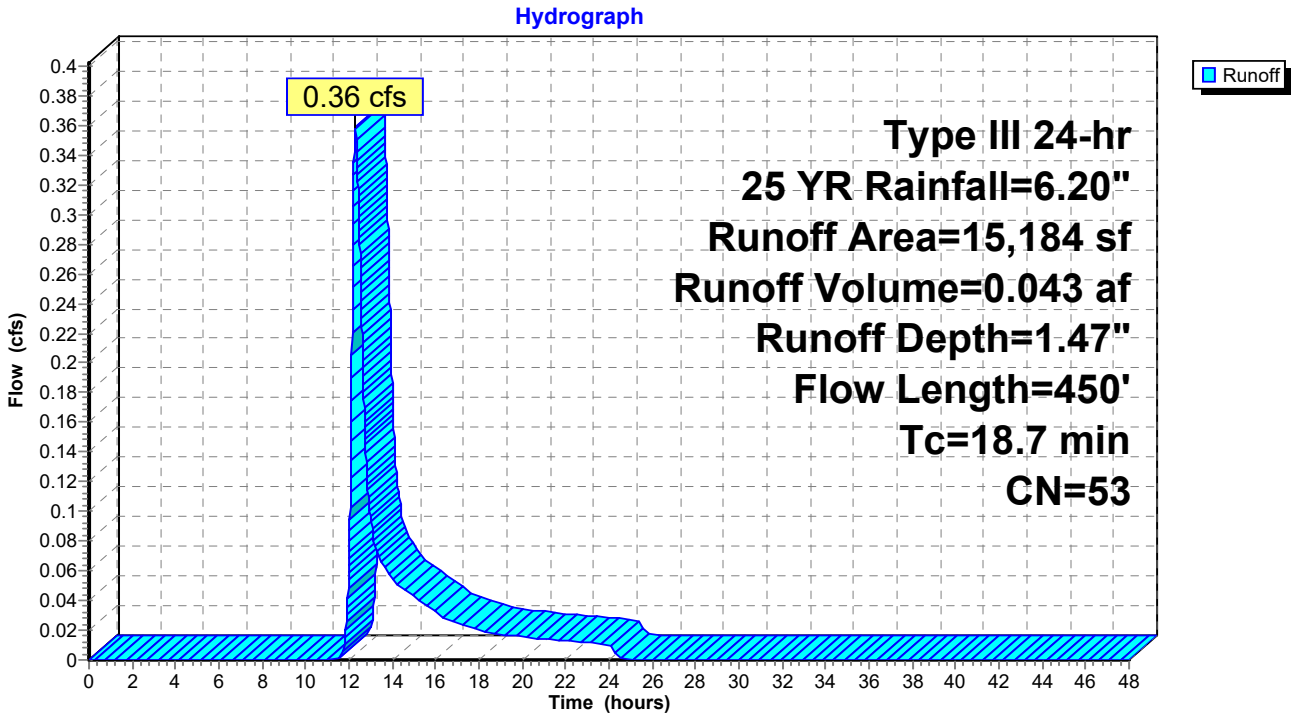
Runoff = 0.36 cfs @ 12.30 hrs, Volume= 0.043 af, Depth= 1.47"
Routed to Reach POI 1 : POI #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
2,744	39	>75% Grass cover, Good, HSG A
2,358	61	>75% Grass cover, Good, HSG B
2,626	39	Pasture/grassland/range, Good, HSG A
7,456	61	Pasture/grassland/range, Good, HSG B
15,184	53	Weighted Average
15,184		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	150	0.0800	0.15		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.30"
1.9	300	0.0300	2.60		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
18.7	450	Total			

Subcatchment 1E:



Summary for Subcatchment 1F:

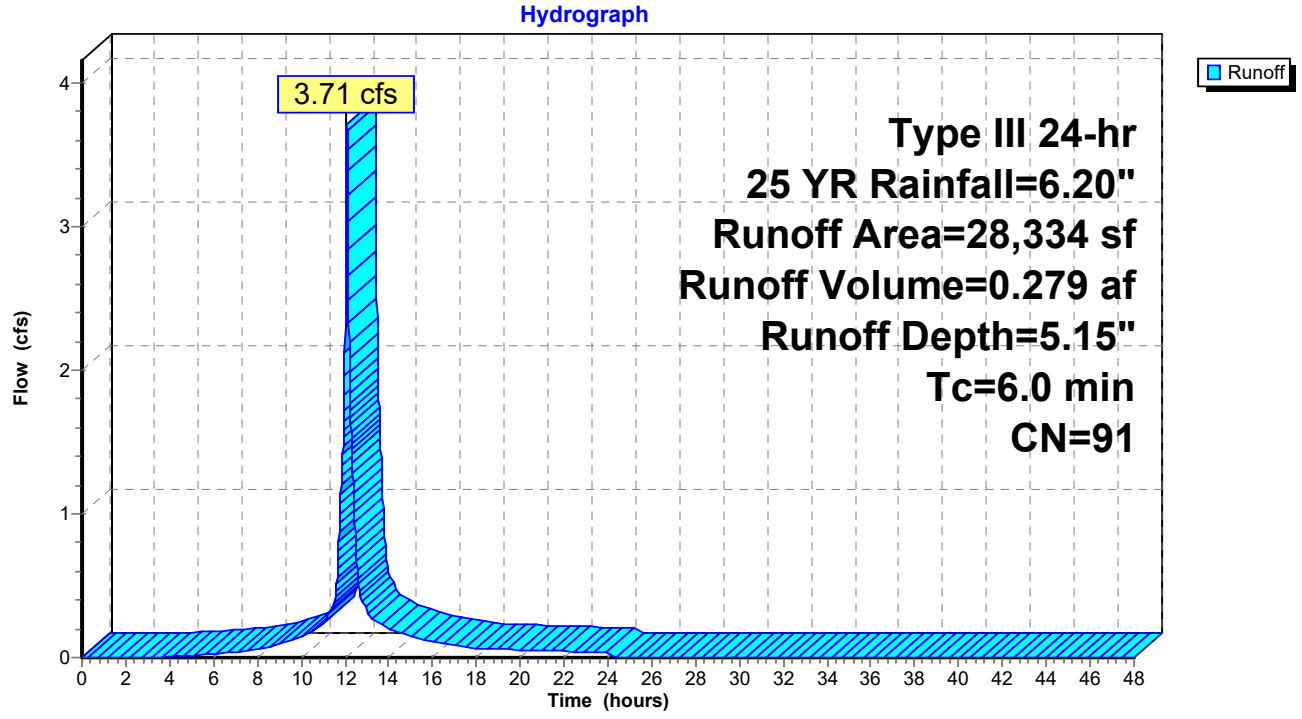
Runoff = 3.71 cfs @ 12.08 hrs, Volume= 0.279 af, Depth= 5.15"
Routed to Pond SF : Sand Filter

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

	Area (sf)	CN	Description
*	24,667	98	Impervious, HSG A
	3,273	39	>75% Grass cover, Good, HSG A
	394	61	>75% Grass cover, Good, HSG B
	28,334	91	Weighted Average
	3,667		12.94% Pervious Area
	24,667		87.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1F:



Summary for Subcatchment 2S:

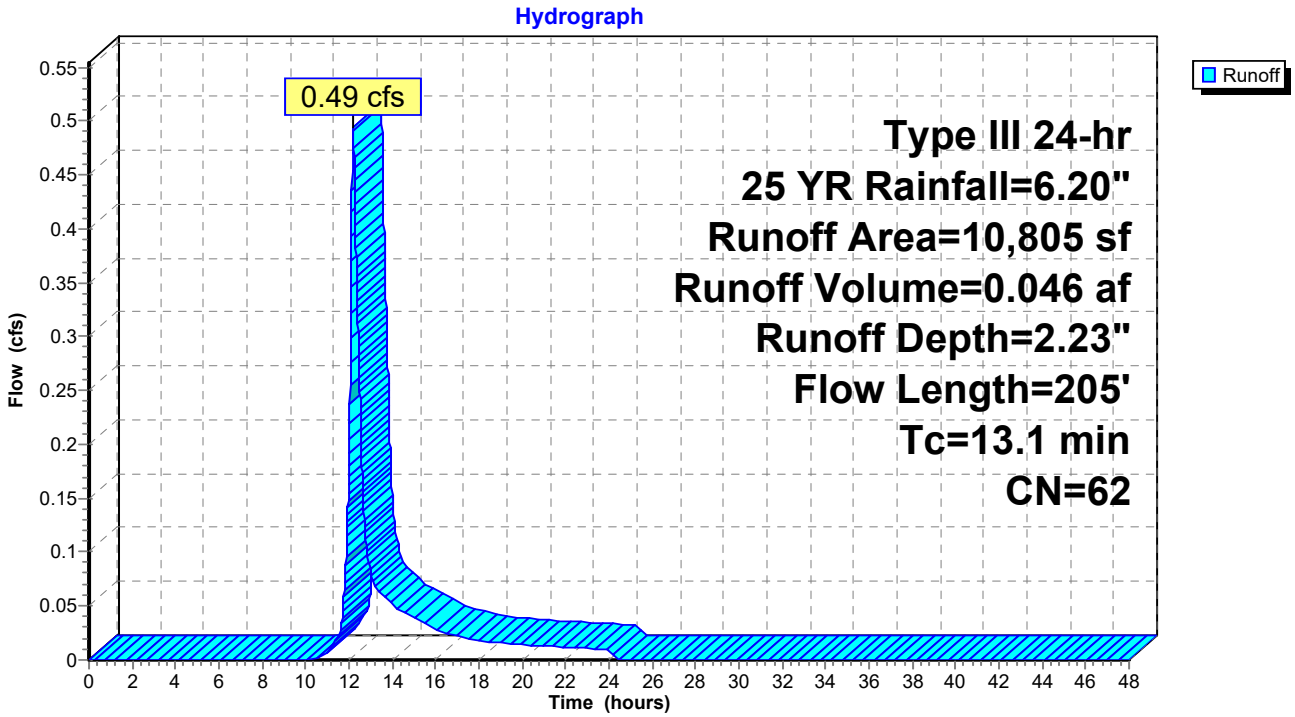
Runoff = 0.49 cfs @ 12.19 hrs, Volume= 0.046 af, Depth= 2.23"
Routed to Reach POI 2 : POI #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
4,243	98	Paved parking, HSG A
5,957	39	>75% Grass cover, Good, HSG A
605	30	Woods, Good, HSG A
10,805	62	Weighted Average
6,562		60.73% Pervious Area
4,243		39.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	125	0.0400	0.16		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
0.4	80	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
13.1	205	Total			

Subcatchment 2S:



Summary for Subcatchment 3S:

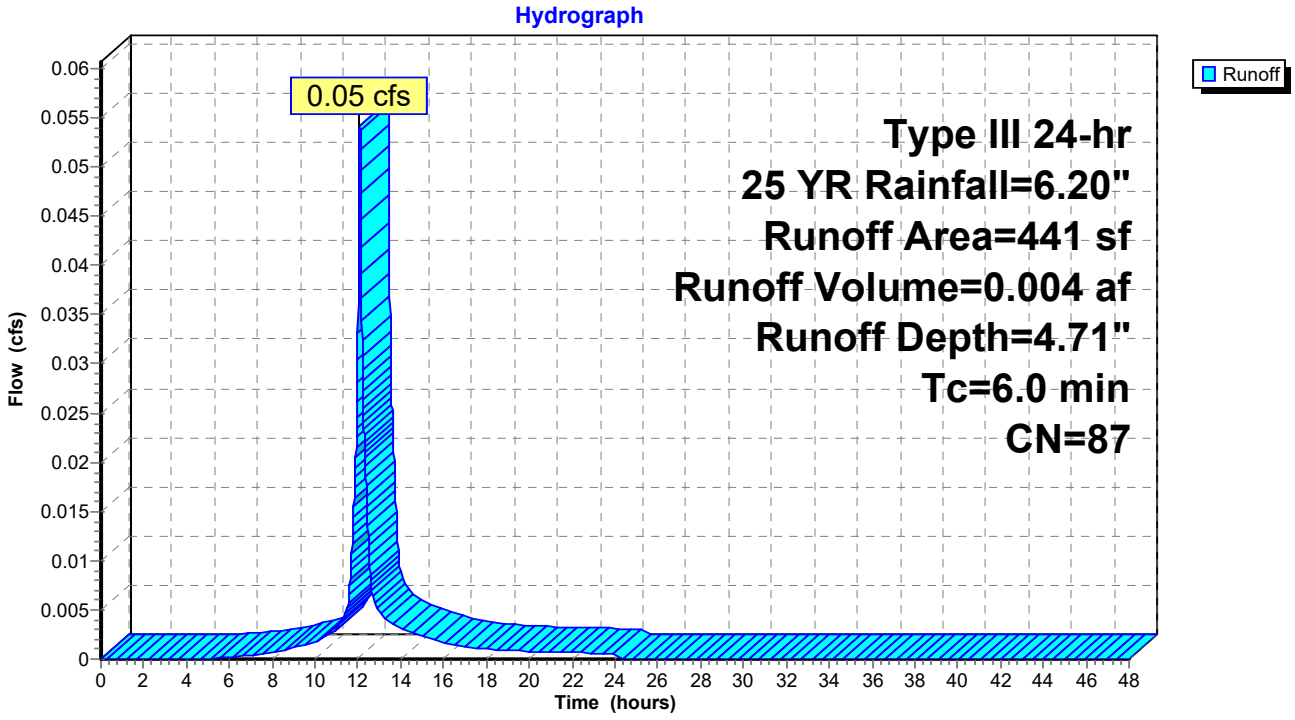
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth= 4.71"
Routed to Reach POI 3 : POI #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 YR Rainfall=6.20"

Area (sf)	CN	Description
314	98	Paved parking, HSG A
127	61	>75% Grass cover, Good, HSG B
441	87	Weighted Average
127		28.80% Pervious Area
314		71.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S:

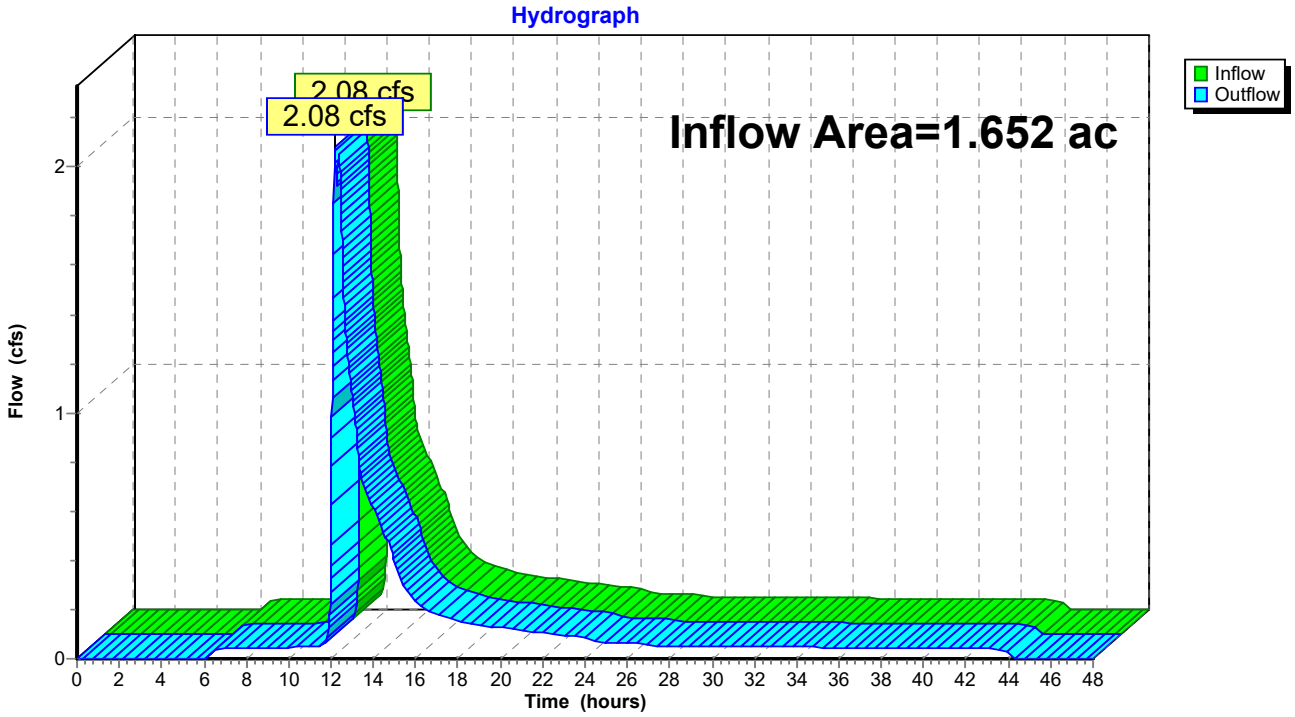


Summary for Reach POI 1: POI #1

Inflow Area = 1.652 ac, 49.26% Impervious, Inflow Depth = 3.25" for 25 YR event
Inflow = 2.08 cfs @ 12.17 hrs, Volume= 0.447 af
Outflow = 2.08 cfs @ 12.17 hrs, Volume= 0.447 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach POI 1: POI #1

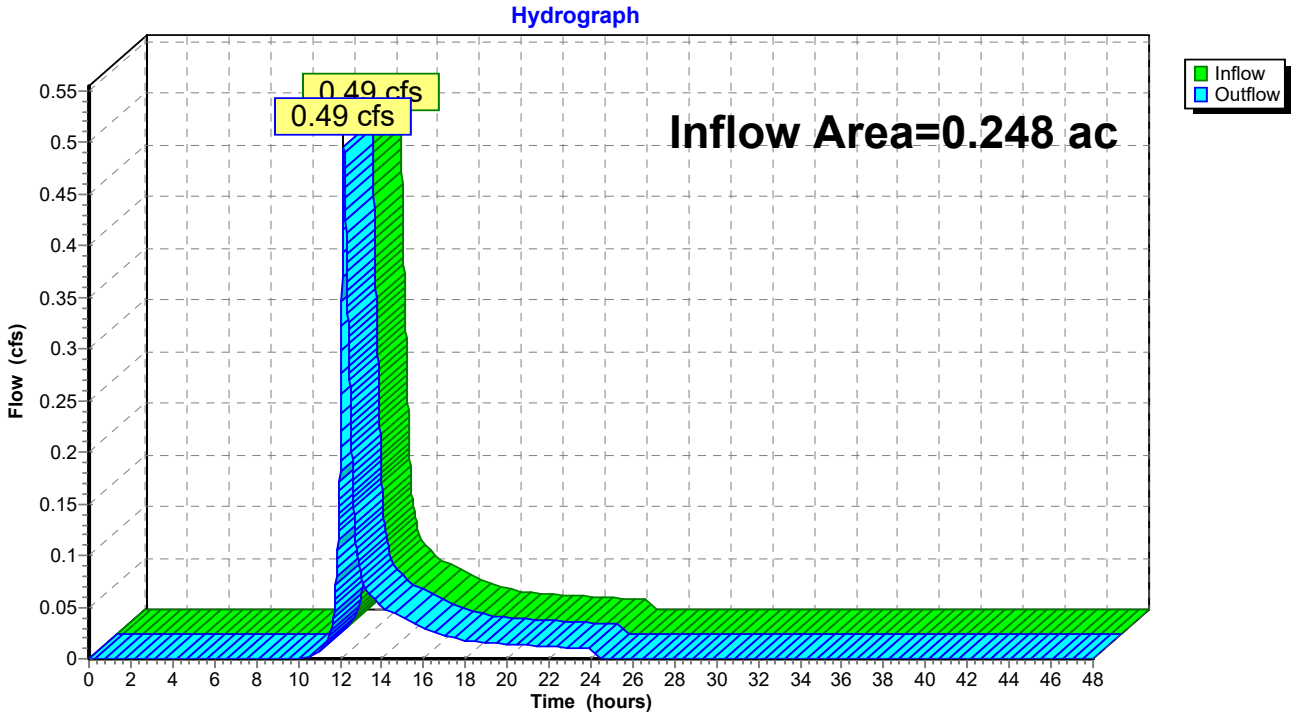


Summary for Reach POI 2: POI #2

Inflow Area = 0.248 ac, 39.27% Impervious, Inflow Depth = 2.23" for 25 YR event
Inflow = 0.49 cfs @ 12.19 hrs, Volume= 0.046 af
Outflow = 0.49 cfs @ 12.19 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach POI 2: POI #2

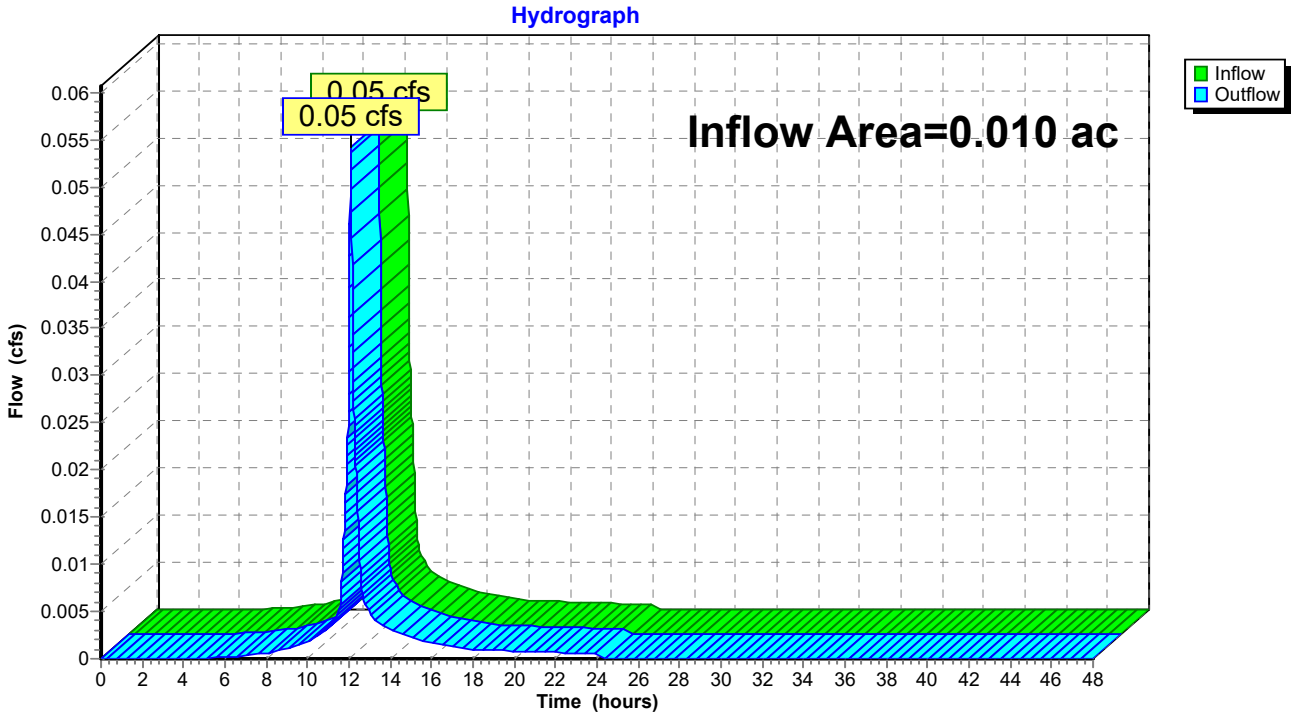


Summary for Reach POI 3: POI #3

Inflow Area = 0.010 ac, 71.20% Impervious, Inflow Depth = 4.71" for 25 YR event
Inflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af
Outflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach POI 3: POI #3



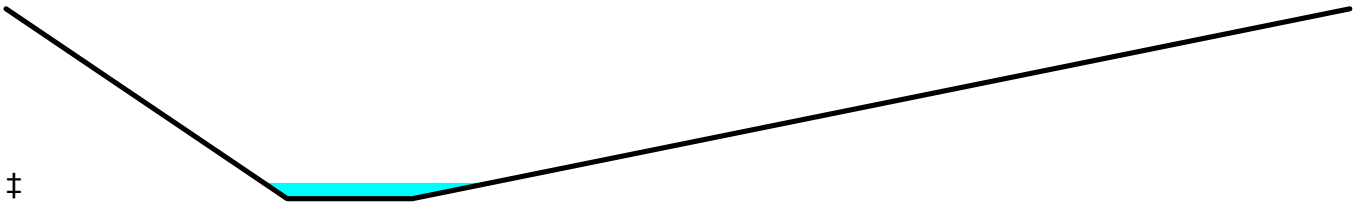
Summary for Reach R1:

Inflow = 0.55 cfs @ 12.13 hrs, Volume= 0.018 af
Outflow = 0.50 cfs @ 12.15 hrs, Volume= 0.018 af, Atten= 9%, Lag= 1.3 min
Routed to Reach R2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.42 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 0.51 fps, Avg. Travel Time= 2.6 min

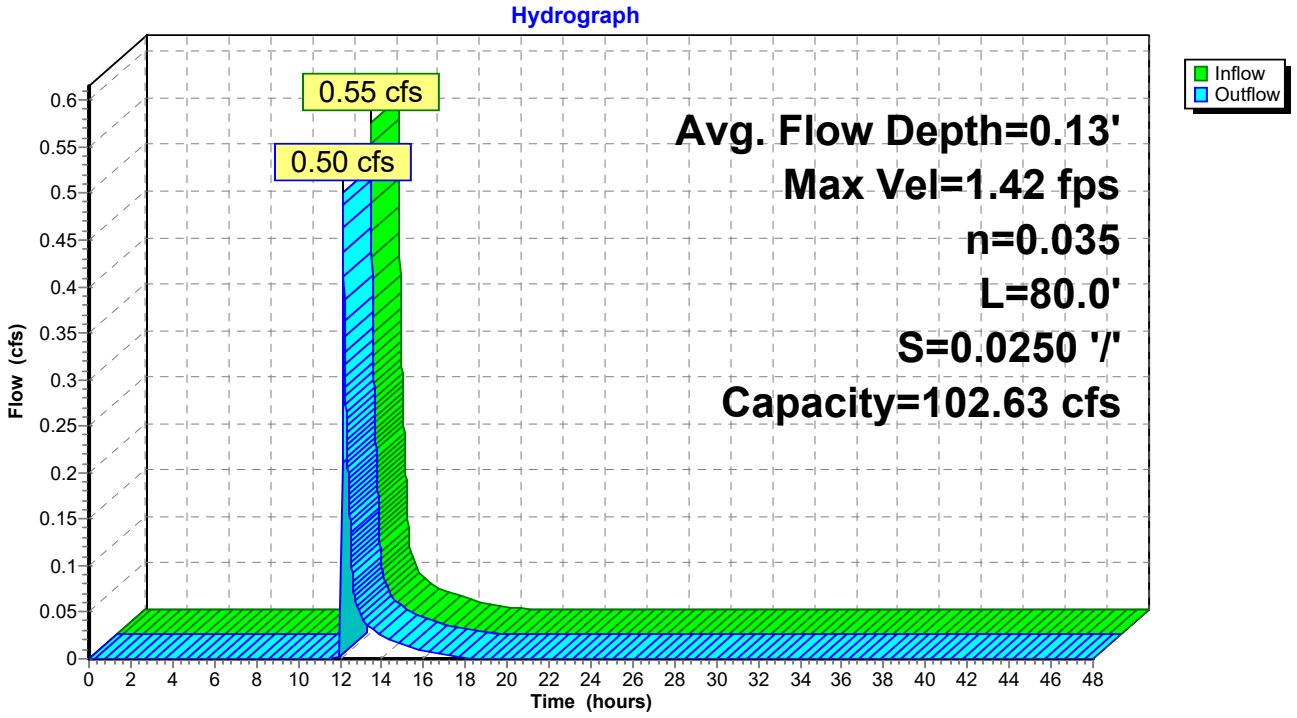
Peak Storage= 28 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.13' , Surface Width= 3.63'
Bank-Full Depth= 1.50' Flow Area= 17.6 sf, Capacity= 102.63 cfs

2.00' x 1.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 10.0 '/' Top Width= 21.50'
Length= 80.0' Slope= 0.0250 '/'
Inlet Invert= 105.50', Outlet Invert= 103.50'



‡

Reach R1:



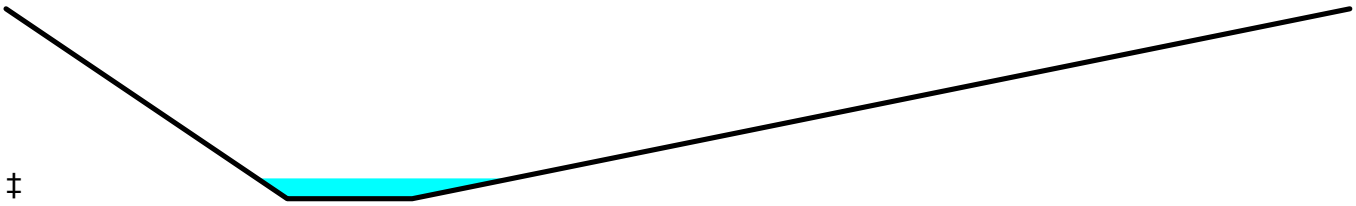
Summary for Reach R2:

Inflow = 1.02 cfs @ 12.14 hrs, Volume= 0.041 af
Outflow = 0.99 cfs @ 12.15 hrs, Volume= 0.041 af, Atten= 3%, Lag= 0.6 min
Routed to Reach POI 1 : POI #1

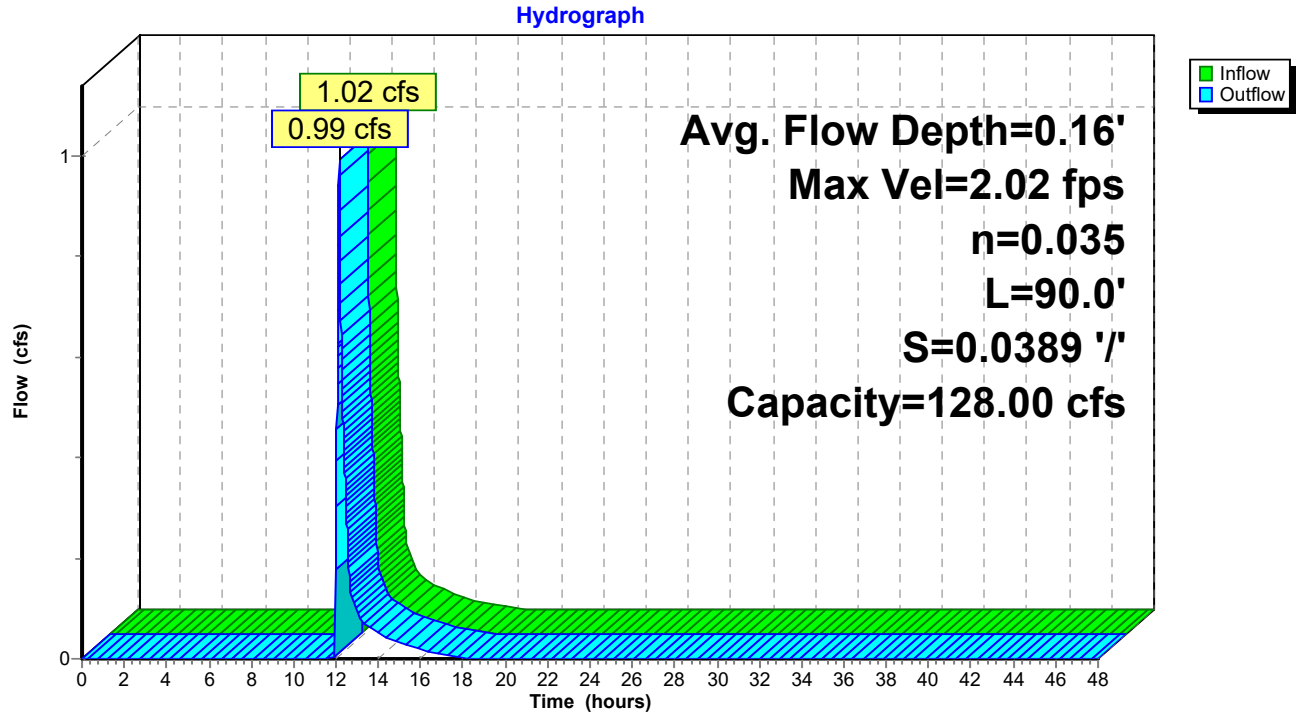
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.02 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.72 fps, Avg. Travel Time= 2.1 min

Peak Storage= 44 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 4.09'
Bank-Full Depth= 1.50' Flow Area= 17.6 sf, Capacity= 128.00 cfs

2.00' x 1.50' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 10.0 '/' Top Width= 21.50'
Length= 90.0' Slope= 0.0389 '/'
Inlet Invert= 103.50', Outlet Invert= 100.00'



Reach R2:



Summary for Pond CPC: Channel Protection Chambers

Inflow = 3.33 cfs @ 12.11 hrs, Volume= 0.206 af
Outflow = 1.26 cfs @ 12.40 hrs, Volume= 0.201 af, Atten= 62%, Lag= 17.4 min
Primary = 1.26 cfs @ 12.40 hrs, Volume= 0.201 af
Routed to Pond P1 : Level Spreader

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 104.87' @ 12.40 hrs Surf.Area= 1,508 sf Storage= 2,651 cf
Flood Elev= 192.02' Surf.Area= 1,508 sf Storage= 2,946 cf

Plug-Flow detention time= 66.7 min calculated for 0.201 af (97% of inflow)
Center-of-Mass det. time= 52.4 min (866.3 - 813.9)

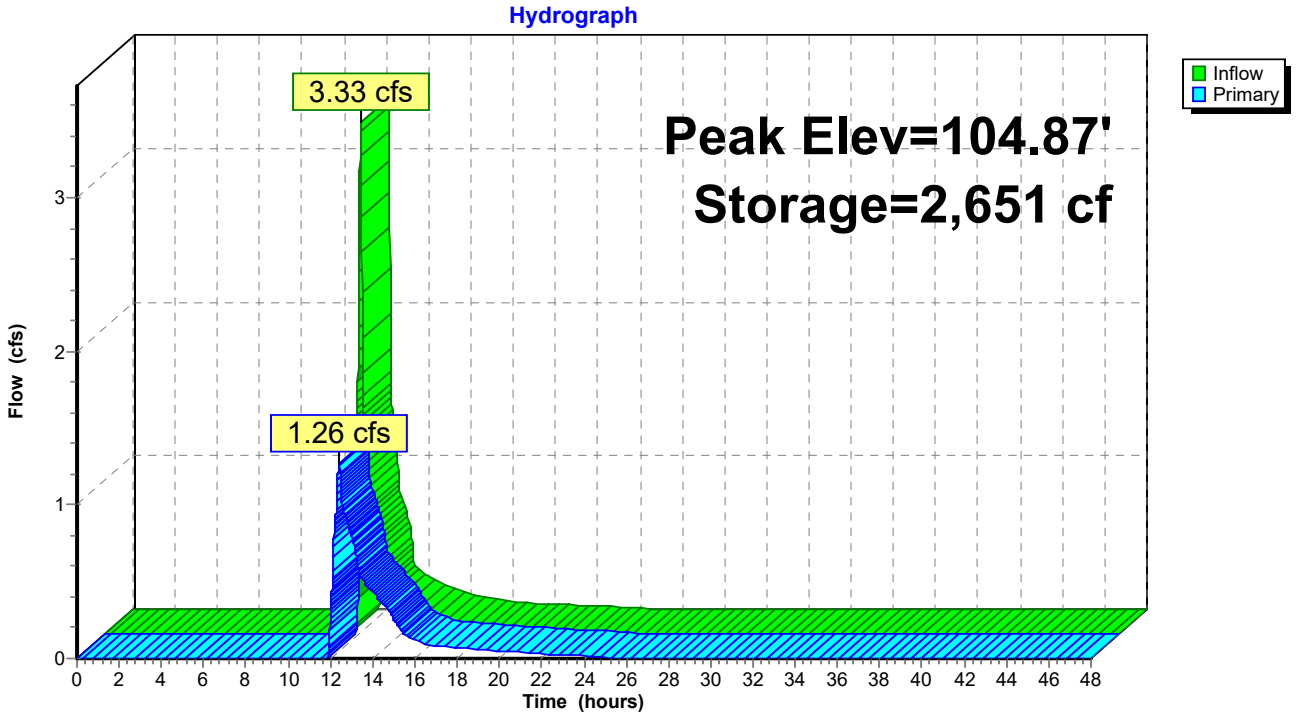
Volume	Invert	Avail.Storage	Storage Description
#1	101.70'	16 cf	**4.0" Round Pipe Storage** Inside #2 L= 181.0' 19 cf Overall - 0.2" Wall Thickness = 16 cf
#2A	101.37'	1,967 cf	**8.17'W x 181.20'L x 3.83'H Field A** 5,673 cf Overall - 756 cf Embedded = 4,916 cf x 40.0% Voids
#3A	102.87'	737 cf	**ADS_StormTech SC-310 +Cap** x 50 Inside #2 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 50 Chambers in 2 Rows
#4	100.20'	226 cf	**6.00'D x 8.00'H Vertical Cone/Cylinder**
		2,946 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	100.20'	**12.0" Round Culvert** L= 78.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 100.20' / 100.00' S= 0.0026 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	101.70'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	102.30'	**3.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	103.85'	**3.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	104.80'	**6.0' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=1.26 cfs @ 12.40 hrs HW=104.87' TW=101.61' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.26 cfs of 5.39 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.18 cfs @ 8.45 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.50 cfs @ 7.49 fps)
  ├─**4=Orifice/Grate** (Orifice Controls 0.30 cfs @ 4.49 fps)
  └─**5=Broad-Crested Rectangular Weir** (Weir Controls 0.28 cfs @ 0.71 fps)

Pond CPC: Channel Protection Chambers



Summary for Pond D1: Drip Strip

Inflow Area = 0.106 ac, 83.92% Impervious, Inflow Depth = 5.61" for 25 YR event
Inflow = 0.63 cfs @ 12.08 hrs, Volume= 0.050 af
Outflow = 0.56 cfs @ 12.13 hrs, Volume= 0.050 af, Atten= 12%, Lag= 2.8 min
Primary = 0.01 cfs @ 8.49 hrs, Volume= 0.032 af
Routed to Pond P1 : Level Spreader
Secondary = 0.55 cfs @ 12.13 hrs, Volume= 0.018 af
Routed to Reach R1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 106.01' @ 12.13 hrs Surf.Area= 2,880 sf Storage= 766 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 449.6 min (1,212.4 - 762.8)

Volume	Invert	Avail.Storage	Storage Description
#1	102.50'	290 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 740 cf Overall - 15 cf Embedded = 725 cf x 40.0% Voids
#2	104.50'	444 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 1,110 cf Overall x 40.0% Voids
#3	106.00'	1,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#4	102.83'	12 cf	**4.0" Round Pipe Storage** Inside #1 L= 140.0' 15 cf Overall - 0.2" Wall Thickness = 12 cf
		2,146 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.50	740	0	0
103.50	740	740	740

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
104.50	740	0	0
106.00	740	1,110	1,110

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
106.00	1,400	0	0
107.00	1,400	1,400	1,400

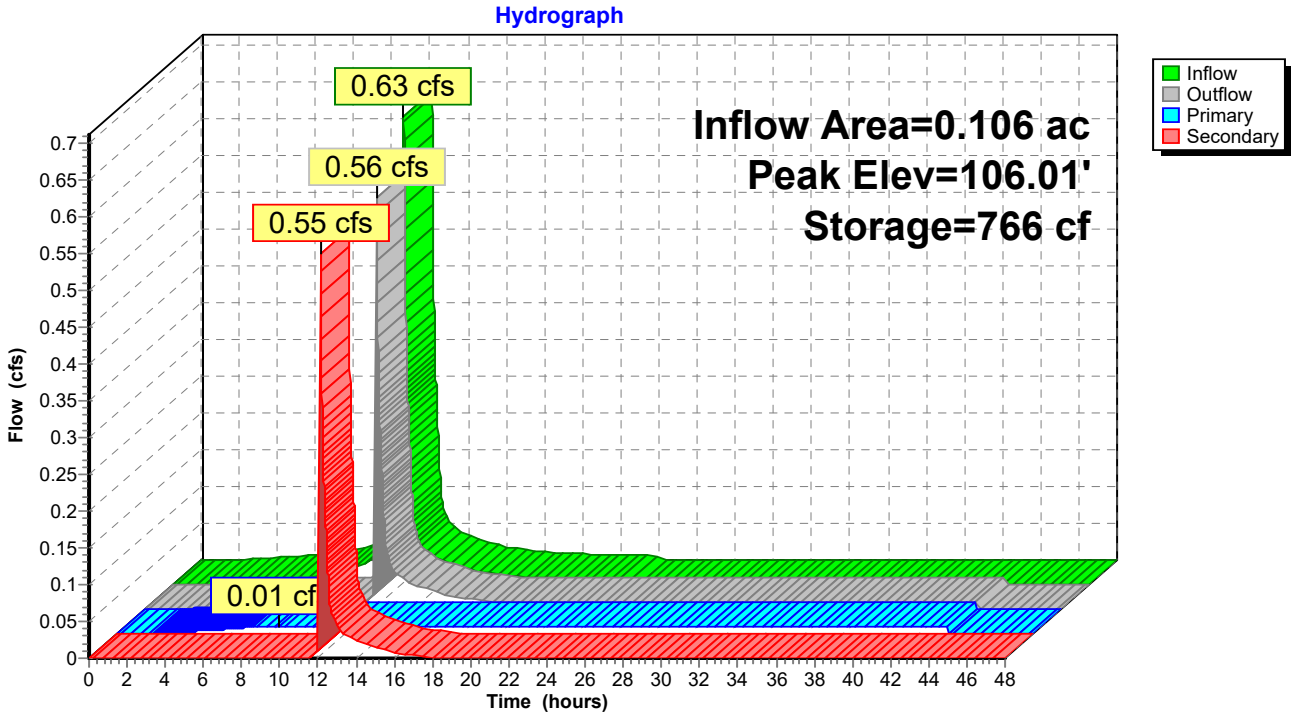
Device	Routing	Invert	Outlet Devices
#1	Primary	102.33'	**4.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 102.33' / 102.23' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.09 sf
#2	Device 1	102.50'	**0.01 cfs Exfiltration at all elevations**
#3	Secondary	106.00'	**140.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65
2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.01 cfs @ 8.49 hrs HW=102.55' TW=101.51' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.01 cfs of 0.06 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Secondary OutFlow Max=0.55 cfs @ 12.13 hrs HW=106.01' TW=105.61' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 0.55 cfs @ 0.28 fps)

Pond D1: Drip Strip



Summary for Pond D2: Drip Strip

Inflow Area = 0.106 ac, 83.92% Impervious, Inflow Depth = 5.73" for 25 YR event
Inflow = 0.64 cfs @ 12.08 hrs, Volume= 0.051 af
Outflow = 0.64 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.4 min
Primary = 0.01 cfs @ 10.21 hrs, Volume= 0.021 af
Routed to Pond P1 : Level Spreader
Secondary = 0.63 cfs @ 12.09 hrs, Volume= 0.023 af
Routed to Reach R2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 104.02' @ 12.09 hrs Surf.Area= 2,880 sf Storage= 768 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 287.0 min (1,044.5 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.50'	290 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 740 cf Overall - 15 cf Embedded = 725 cf x 40.0% Voids
#2	102.50'	444 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 1,110 cf Overall x 40.0% Voids
#3	104.00'	1,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#4	100.83'	12 cf	**4.0" Round Pipe Storage** Inside #1 L= 140.0' 15 cf Overall - 0.2" Wall Thickness = 12 cf
		2,146 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.50	740	0	0
101.50	740	740	740

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.50	740	0	0
104.00	740	1,110	1,110

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
104.00	1,400	0	0
105.00	1,400	1,400	1,400

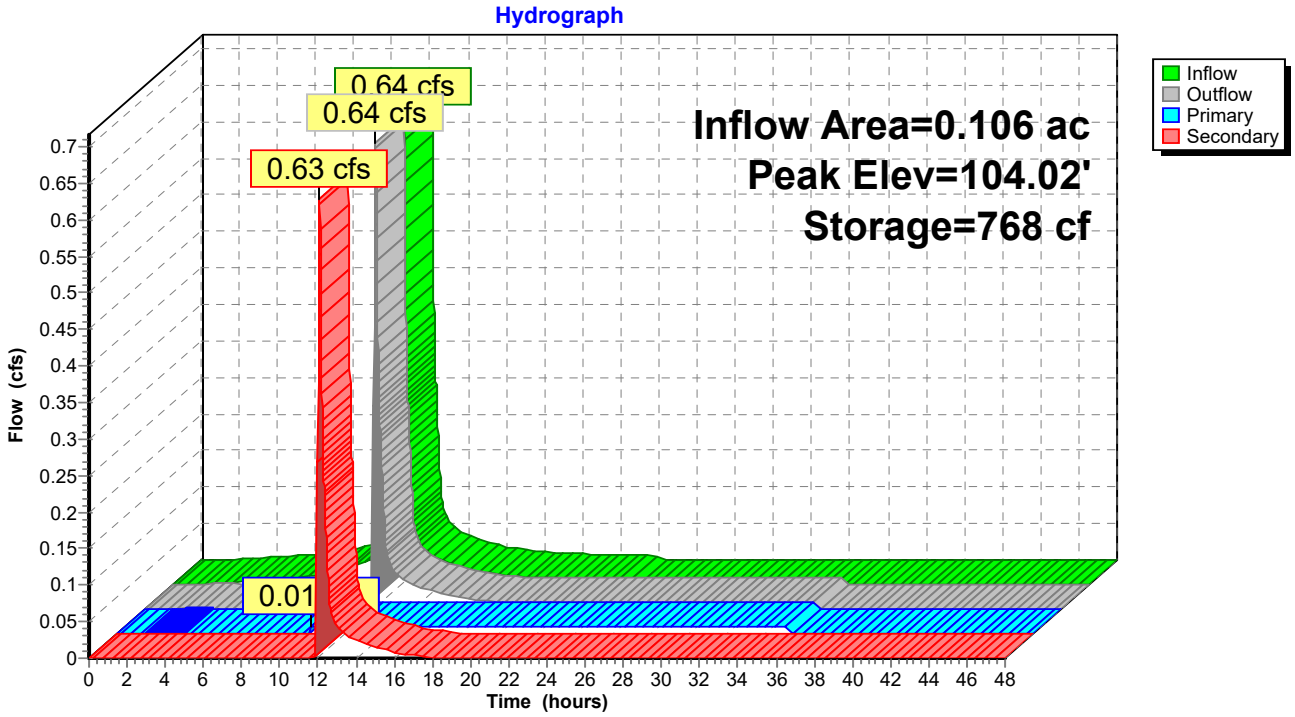
Device	Routing	Invert	Outlet Devices
#1	Primary	100.33'	**4.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 100.33' / 100.23' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.09 sf
#2	Device 1	100.50'	**0.01 cfs Exfiltration at all elevations**
#3	Secondary	104.00'	**140.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65
2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.01 cfs @ 10.21 hrs HW=102.50' TW=101.51' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.01 cfs of 0.33 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Secondary OutFlow Max=0.63 cfs @ 12.09 hrs HW=104.02' TW=103.62' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 0.63 cfs @ 0.29 fps)

Pond D2: Drip Strip



Summary for Pond D3: Drip Strip

Inflow Area = 0.142 ac, 23.12% Impervious, Inflow Depth = 1.47" for 25 YR event
Inflow = 0.18 cfs @ 12.17 hrs, Volume= 0.017 af
Outflow = 0.07 cfs @ 12.57 hrs, Volume= 0.017 af, Atten= 62%, Lag= 24.5 min
Primary = 0.07 cfs @ 12.57 hrs, Volume= 0.017 af
Routed to Pond P1 : Level Spreader

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 106.02' @ 12.57 hrs Surf.Area= 1,800 sf Storage= 226 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 184.3 min (1,069.5 - 885.2)

Volume	Invert	Avail.Storage	Storage Description
#1	102.50'	78 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 200 cf Overall - 4 cf Embedded = 196 cf x 40.0% Voids
#2	104.50'	120 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 300 cf Overall x 40.0% Voids
#3	106.00'	1,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#4	102.83'	3 cf	**4.0" Round Pipe Storage** Inside #1 L= 40.0' 4 cf Overall - 0.2" Wall Thickness = 3 cf
		1,602 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
102.50	200	0	0
103.50	200	200	200

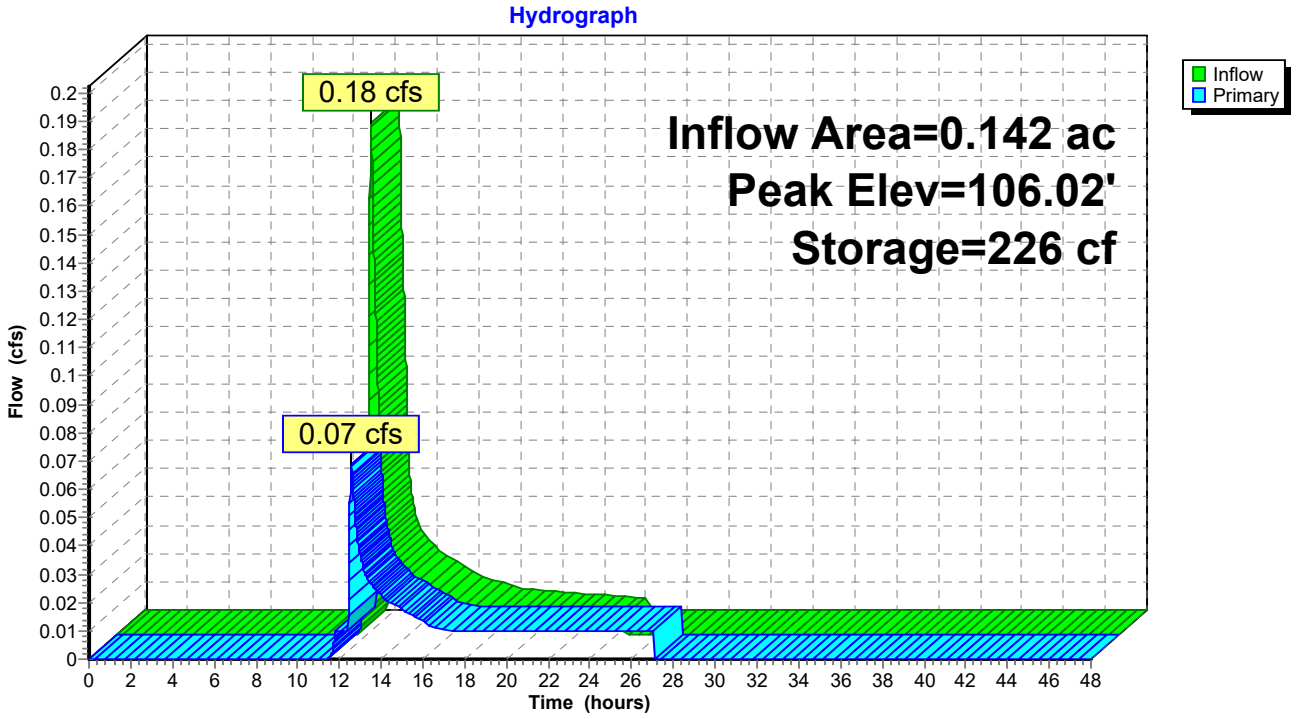
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
104.50	200	0	0
106.00	200	300	300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
106.00	1,400	0	0
107.00	1,400	1,400	1,400

Device	Routing	Invert	Outlet Devices
#1	Primary	102.33'	**4.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 102.33' / 102.23' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.09 sf
#2	Device 1	102.50'	**0.01 cfs Exfiltration at all elevations**
#3	Primary	106.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (100% open area) Limited to weir flow at low heads

Primary OutFlow Max=0.07 cfs @ 12.57 hrs HW=106.02' TW=101.59' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.01 cfs of 0.62 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.01 cfs)
- **3=Orifice/Grate** (Weir Controls 0.06 cfs @ 0.43 fps)

Pond D3: Drip Strip



Summary for Pond P1: Level Spreader

Inflow Area = 1.303 ac, 62.44% Impervious, Inflow Depth = 3.37" for 25 YR event
Inflow = 1.32 cfs @ 12.40 hrs, Volume= 0.366 af
Outflow = 1.32 cfs @ 12.40 hrs, Volume= 0.363 af, Atten= 0%, Lag= 0.1 min
Primary = 1.32 cfs @ 12.40 hrs, Volume= 0.363 af
Routed to Reach POI 1 : POI #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 101.61' @ 12.40 hrs Surf.Area= 145 sf Storage= 130 cf

Plug-Flow detention time= 17.1 min calculated for 0.363 af (99% of inflow)
Center-of-Mass det. time= 6.3 min (1,124.2 - 1,117.9)

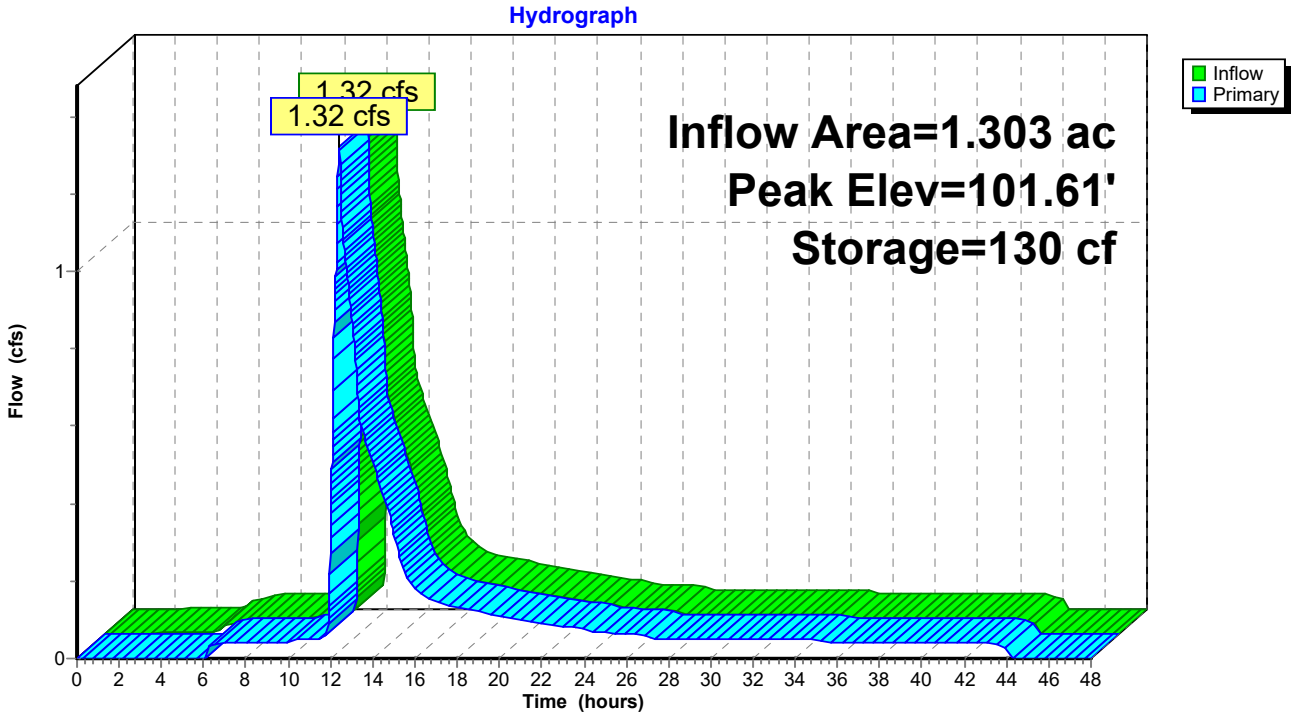
Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	198 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	30	0	0
101.00	90	60	60
101.50	130	55	115
102.00	200	83	198

Device	Routing	Invert	Outlet Devices
#1	Primary	101.50'	**15.0' long + 2.0 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.32 cfs @ 12.40 hrs HW=101.61' TW=0.00' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 1.32 cfs @ 0.82 fps)

Pond P1: Level Spreader



Summary for Pond SF: Sand Filter

Inflow Area = 0.948 ac, 63.51% Impervious, Inflow Depth = 3.83" for 25 YR event
Inflow = 3.76 cfs @ 12.09 hrs, Volume= 0.303 af
Outflow = 3.36 cfs @ 12.11 hrs, Volume= 0.301 af, Atten= 10%, Lag= 1.4 min
Primary = 0.03 cfs @ 6.96 hrs, Volume= 0.095 af
Routed to Pond P1 : Level Spreader
Secondary = 3.33 cfs @ 12.11 hrs, Volume= 0.206 af
Routed to Pond CPC : Channel Protection Chambers

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 104.91' @ 12.40 hrs Surf.Area= 4,360 sf Storage= 2,967 cf
Flood Elev= 192.02' Surf.Area= 4,360 sf Storage= 3,292 cf

Plug-Flow detention time= 242.7 min calculated for 0.301 af (99% of inflow)
Center-of-Mass det. time= 238.4 min (1,029.1 - 790.7)

Volume	Invert	Avail.Storage	Storage Description
#1	99.87'	9 cf	**11.50'W x 195.44'L x 1.00'H Prismatoid** 2,248 cf Overall - 38 cf Embedded = 2,209 cf x 0.4% Voids
#2	100.20'	32 cf	**4.0" Round Pipe Storage** x 2 Inside #1 L= 181.0' 38 cf Overall - 0.2" Wall Thickness = 32 cf
#3A	102.37'	1,919 cf	**11.50'W x 181.20'L x 2.83'H Field A** 5,904 cf Overall - 1,106 cf Embedded = 4,798 cf x 40.0% Voids
#4A	102.87'	1,106 cf	**ADS_StormTech SC-310 +Cap** x 75 Inside #3 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 75 Chambers in 3 Rows
#5	99.87'	226 cf	**6.00'D x 8.00'H Vertical Cone/Cylinder**
		3,292 cf	Total Available Storage

Storage Group A created with Chamber Wizard

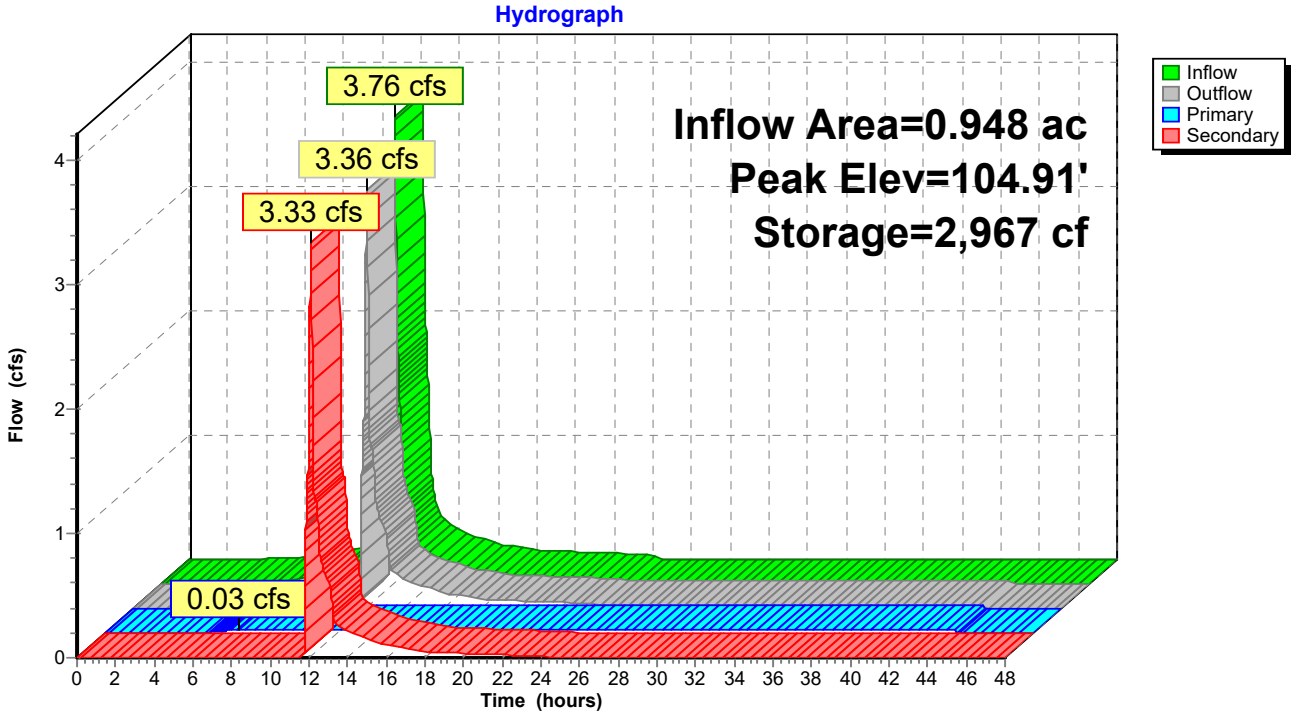
Device	Routing	Invert	Outlet Devices
#1	Primary	100.20'	**4.0" Round Culvert** L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 100.20' / 100.15' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.09 sf
#2	Device 1	99.87'	**0.03 cfs Exfiltration at all elevations**
#3	Secondary	103.17'	**12.0" Round Culvert** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 103.17' / 102.87' S= 0.0167 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#4	Device 3	104.07'	**6.0' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32
#5	Secondary	104.07'	**12.0" Round Culvert** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 104.07' / 103.17' S= 0.0500 '/' Cc= 0.900

n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 6.96 hrs HW=101.72' TW=101.51' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.03 cfs of 0.15 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Secondary OutFlow Max=3.24 cfs @ 12.11 hrs HW=104.51' TW=103.72' (Dynamic Tailwater)
└─**3=Culvert** (Inlet Controls 2.65 cfs @ 3.37 fps)
└─**4=Broad-Crested Rectangular Weir** (Passes 2.65 cfs of 4.99 cfs potential flow)
└─**5=Culvert** (Inlet Controls 0.59 cfs @ 1.78 fps)

Pond SF: Sand Filter



City of Portland ME: Low-Impact Design Requirements				
Owner / applicant name:	Acre Properties			
Representative name:	Alex Coupe			
Project address:	1582 Forest Avenue			
Project CBL:				
Application ID (if known):				
	Maximum Points	**How to Apply**	**Points Awarded**	**LID Standard / Approach**
CORE METHODS: Wetlands, Streams, & Drainage				
Protect natural drainage paths	Required			
Shoreland Zoning	Required			
Meeting DEP and ACOE standards for stream crossings	Required			
Protect wetlands	**12**	Select one option	**12**	Select a site that does not have wetlands or vernal pools = 12pts
				Project maintains a 50' set-back / no-disturb buffer to all wetlands = 10pts
				Project maintains a 25' set-back / no-disturb buffer to all wetlands = 7pts
				Project does not place structures in wetlands and avoids wetlands impacts from construction and stormwater discharges = 5pts
				Project replicates impacted wetlands elsewhere on site or within watershed = 3pt
				Project pays wetlands impact fee = 0pts
Permanently protect stream (intermittent and perennial) and riparian buffers *(exclusive of approved stream crossings; must include a no-disturb zone with markers installed and deed restriction recorded at registry of deeds)*	**12**	Select one option	**12**	Select a site with no streams = 12pts
				Permanently protect all 100ft shoreline buffers = 10pts
				Permanently protect all 75ft shoreline buffers = 7pts
				Permanently protect all 50ft shoreline buffers (intermittent streams) = 6pts
				Permanently protect all 50ft shoreline buffers (required minimum for perennial streams) = 5pts
				Permanently protect all 25ft shoreline buffers (required minimum for intermittent streams) = 5pts
Stream crossings	**12**	Select one option	**12**	Select a site with no streams = 12pts
				Avoid any stream crossings = 10pts
				All stream crossings use a bridge or open bottom culvert structure sized at 1.2 times the bank full width of the stream = 10pts
				All stream crossings use Maine Stream Smart Principles to preserve natural pre-development drainage pathways = 6pts
CORE METHODS: Natural Areas & Habitat				
Preserve threatened or endangered species habitat	Required (Beginning with Habitat Maps at a minimum)			
Protect 30% of trees over 10" DBH	Required (Tree survey required)			
Protect intact, contiguous forests and native trees over 10" DBH	**8**	Select one option		All development and land disturbance outside of existing wooded/forested areas (no site clearing in prior 10 years) = 8pts
				Protect 50% of trees over 10" DBH = 6pts
				Protect 40% of trees over 10" DBH = 4pt

CORE METHODS: Soils & Slopes				
USDA Web Soil Survey	Required (provide details how soil limitations will be mitigated)			
Avoid steep slope disturbance	5	Select one option	5	Selecting a site without slopes 15% or greater = 5pts
				Maintain >20' undisturbed vegetated buffer to all slopes 15% or greater = 3pts
				Maintain 10-20' undisturbed vegetated buffer to all slopes 15% or greater = 2pts
				Maintain 1-10' undisturbed vegetated buffer to all slopes 15% or greater = 1pt
				Disturbance of any slope 15% or greater = 0pts
Protect soils	5	Select one option		Redevelopment sites = 5pts
			5	Detailed, site-specific soil survey; preparation of a Soil Management and Protection Plan; protect highly permeable soils = 5pts
Limit site disturbance and earthwork	8	Select one option		Redevelopment limits disturbance to existing footprint = 8pts
				New development disturbs less than 50% of existing undeveloped site area = 8pts
				New development disturbs less than 75% of existing undeveloped site area = 6pts
			0	New development disturbs greater than 75% of existing undeveloped site area = 0pts
Soil preparation & minimizing compaction	6	Select all options that apply	3	Till soils to a depth of at least 10" prior to revegetation = 3pts
			3	Organic matter amendments as needed based on soil tests = 3pts
CORE METHODS: Landscaping				
Low-Impact Landscaping	6	Select all options that apply		Redevelopment sites reduce lawn area by 50%, provided no increase in impervious area (lawn becomes landscaping) = 2pt
			2	New development results in >50% non-impervious developed area is landscaping = 2pt
			2	Use only native vegetation for landscaped areas = 2pts
			2	Using only locally-sourced landscape materials = 2pt
CORE METHODS: Impervious Area & SW Management				
Meeting City's stormwater management standards	Required			
Reduce impervious and increase permeable surfaces	10	Select all options that apply, up to a maximum of 10 points		50% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 6pts
			2	Minimize parking impervious area by using only the minimum required number of parking spaces, the minimum required parking lot dimensions, maximizing compact spaces and utilizing low-turnover standard parking space width reductions = 4pt
				25% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 3pts
			2	Minimize roadway impervious area by developing roadways and driveways at the minimum width and using minimum number of curb cuts = 2pt
			2	Reducing the number of driveways by using a shared driveway design = 2pt
			2	Providing transportation alternatives (such as bike share, car share, or similar) = 2pt
Use GI / natural stormwater treatment systems	12	Select all options that apply		Treatment requirements and conveyance achieved through vegetated systems = 6pts
			3	No more than 1-acre of drainage per treatment system = 3pts
				Increase time of concentration on site (1" 25 year storm event) = 3pts
Limit / eliminate salt use	4	Select one option		Detailed winter maintenance agreement, with annual reporting requirement, limiting chloride use (required in UIS watersheds) = 4pts

Bonus Points				
Bonus points are offered for strategies that may go above and beyond typical approaches; may offer particularly innovative site design or engineering ; or may help achieve the larger goal of low-impact development on a regional scale.	10		5	Utilizing structured parking = 10pts
	10			Utilizing a green roof for at least 50% of a newly developed or redeveloped building roof = 10pts
	10			Restoration of previously disturbed natural resources (minimum 500 square feet of restoration) = 10pts
	10			BMPs designed for known water quality impairment within watershed = 10pts
	10			Connecting to City sewer from a site >200 ft from existing City infrastructure = 10pts
	6		6	Detention of 1.5 times the required volume = 6pts
	6			Treatment for 1.5 times the required water quality volume = 6pts
	6			Innovative LID site design and/or stormwater improvement = 6pts
	10			Establishing a Traffic Demand Management plan for projects under 50,000ft = 10pts
	Total Possible Points		**Total Points Awarded**	**Minimum points required for approval of LID strategies and techniques**
	178		**80**	**80**

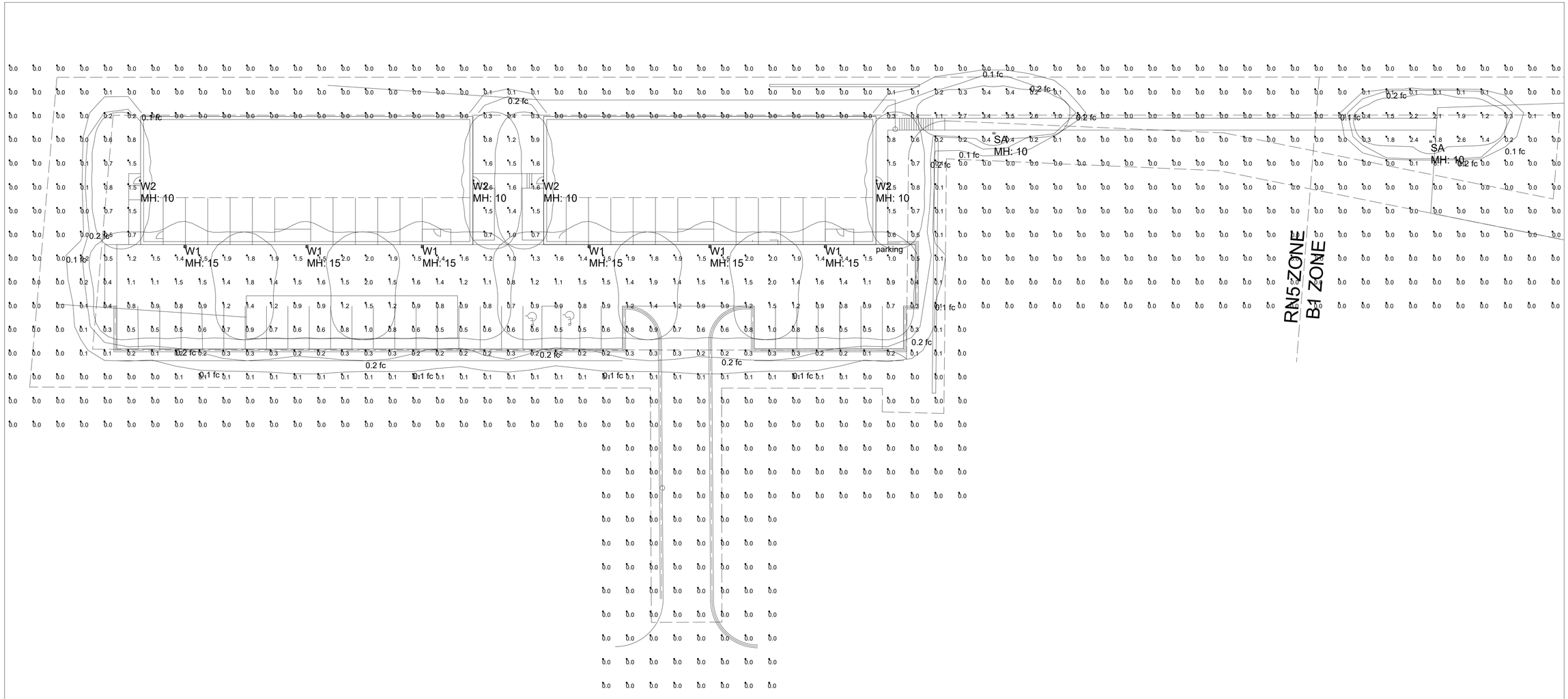
ATTACHMENT 10

PHOTOMETRIC PLAN AND LIGHTING CUT SHEETS

Luminaire Schedule (note fixture cataloge numbers are not complete)						
Type	**Qty**	**Lum. Lumens**	**LLF**	**Lum. Watts**	**Description**	**Mounting Height**
SA	2	2239	0.900	25.533	RAR-1-80L-25-3K7-3-BC	10
W1	6	3538	0.900	28	RWL1-48L-25-3K7-4W-U	15
W2	4	1303	0.900	10.1	RWL1-48L-10-3K7-3-U	10

Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
SITE	0.27	3.5	0.0	N.A.	N.A.
parking	1.17	2.0	0.3	3.90	6.67

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.



PLAN VIEW

site ltg 12-2-24.AGI

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

TITLE: 1582 FOREST AVE AND BELFORT ST PORTLAND, ME LIGHTING LAYOUT

Date:12/2/2024

Page 1 of 1

SCALE NOT TO SCALE

GENERATED FOR: GORRILL PALMER

SWANEY LIGHTING ASSOCIATES, INC.

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ALL LIGHTING FIXTURES INCLUDED IN THIS DRAWING, IT IS PROVIDED USING FIXTURE PHOTOMETRICS AS SUPPLIED BY THE MANUFACTURER. ANY FIELD INSTALLATION THAT DEVIATES FROM THE PERFORMANCE SHOWN IN IES FILE IS NOT THE RESPONSIBILITY OF THE MANUFACTURER. IT'S USE FOR ANY OTHER PURPOSE IS NOT AUTHORIZED BY SWANEY LIGHTING ASSOCIATES.

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RATIO Series

AREA/SITE LIGHTER

DATE: LOCATION:

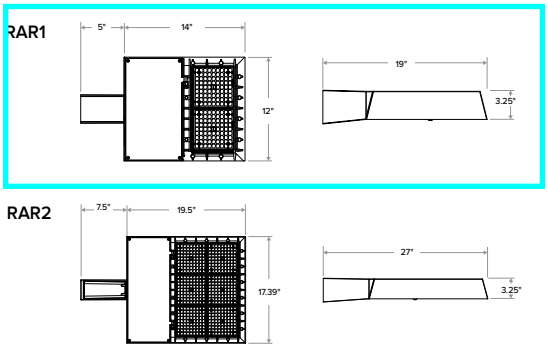
TYPE: PROJECT:

CATALOG #:

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as retail, commercial and campus parking lots
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Compact and lightweight design with low EPA
- 3G rated for high vibration applications including bridges and overpasses
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™ and 7-Pin with networked controls
- Best in class surge protection available





CONTROL TECHNOLOGY

SERVICE PROGRAMS

	Weight	EPA at 0°
RAR1	13.5 lbs / 6.1 kg	.45ft.² / .13m²
RAR2	24 lbs / 10.9 kg	.55ft.² / .17m²

SPECIFICATIONS

CONSTRUCTION

- Rectilinear form mimics the traditional shoebox form factor keeping a similar but updated style and appearance, ideal for retrofit applications
- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 80, 160, 320 or 480 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI) CCT
- Zero uplight at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Standard square arm mount, compatible with B3 drill pattern
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option or accessory for square and round poles.
- Knuckle arm fitter option available for 2-3/8" OD tenon. Max tilt of 60 degrees with 4 degree adjustable increments. (Restrictions apply for 7-pin options)

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10 V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations on this page are DLC Qualified. Refer to www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 3G rated for ANSI C136.31 high vibration applications
- Fixture is IP66 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions)

WARRANTY

- 5 year limited warranty
- See HLI Standard Warranty for additional information

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RATIO Series
AREA/SITE LIGHTER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

Gray Shading = Service Program Limit of 15 luminaires QS10

ORDERING GUIDE

Example: RAR1-80L-25-3K7-2-UNV-ASQ-BL-NXW-BC

CATALOG #

ORDERING INFORMATION

Series		# LEDs - Wattage		CCT/CRI		Distribution		Optics Rotation		Voltage	
RAR1	Ratio Area Size 1	80L-25	25W - 3,000 Lumens	3K7	3000K, 70 CRI	2	IES TYPE II	Blank for no rotation		UNV	Universal 120-277V
		80L-39	39W -5,200 Lumens	4K7	4000K, 70 CRI	3	IES TYPE III	L	Optic rotation left	120	120V
		80L-50	50W - 6,000 Lumens	5K7	5000K, 70 CRI	4W	IES TYPE IV	R	Optic rotation right	208	208V
		160L-70	70W - 9,000 Lumens			4F	IES TYPE IV Forward			240	240V
		160L-100	100W - 12,000 Lumens			5QW	IES TYPE V			277	277V
		160L-115	115W - 15,000 Lumens							347	347V
		160L-135	135W - 18,000 Lumens							480	480V
RAR2	Ratio Area Size 2	320L-110	110W - 15,000 Lumens								
		320L-140	140W - 18,000 Lumens								
		320L-165	165W - 21,000 Lumens								
		480L-185	185W - 24,000 Lumens								
		480L-210	210W - 27,000 Lumens								
		480L-240	240W - 30,000 Lumens								
		480L-255	255W - 36,000 Lumens								
		480L-295	295W - 42,000 Lumens								
		480L-340	340W - 48,000 Lumens								

Mounting	
ASQ	Arm mount for square pole/flat surface
ASQU	Universal arm mount for square pole/flat surface- Does not include round pole adapt or B3 drill pattern
Mounting Round Poles	
A_	Arm mount for round pole[1] B3 drill pattern
A_U	Universal arm mount for round pole[1]
Mounting Other	
WB	Wall bracket
MAF	Mast arm fitter for 2-3/8" OD horizontal arm
K	Knuckle

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Brone Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
Color Option	
CC	Custom Color

Control Options Network	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [6,7]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [6,7]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [6,7]
Control Options Other	
SCP_F	Programmable occupancy sensor [3,4]
7PR	7-Pin twist lock receptacle
7PR-SC	7-Pin receptacle with shorting cap
7PR-MD40F	Low voltage sensor for 7PR
7PR-TL	7-Pin PCR with photocontrol
ADD	AutoDim Timer Based Dimming
ADT	AutoDim Time of Day Dimming
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [9]
BTS-40F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [9]
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [9]

Options	
BC	Backlight control [8]
F	Fusing [5]
TB	Terminal block
2PF	2 power feed with 2 drivers[2]

Notes:
1 Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
2 Not available with 25, 50, 255, 295 & 340W configurations
3 At least one SCPREMOTE required to program SCP motion sensor
4 Replace "_" with 8F or 40F lens
5 Must specify voltage
6 Networked Controls cannot be combined with other control options
7 Not available with 2PF option
8 BC not available on 4F distributions
9 BTS and BTSO available for 50 Watts or higher and only on 120-277 voltage

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Series

AREA/SITE LIGHTER

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UNV	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming	✓	✓	✓	Paired with external control	✓	✓	✓	✓	–		NXOFM-1R1D-UV
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
NX Wireless	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
NX Wireless	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
Independent	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
Independent	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

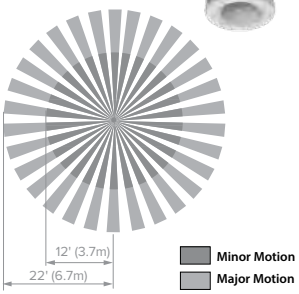
DEFAULT SETTINGS

NX Wireless	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

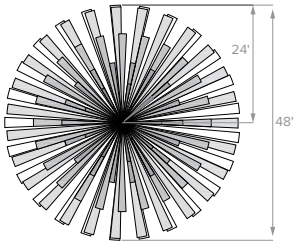
Stand Alone	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

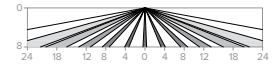
NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI



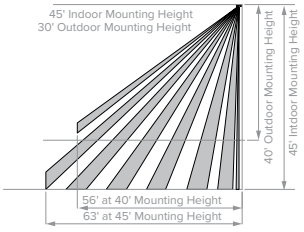
NXSMP2-LMO





Sensor Lens Coverage and Detection Patterns
When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns
When Mounted at 40ft and 45ft with Standard Lens

NX LIGHTING CONTROLS FREE APP



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

Google Play

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Series

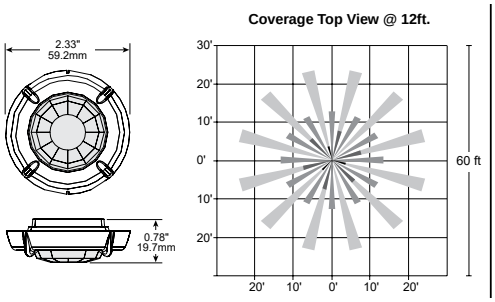
AREA/SITE LIGHTER

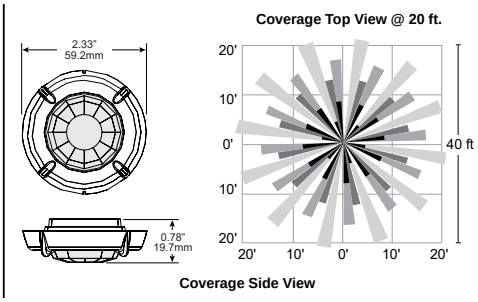
OUTDOOR LIGHTING CONTROLS OPTIONS

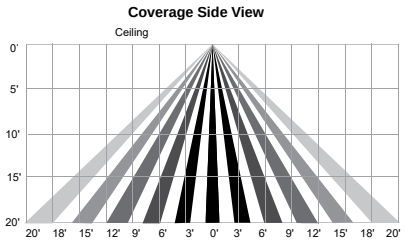
CONTROLS FUNCTIONALITY

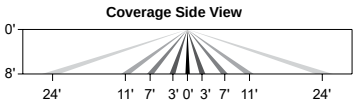
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, sensor range, reference product specification for height selections	–	–	–	✓	✓	✓	✓	–	8ft or 20ft	SCP_F	
	ADD	AutoDIM Timer Based Dimming	–	–	✓	–	–	–	✓	–	–	ADD	
	ADT	AutoDIM Time of Day Dimming	–	–	✓	–	–	–	✓	–	–	ADT	
	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–	7PR	
	7PR-SC	7-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–		7PR-SC
	7PR-TL	7-Pin with photocontrol	–	–	–	–	✓	–	✓	–	–		7PR-TL

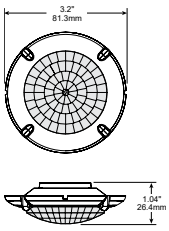
COVERAGE PATTERNS FOR SCP_F

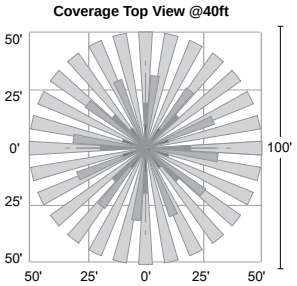


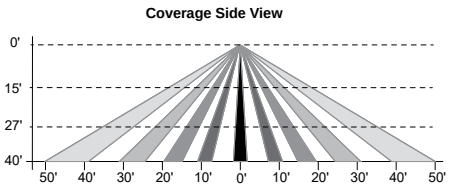












PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

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BEACON
design . performance . technology

RATIO Series

AREA/SITE LIGHTER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Mounting	Finish
RAR1-100-4K-3	12,000	100W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-100-4K-4W	12,000	100W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR1-135-4K-3	18,000	135W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-135-4K-4W	18,000	135W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR2-165-4K-3	21,000	165W	320L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR2-165-4K-4W	21,000	165W	320L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze

POLE COMBOS

Catalog Number	Pole	Single or Double Head	Fixture	Lumens	Wattage	Distribution	CCT/CRI	Mounting	Finish
RAR1-100-4K7-3-S20	**20' Square Straight Steel**	Single Head	**RAR1-100-4K-3**	12,000	100W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-100-4K7-4W-S20	**20' Square Straight Steel**	Single Head	**RAR1-100-4K-4W**	12,000	100W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR1-100-4K7-3-S20-2X	**20' Square Straight Steel**	Double Head (180°)	**RAR1-100-4K-3**	12,000	100W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-100-4K7-4W-S20-2X	**20' Square Straight Steel**	Double Head (180°)	**RAR1-100-4K-4W**	12,000	100W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR1-100-4K7-3-S25	**25' Square Straight Steel**	Single Head	**RAR1-100-4K-3**	12,000	100W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-100-4K7-4W-S25	**25' Square Straight Steel**	Single Head	**RAR1-100-4K-4W**	12,000	100W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR1-100-4K7-3-S25-2X	**25' Square Straight Steel**	Double Head (180°)	**RAR1-100-4K-3**	12,000	100W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-100-4K7-4W-S25-2X	**25' Square Straight Steel**	Double Head (180°)	**RAR1-100-4K-4W**	12,000	100W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-3-S20	**20' Square Straight Steel**	Single Head	**RAR1-135-4K-3**	18,000	135W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-4W-S20	**20' Square Straight Steel**	Single Head	**RAR1-135-4K-4W**	18,000	135W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-3-S20-2X	**20' Square Straight Steel**	Double Head (180°)	**RAR1-135-4K-3**	18,000	135W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-4W-S20-2X	**20' Square Straight Steel**	Double Head (180°)	**RAR1-135-4K-4W**	18,000	135W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-3-S25	**25' Square Straight Steel**	Single Head	**RAR1-135-4K-3**	18,000	135W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-4W-S25	**25' Square Straight Steel**	Single Head	**RAR1-135-4K-4W**	18,000	135W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-3-S25-2X	**25' Square Straight Steel**	Double Head (180°)	**RAR1-135-4K-3**	18,000	135W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR1-135-4K7-4W-S25-2X	**25' Square Straight Steel**	Double Head (180°)	**RAR1-135-4K-4W**	18,000	135W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-3-S20	**20' Square Straight Steel**	Single Head	**RAR2-165-4K-3**	21,000	165W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-4W-S20	**20' Square Straight Steel**	Single Head	**RAR2-165-4K-4W**	21,000	165W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-3-S20-2X	**20' Square Straight Steel**	Double Head (180°)	**RAR2-165-4K-3**	21,000	165W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-4W-S20-2X	**20' Square Straight Steel**	Double Head (180°)	**RAR2-165-4K-4W**	21,000	165W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-3-S25	**25' Square Straight Steel**	Single Head	**RAR2-165-4K-3**	21,000	165W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-4W-S25	**25' Square Straight Steel**	Single Head	**RAR2-165-4K-4W**	21,000	165W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-3-S25-2X	**25' Square Straight Steel**	Double Head (180°)	**RAR2-165-4K-3**	21,000	165W	Type 3	4000K/70CRI	Square Arm	Dark Bronze
RAR2-165-4K7-4W-S25-2X	**25' Square Straight Steel**	Double Head (180°)	**RAR2-165-4K-4W**	21,000	165W	Type 4W	4000K/70CRI	Square Arm	Dark Bronze
SSSH-20-40-STK	**20' Square Straight Steel**	Pole Only	Not Included						
SSSH-25-40-STK	**25' Square Straight Steel**	Pole Only	Not Included						
SSSH-STK-4-KIT		Kit Only	Not Included						

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CATALOG #:

RATIO Series

AREA/SITE LIGHTER

CONTROLS

Control Options	
Standalone	
SCPREMOTE	Order at least one per project location to program and control
Networked – Wireless	
WIR-RME-L	LightGRID+ External Fixture Module[1,2]
NX Networked – Wireless	
NXOFM-1R1D-UNV	NX Wireless, Daylight Harvesting, BLE, 7 pin twisted lock

Notes:

1 Works with external networked photosensor

2 LightGRID+ Gateway required for system programming

OPTIONS AND ACCESSORIES - STOCK (ORDERED SEPARATELY)

	Catalog Number	Description
☐	**RARRPA3DB**	Round pole adapter 3.5" to 4.13" for ASQ arm, 3.5" to 4.13" OD pole, dark bronze finish
☐	**RARA3UDB**	Universal mount for square pole or round pole 3.5" to 4.13", dark bronze finish
☐	**RARBC80L**	Ratio backlight control 80L
☐	**RARBC160L**	Ratio backlight control 160L
☐	**RARBC320L**	Ratio backlight control 320L
☐	**RARBC480L**	Ratio backlight control 480L

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

	Catalog Number	Description
☐	**RAR–ASQU–XX**	Universal arm mount for square pole/flat surface[2]
☐	**RAR–A_U-XX**	Universal arm mount for round poles[1,2]
☐	**RAR–RPA_–XX**	Round pole adapter[1, 2]
☐	**SETAVP-XX**	4" square pole top tenon adapter, 2 3/8" OD slipfitter[2]
☐	**RETAVP-XX**	4" round pole top tenon adapter; 2 3/8" OD slipfitter for max. Four fixtures (90o); order 4" round pole adapters separately[2]
☐	**BIRD–SPIKE–3**	Ratio size 1 bird deterrent/spikes
☐	**BIRD–SPIKE–4**	Ratio size 2 bird deterrent/spikes
☐	**RARWB–XX**	Wall bracket - use with Mast Arm Fitter or Knuckle[2]

1 Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole

2 Replace "XX" with desired color/ paint finish

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Series

AREA/SITE LIGHTER

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RAR1	25	25.4	2	3438	135	1	0	1	3445	136	1	0	1	3240	128	1	0	1
			3	3460	136	1	0	1	3467	136	1	0	1	3260	128	1	0	1
			4W	3406	134	1	0	1	3412	134	1	0	1	3209	126	1	0	1
			5QW	3483	137	2	0	1	3490	137	2	0	1	3282	129	2	0	1
	39	39	2	5263	139	1	0	2	5273	139	1	0	2	4960	131	1	0	2
			3	5297	139	1	0	2	5308	140	1	0	2	4991	131	1	0	2
			4W	5200	137	1	0	2	5210	137	1	0	2	4900	129	1	0	2
			5QW	5333	140	3	0	1	5344	141	3	0	1	5025	132	3	0	1
	50	49.8	2	6310	127	1	0	2	6323	127	1	0	2	5946	120	1	0	2
			3	6349	128	1	0	2	6362	128	1	0	2	5983	120	1	0	2
			4W	6233	125	1	0	2	6245	126	1	0	2	5873	118	1	0	2
			5QW	6392	129	3	0	1	6405	129	3	0	1	6023	121	3	0	1
	70	68.4	2	9486	139	1	0	2	9505	139	1	0	2	8938	131	1	0	2
			3	9544	140	1	0	2	9563	140	1	0	2	8993	131	1	0	2
			4W	9395	137	1	0	2	9414	138	1	0	2	8853	129	1	0	2
			5QW	9608	140	4	0	2	9628	141	4	0	2	9054	132	4	0	2
	100	90.0	2	11976	133	2	0	2	12000	133	2	0	2	11285	125	2	0	2
			3	12050	134	2	0	2	12074	134	2	0	2	11354	126	2	0	2
			4W	11861	132	2	0	2	11885	132	2	0	2	11177	124	2	0	2
			5QW	12131	135	4	0	2	12155	135	4	0	2	11431	127	4	0	2
	115	109.7	2	15572	142	2	0	2	15494	141	2	0	2	14871	136	2	0	2
			3	15833	144	2	0	2	15754	144	2	0	2	15121	138	2	0	2
			4W	15281	139	2	0	3	15205	139	2	0	3	14623	133	2	0	3
			5QW	15732	143	4	0	2	15653	143	4	0	2	15024	137	4	0	2
	135	133.3	2	17971	135	3	0	3	17881	134	3	0	3	17163	129	3	0	3
			3	18272	137	2	0	2	18181	136	2	0	2	17450	131	2	0	2
			4W	17635	132	2	0	3	17547	132	2	0	3	16876	127	2	0	3
			5QW	18156	136	4	0	2	18065	136	4	0	2	17339	130	4	0	2

RAR2 Performance Data on next page

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RATIO Series

AREA/SITE LIGHTER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RAR2	110	100.3	2	15326	153	2	0	3	15357	153	2	0	3	14442	144	2	0	3
			3	15421	154	2	0	3	15452	154	2	0	3	14531	145	2	0	3
			4W	15180	151	2	0	2	15210	152	2	0	2	14304	143	2	0	2
			5QW	15525	155	4	0	2	15556	155	4	0	2	14629	146	4	0	2
	140	133.2	2	19395	146	2	0	3	19434	146	2	0	3	18276	137	2	0	3
			3	19515	147	2	0	3	19554	147	2	0	3	18389	138	2	0	3
			4W	19210	144	2	0	3	19248	145	2	0	3	18101	136	2	0	3
			5QW	19647	148	5	0	3	19686	148	5	0	3	18513	139	5	0	3
	165	153.6	2	21651	141	3	0	3	21695	141	3	0	3	20402	133	3	0	3
			3	21785	142	3	0	3	21828	142	3	0	3	20527	134	3	0	3
			4W	21444	140	3	0	3	21487	140	3	0	3	20206	132	3	0	3
			5QW	21932	143	5	0	3	21976	143	5	0	3	20666	135	5	0	3
	185	174.5	2	26046	149	3	0	3	26098	150	3	0	3	24543	141	3	0	3
			3	26207	150	3	0	3	26259	150	3	0	3	24694	142	3	0	3
			4W	25797	148	3	0	4	25849	148	3	0	4	24308	139	3	0	4
			5QW	26384	151	5	0	3	26437	152	5	0	3	24861	143	5	0	3
	210	198.2	2	28848	145	3	0	4	28906	146	3	0	4	27184	137	3	0	4
			3	29027	146	3	0	4	29085	147	3	0	4	27351	138	3	0	4
			4W	28572	144	3	0	4	28630	144	3	0	4	26924	136	3	0	4
			5QW	29222	147	5	0	4	29281	148	5	0	4	27536	139	5	0	4
	240	226.9	2	32087	141	3	0	4	32151	142	3	0	4	30235	133	3	0	4
			3	32285	142	3	0	4	32350	143	3	0	4	30422	134	3	0	4
			4W	31780	140	3	0	4	31844	140	3	0	4	29946	132	3	0	4
			5QW	32503	143	5	0	4	32568	144	5	0	4	30627	135	5	0	4
	255	257.0	2	37040	144	3	0	4	36854	143	3	0	4	35373	138	3	0	4
			3	37660	147	3	0	4	37472	146	3	0	4	35966	140	3	0	4
			4W	36347	141	3	0	5	36166	140	3	0	5	34782	135	3	0	5
			5QW	37420	146	5	0	4	37233	145	5	0	4	35736	139	5	0	4
	295	294.0	2	41733	142	3	0	4	41524	141	3	0	4	39855	136	3	0	4
			3	42432	144	3	0	4	42220	144	3	0	4	40523	138	3	0	4
			4W	40953	139	3	0	5	40748	139	3	0	5	39190	133	3	0	5
			5QW	42162	143	5	0	4	41951	143	5	0	4	40264	137	5	0	4
	340	347.1	2	48392	139	4	0	5	48150	139	4	0	5	46215	133	4	0	5
			3	49203	142	3	0	4	48957	141	3	0	4	46989	135	3	0	4
			4W	47488	137	4	0	5	47261	136	4	0	5	45443	131	4	0	5
			5QW	48889	141	5	0	5	48645	140	5	0	5	46689	135	5	0	5

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Series

AREA/SITE LIGHTER

ELECTRICAL DATA

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RAR1	25	120	0.21	25.4
		208	0.12	
		240	0.11	
		277	0.09	
	39	120	0.32	38.0
		208	0.18	
		240	0.16	
		277	0.14	
		347	0.11	
		480	0.08	
	50	120	0.42	49.8
		208	0.24	
		240	0.21	
		277	0.18	
	70	120	0.57	68.4
		208	0.33	
		240	0.29	
		277	0.25	
	100	120	0.75	90.0
		208	0.43	
		240	0.38	
		277	0.32	
	115	120	0.91	109.7
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
	135	120	1.11	133.3
		208	0.64	
		240	0.56	
		277	0.48	
		347	0.38	
		480	0.28	

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RAR2	110	120	0.84	100.3
		208	0.48	
		240	0.42	
		277	0.36	
	140	120	1.11	133.2
		208	0.64	
		240	0.56	
		277	0.48	
	165	120	1.28	153.6
		208	0.74	
		240	0.64	
		277	0.55	
	185	120	1.45	174.5
		208	0.84	
		240	0.73	
		277	0.63	
	210	120	1.65	198.3
		208	0.95	
		240	0.83	
		277	0.72	
	240	120	1.89	226.9
		208	1.09	
		240	0.95	
		277	0.82	
	255	120	2.14	257.0
		208	1.24	
		240	1.07	
		277	0.93	
		347	0.74	
		480	0.54	
	295	120	2.45	294.0
		208	1.41	
		240	1.23	
		277	1.06	
		347	0.85	
		480	0.61	
	340	120	2.89	347.1
		208	1.67	
		240	1.45	
		277	1.25	
		347	1.00	
		480	0.72	

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0˚ C	32˚ F	1.03
10˚ C	50˚ F	1.01
20˚ C	68˚ F	1.00
25˚ C	77˚ F	1.00
30˚ C	86˚ F	0.99
40˚ C	104˚ F	0.98
50˚ C	122˚ F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11 L90 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.95	0.93	0.86	238,000
40°C / 104°F	0.99	0.96	0.95	0.93	0.85	225,000

MICRO STRIKE LUMEN MULTIPLIER

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	x	0.841	x
3000K	x	0.861	0.647
3500K	x	0.9	x
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Phosphor Coated Amber Multiplier			
AP	0.71		

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RATIO Series

AREA/SITE LIGHTER

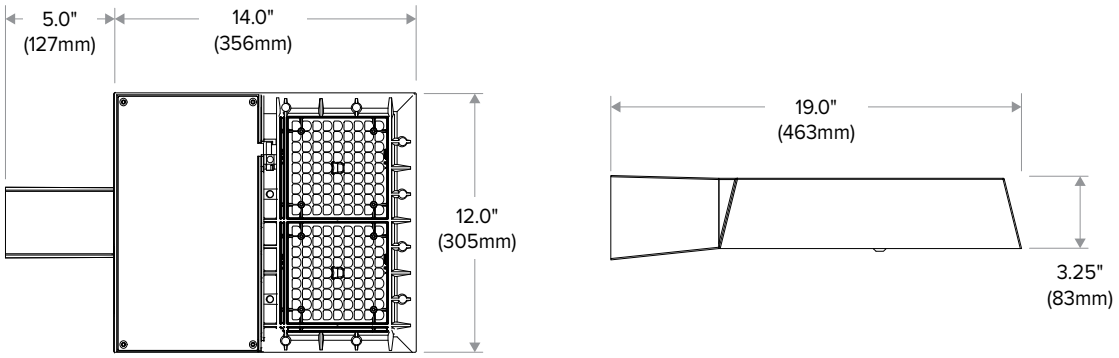
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TYPE: PROJECT:

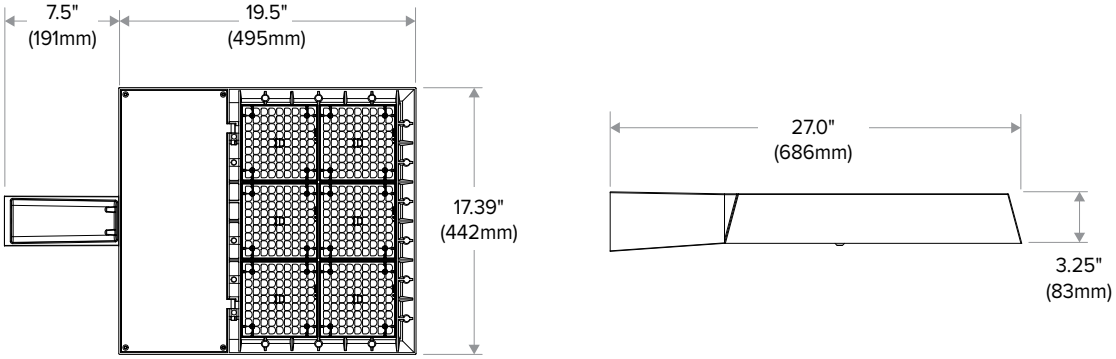
CATALOG #:

DIMENSIONS

RAR1

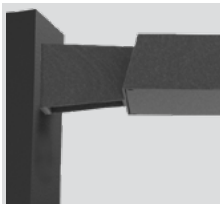


RAR2



ADDITIONAL INFORMATION

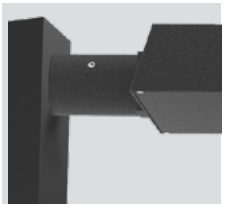
MOUNTING



Arm Mount – ASQ: Fixture ships with integral arm for ease of installation.



Knuckle – Knuckle mount 15° aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes.



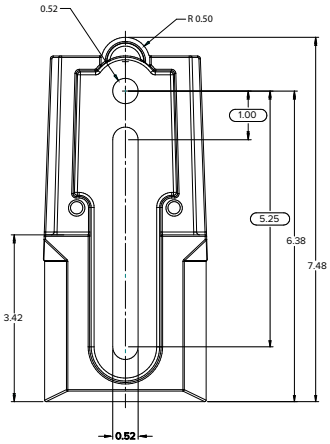
MAF – Fits 2-3/8" OD arms Roadway applications.



Wall Mount – Wall mount bracket designed for building mount applications.



Universal Mounting – Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and S2 and B3 drill patterns

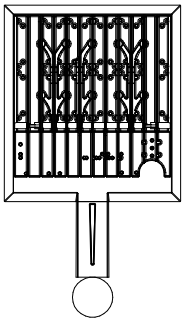


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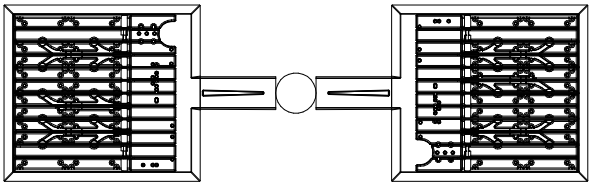
RATIO Series

AREA/SITE LIGHTER

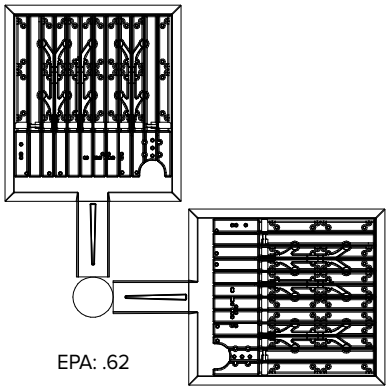
EPA (RAR1)



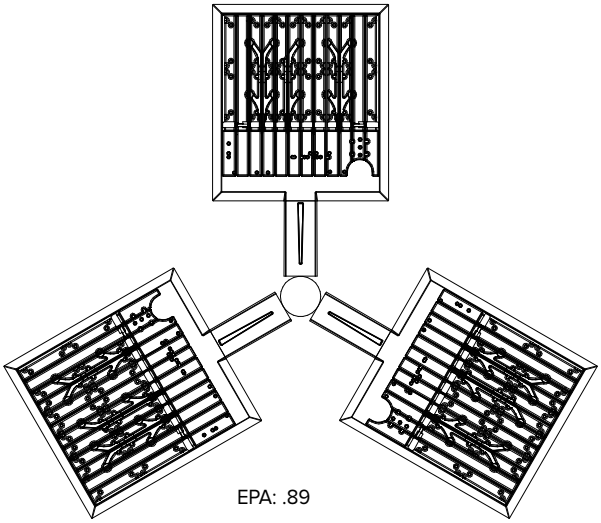
EPA Knuckle Mount 0 degrees: .43
EPA Knuckle Mount 30 degrees: .55
EPA Arm Mount: .0 degrees 38



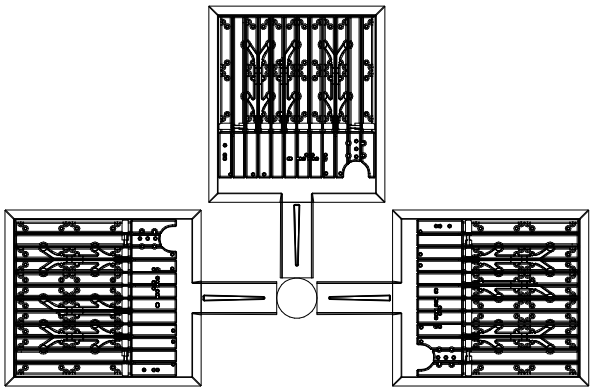
EPA: .99



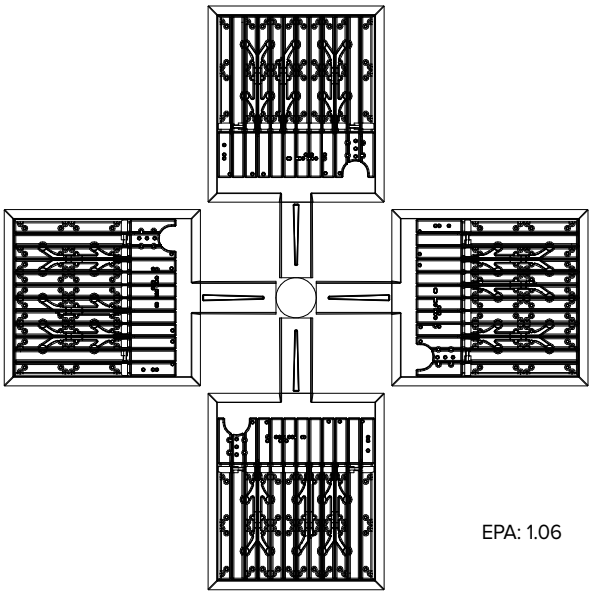
EPA: .62



EPA: .89



EPA: .99



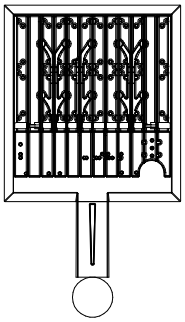
EPA: 1.06

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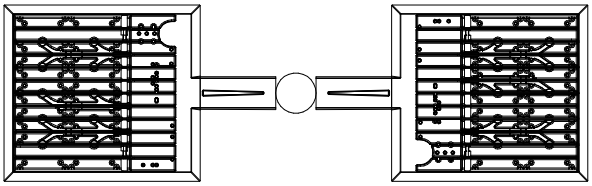
RATIO Series

AREA/SITE LIGHTER

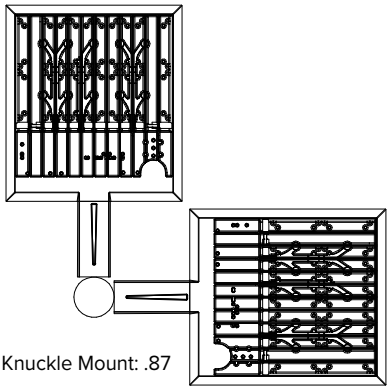
EPA (RAR2)



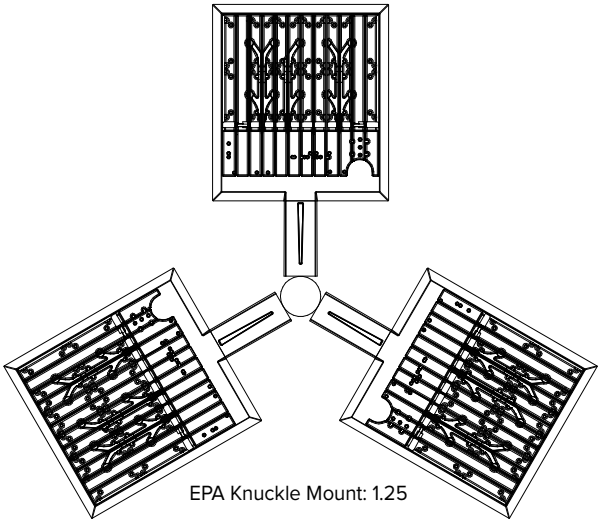
EPA Knuckle Mount: .52
EPA Arm Mount: .55



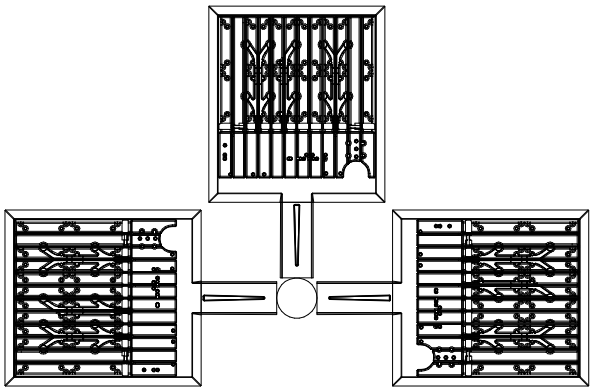
EPA: 1.486



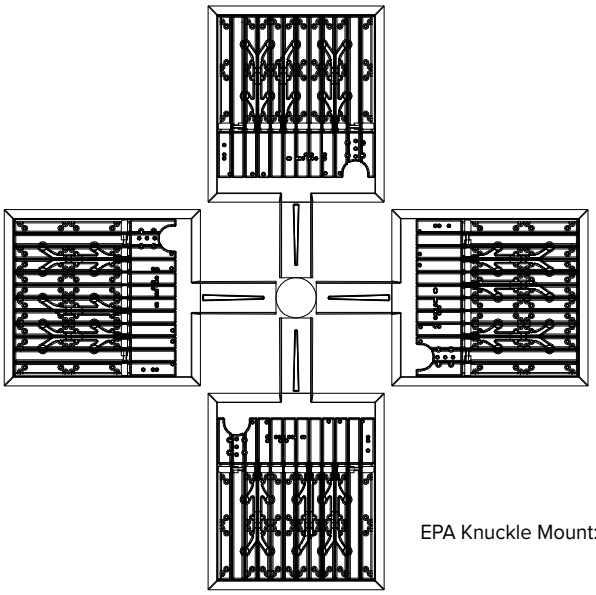
EPA Knuckle Mount: .87



EPA Knuckle Mount: 1.25



EPA Knuckle Mount: 1.41

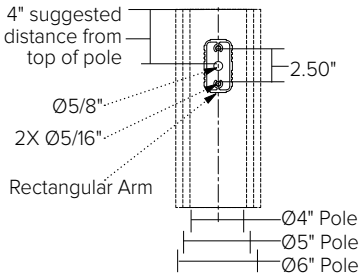


EPA Knuckle Mount: 1.56

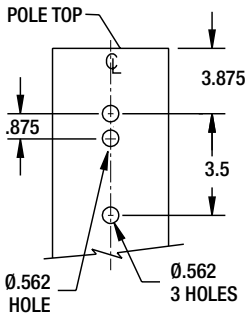
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ADDITIONAL INFORMATION (CONT'D)

ARM MOUNT (ASQ)
Compatible with Pole drill pattern B3



UNIVERSAL MOUNTING (ASQU)
Compatible with pole drill pattern S2



PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6
Auto-Dim Brightness	0-9% Brightness	5
Auto-Dim Return	Delay 0-9 Hours	R6

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

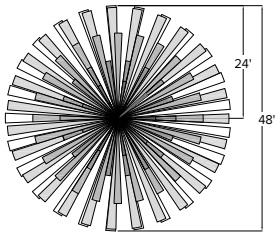
EX: ADT-6-5-R6

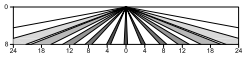
ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6
Auto-Dim Brightness	0-9% Brightness	5
Auto-Dim Return	12-6 AM and 9-11P	R6

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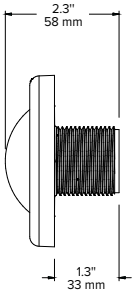
ADDITIONAL INFORMATION (CONT'D)

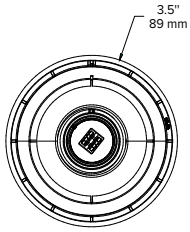
NXSP-14F



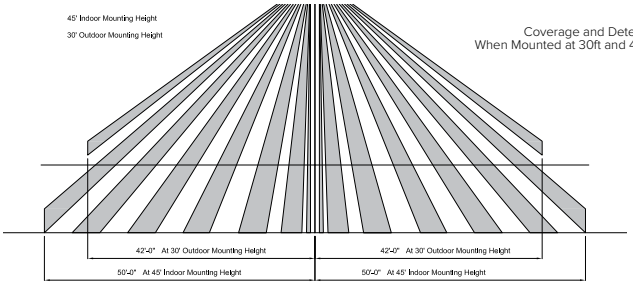


Sensor Lens Coverage and Detection Patterns
When Mounted at 8ft with Low Mount Lens

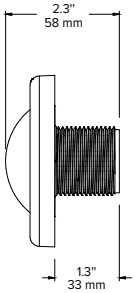


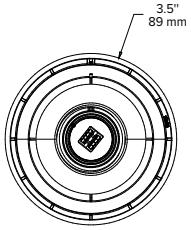


NXSP-30F

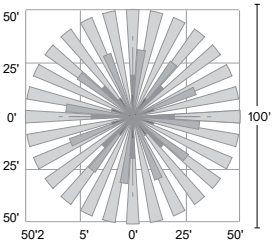


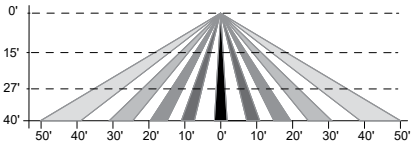
Coverage and Detection Patterns
When Mounted at 30ft and 45ft with Standard Lens

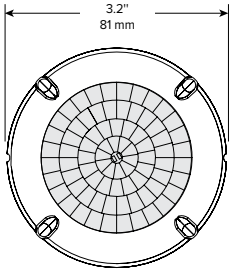


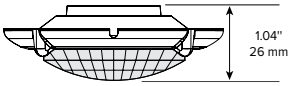


SCP-40F









RAR1 EPA

RAR-1	
EPA at 0˚	EPA at 30˚
.45ft.^{2} .13m^2	.56ft.^{2} .17m^2

RAR2 EPA

RAR-2	
EPA at 0˚	EPA at 30˚
.55ft.^{2} .17m^2	1.48ft.^{2} .45m^2

SHIPPING

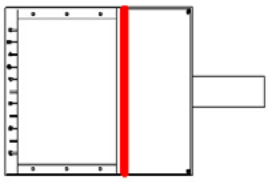
Catalog Number	G.W(kg)/ CTN	Carton Dimensions		
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)
RAR1	15 (6.8)	20.75 (52.7)	15.125 (38.4)	6.9375 (17.6)
RAR2	19 (8.6)	25 (63.5)	15.125 (38.4)	6.9375 (17.6)

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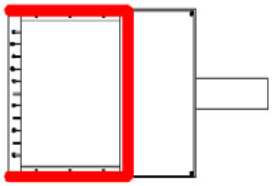
ADDITIONAL INFORMATION (CONT'D)

RATIO HOUSE SIDE SHIELD

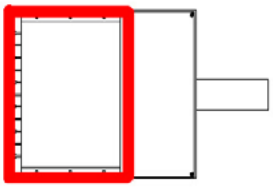
RARx HSS-90-B-xx



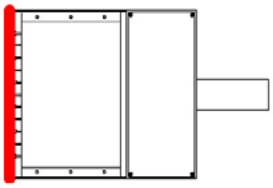
RARx HSS-270-BSS-xx



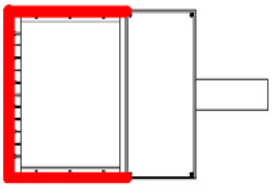
RARx HSS-360-xx



RARx HSS-90-F-xx

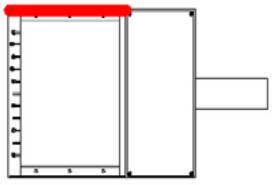


RARx HSS-270-FSS-xx

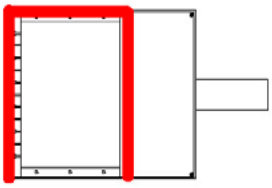


Note: Not to be used with Ocupancy Sensors as the shield may block the light to the sensor

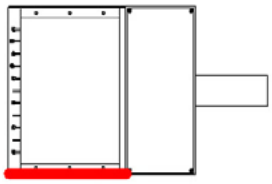
RARx HSS-90-S-xx



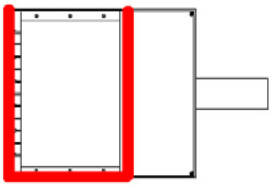
RARx HSS-270-FSB-xx



RARx HSS-90-S-xx



RARx HSS-270-FSB-xx



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BEACON
design . performance . technology

RATIO Wall

RWL1/RWL2 LED WALLPACK

DATE: | LOCATION:

TYPE: | PROJECT:

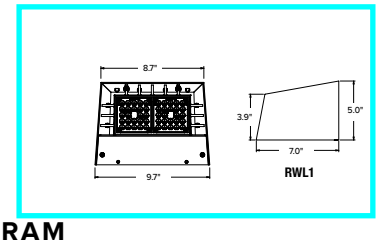
CATALOG #:

MICROSTRIKE | OPTICS STRIKE

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Strike and Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, LightGRID+ and 7-Pin with networked controls
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada





CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID

SERVICE PROGRAM

QS10

	Weight
RWL1	6.5 lbs / 2.95 kg
RWL2	16.5 lbs / 7.48 kg

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 48 or 160 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI/80 CRI) CCT
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions. Type II only available in RWL2 configurations

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.
- Integral back box contains 1/2" conduit hubs
- Integral back box standard with Dual Driver, Dual Power Feed, NX, LightGRID+ and battery versions (battery versions for RWL1 only)

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V and 480V dimmable driver option for all wattages above 35W
- Ambient operating temperature -40˚C to 40˚C
- Driver RoHS and IP66

ELECTRICAL (CONTINUED)

- 10kV Surge Protector optional
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options can not be included in one same fixture.
- Dimming drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than 6" standard.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -25˚C to 40˚C. RWL1 battery is 12.5W RWL2 battery is 18W

CONTROLS (CONTINUED)

- Dual Driver and Dual Power Feed options creates product configuration with 2 internal drivers for code compliance
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS

- Certified to UL 1598 and CSA 22.2#250.0-24 for wet locations
- IP65 rated housing
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Emergency battery backup options are California Energy Commission (CEC) Title 20 Compliant
- Meets IDA requirements using 3K CCT configuration at 0 degrees or tilt

WARRANTY

- 5 year limited warranty

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RATIO Wall

RWL1/RWL2 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

Gray Shading = Service Program Limit of 15 luminaires QS10

ORDERING GUIDE

Example: RWL1–48L-10–3K7–2–UNV–BLS–E

CATALOG # _____ – _____ – _____ – _____ – _____ – _____ – _____

Series		# LEDs - Wattage		CCT/CRI		Distribution		Voltage		Color	
RWL1	Micro Strike Optics	48L-10	1,000 Lumens [5,6]	3K7	3000K, 70 CRI	2	IES TYPE II	UNV	120-277V	BLT	Black Matte Textured
		48L-15	2,000 Lumens [5,6]	4K7	4000K, 70 CRI	3	IES TYPE III	120	120V	BLS	Black Gloss Smooth
		48L-20	2,500 Lumens [5,6]	5K7	5000K, 70 CRI	4F	IES TYPE IV Forward	208	208V	DBT	Dark Bronze Matte Textured
		48L-25	3,500 Lumens	3K8	3000K, 80 CRI	4W	IES TYPE IV Wide	240	240V	DBS	Dark Bronze Gloss Smooth
		48L-35	4,500 Lumens	4K8	4000K, 80 CRI			277	277V	GTT	Graphite Matte Textured
		48L-45	5,500 Lumens [5,6]	5K8	5000K, 80 CRI			347	347V	LGS	Light Grey Gloss Smooth
RWL2	Micro Strike Optics	160L-45	6,500 Lumens					480	480V	LGT	Light Grey Matte Textured
		160L-50	7,500 Lumens							PSS	Platinum Silver Smooth
		160L-65	9,500 Lumens							WHT	White Matte Textured
		160L-80	11,000 Lumens							WHS	White Gloss Smooth
		160L-95	13,000 Lumens							VGT	Verde Green Textured
		160L-115	15,000 Lumens							**Color Option**	
		160L-135	17,500 Lumens							CC	Custom Color
		160L-155	19,500 Lumens								
RWL2	Strike Optics	36L-39	5,500 Lumens, Strike								
		36L-55	7,500 Lumens, Strike								
		36L-85	10,000 Lumens, Strike								
		36L-105	12,500 Lumens, Strike								
		36L-120	14,000 Lumens, Strike								

– _____ – _____

Control Options Network	
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [2,7]
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [2,7]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [2,7]
WIR	LightGRID+ In-Fixture Module [2,9]
Stand Alone Sensors	
SCP-8F	Remote control programmable line voltage sensor [1,2,4,5,6,8]
SCP-20F	Remote control programmable line voltage sensor [1,2,4,5,6,8]
BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [1,2,5,7,8]
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [1,2,5,7,8]
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height [1,2,5,7,8]
Control Options	
7PR_	7-Pin Receptacle [8]

– _____

Distribution	
F	Fusing [4]
E	Emergency Battery Backup [3,8,9]
EH	Emergency Battery w/ Heater Option [3,8,9]
2DR	Dual Driver [3,9,10]
2PF	Dual Power Feed [3,9,10]
PC	Button Photocontrol [5,6,11]
SP	10kA Surge Protector [11]

Notes:

1 Not available in RWL1
2 Cannot be combined with E, EH, 2DR, 2PF due to space constraints
3 Cannot be combined with Controls due to space constraints
4 Must specify voltage
5 Not available in 347V
6 Not available in 480V
7 Available in 480V in 95W, 115W, 155W only
8 Cannot be combined with 2DR or 2PF
9 Located in integral backbox which will be automatically added to the fixture if selected
10 Not available in RWL1-48L in 10W, 15W, or 20W
11 SP and PC cannot be combined due to space constraints
* Based on space limitations, some options may not be combined. Consult Factory.

CONTROLS

Control Options	
Standalone	
SCPREMOTE	Order at least one per project location to program and control

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

	Catalog Number	Description
☐	WP-BB-XXX	Accessory for conduit entry [1]

Notes:

1 replace "xxx" with color option

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Wall

RWL1/RWL2 LED WALLPACK

CONTROLS FUNCTIONALITY

OUTDOOR LIGHTING CONTROLS OPTIONS

LIGHTGRID+

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
NX Wireless	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
NX Wireless	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
Independent	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
Independent	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

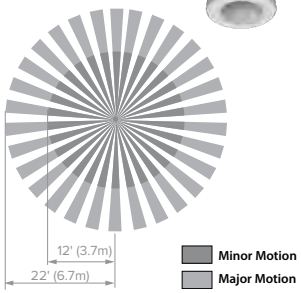
DEFAULT SETTINGS

NX Wireless	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

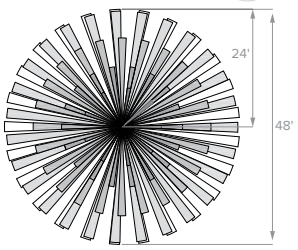
Stand Alone	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI



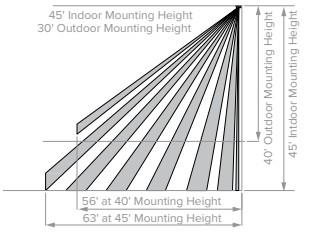
NXSMP2-LMO





Sensor Lens Coverage and Detection Patterns
When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns
When Mounted at 40ft and 45ft with Standard Lens

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

Google Play

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Wall

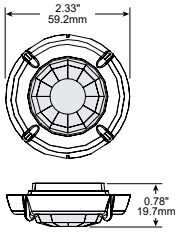
RWL1/RWL2 LED WALLPACK

OUTDOOR LIGHTING CONTROLS OPTIONS

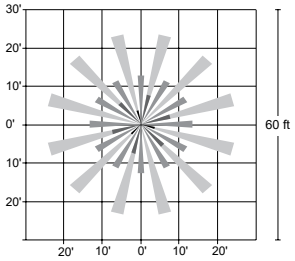
CONTROLS FUNCTIONALITY

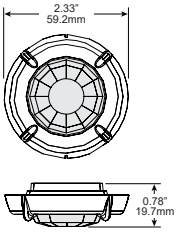
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
Independent	SCP_F	Sensor Control Programmable, sensor range, reference product specification for height selections	–	–	–	✓	✓	✓	✓	–	8ft or 40ft	SCP_F
	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–	7PR

COVERAGE PATTERNS FOR SCP_F

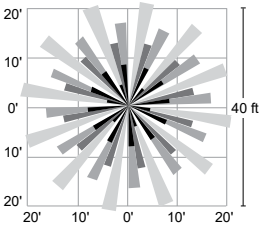


Coverage Top View @ 12ft.

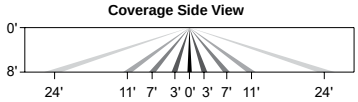




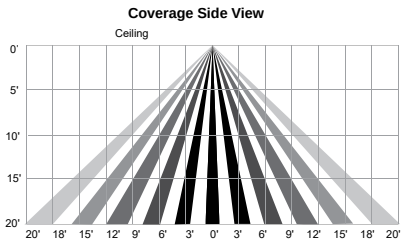
Coverage Top View @ 20 ft.

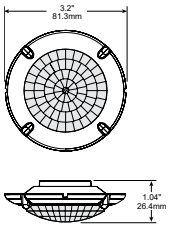


Coverage Side View

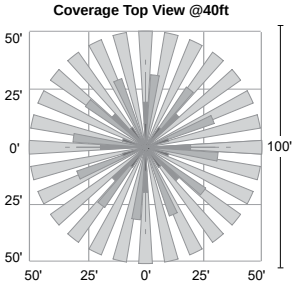


Coverage Side View

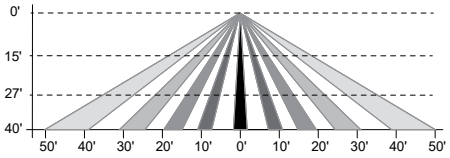




Coverage Top View @40ft



Coverage Side View



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RATIO Wall

RWL1/RWL2 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PERFORMANCE DATA: MICROSTRIKE

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RWL1	10	10.1	3	1362	135	0	0	1	1355	134	0	0	1	1303	129	0	0	1
			4W	1343	133	0	0	1	1336	132	0	0	1	1285	127	0	0	1
	15	14.5	3	1972	136	1	0	1	1962	135	1	0	1	1887	130	1	0	1
			4W	1945	134	0	0	1	1935	133	0	0	1	1861	128	0	0	1
	20	19.9	3	2722	137	1	0	1	2709	136	1	0	1	2605	131	1	0	1
			4W	2685	135	1	0	1	2672	134	1	0	1	2569	129	1	0	1
	25	28.0	3	3749	134	1	0	1	3732	133	1	0	1	3588	128	1	0	1
			4W	3698	132	1	0	1	3680	131	1	0	1	3538	126	1	0	1
	35	36.9	3	4751	129	1	0	2	4728	128	1	0	2	4546	123	1	0	1
			4W	4685	127	1	0	2	4663	126	1	0	2	4483	121	1	0	2
	45	46.5	3	5812	125	1	0	2	5784	124	1	0	2	5562	120	1	0	2
			4W	5731	123	1	0	2	5704	123	1	0	2	5485	118	1	0	2
RWL2	45	46.1	2	6701	145	1	0	2	6668	145	1	0	2	6412	139	1	0	2
			3	6812	148	1	0	2	6780	147	1	0	2	6519	141	1	0	2
			4W	6678	145	1	0	2	6646	144	1	0	2	6390	139	1	0	2
	50	54.0	2	7747	143	1	0	2	7710	143	1	0	2	7413	137	1	0	2
			3	7876	146	1	0	2	7838	145	1	0	2	7537	140	1	0	2
			4W	7720	143	1	0	2	7683	142	1	0	2	7388	137	1	0	2
	65	67.2	2	9539	142	1	0	2	9494	141	1	0	2	9129	136	1	0	2
			3	9699	144	2	0	2	9652	144	2	0	2	9281	138	2	0	2
			4W	9507	141	2	0	2	9461	141	2	0	2	9097	135	2	0	2
	80	80.8	2	11228	139	2	0	2	11174	138	2	0	2	10745	133	2	0	2
			3	11416	141	2	0	2	11361	141	2	0	2	10924	135	2	0	2
			4W	11190	138	2	0	2	11136	138	2	0	2	10708	133	2	0	2
	95	93.2	2	13148	141	2	0	2	13085	140	2	0	2	12582	135	2	0	2
			3	13368	143	2	0	2	13304	143	2	0	2	12792	137	2	0	2
			4W	13103	141	2	0	2	13040	140	2	0	2	12539	135	2	0	2
	115	109.8	2	15102	138	2	0	3	15030	137	2	0	3	14452	132	2	0	3
			3	15354	140	2	0	3	15281	139	2	0	3	14693	134	2	0	3
			4W	15050	137	2	0	3	14978	136	2	0	3	14402	131	2	0	3
	135	137.1	2	17533	128	2	0	3	17449	127	2	0	3	16778	122	2	0	3
			3	17826	130	2	0	3	17740	129	2	0	3	17058	124	2	0	3
			4W	17473	127	2	0	3	17389	127	2	0	3	16720	122	2	0	3
	155	156.8	2	19495	124	2	0	3	19402	124	2	0	3	18656	119	2	0	3
			3	19821	126	2	0	3	19726	126	2	0	3	18967	121	2	0	3
			4W	19542	125	2	0	3	19448	124	2	0	3	18700	119	2	0	3

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RATIO Wall

RWL1/RWL2 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PERFORMANCE DATA: STRIKE

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RWL2	39	45.1	2	5618	125	1	0	1	5723	127	1	0	1	5251	116	1	0	1
			3	5644	125	1	0	2	5749	127	1	0	2	5274	117	1	0	2
			4F	5662	126	1	0	2	5768	128	1	0	2	5291	117	1	0	2
			4W	5652	125	1	0	2	5757	128	1	0	2	5282	117	1	0	2
	55	63.1	2	7458	118	1	0	2	7659	121	1	0	2	6970	110	1	0	2
			3	7552	120	1	0	2	7694	122	1	0	2	7058	112	1	0	2
			4F	7577	120	1	0	2	7718	122	1	0	2	7081	112	1	0	2
			4W	7564	120	1	0	3	7705	122	1	0	3	7069	112	1	0	3
	85	88.0	2	10121	115	2	0	2	10311	117	2	0	2	9459	107	2	0	2
			3	10167	116	1	0	3	10357	118	1	0	3	9502	108	1	0	3
			4F	10200	116	1	0	2	10390	118	1	0	2	9532	108	1	0	2
			4W	10182	116	1	0	3	10372	118	1	0	3	9516	108	1	0	3
	105	111.7	2	12022	108	2	0	2	12247	110	2	0	2	11235	101	2	0	2
			3	12075	108	2	0	3	12301	110	2	0	3	11285	101	2	0	3
			4F	12115	108	1	0	3	12341	110	1	0	3	11322	101	1	0	2
			4W	12093	108	2	0	3	12319	110	2	0	3	11302	101	1	0	3
	120	126.2	2	12889	102	2	0	2	13130	104	2	0	2	12046	95	2	0	2
			3	12947	103	2	0	3	13189	105	2	0	3	12100	96	2	0	3
			4F	12989	103	1	0	3	13232	105	1	0	3	12139	96	1	0	3
			4W	12966	103	2	0	3	13208	105	2	0	3	12118	96	1	0	3

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RATIO Wall

RWL1/RWL2 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

	OPERATING HOURS		
Ambient Temp.	0	25,000	TM-21-22 60,000
25°C / 77°F	1.00	0.91	0.83
40°C / 104°F	0.99	0.90	0.82

Lumen maintenance values calculated per TM-21 using six times the LM-80 test time for the LED and in-situ thermal testing of the luminaire.

MULTIPLIER

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791

Strike Lumen Multiplier			
CCT	70CRI	80CRI	90CRI
2700K	0.900	0.810	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1.000	0.900	0.732
5000K	1.000	0.900	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

ELECTRICAL DATA: MICROSTRIKE

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL1	10	120	0.08	10.1
		208	0.05	
		240	0.04	
		277	0.04	
		347	0.03	
		480	0.02	
	15	120	0.12	14.5
		208	0.07	
		240	0.06	
		277	0.05	
		347	0.04	
		480	0.03	
	20	120	0.17	19.9
		208	0.10	
		240	0.08	
		277	0.07	
		347	0.06	
		480	0.04	
	25	120	0.23	28.0
		208	0.13	
		240	0.12	
		277	0.10	
		347	0.08	
		480	0.06	
	35	120	0.31	36.9
		208	0.18	
		240	0.15	
		277	0.13	
		347	0.11	
		480	0.08	
	45	120	0.39	46.5
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL2	45	120	0.38	46.1
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	
	50	120	0.45	54.0
		208	0.26	
		240	0.23	
		277	0.19	
		347	0.16	
		480	0.11	
	65	120	0.56	67.2
		208	0.32	
		240	0.28	
		277	0.24	
		347	0.19	
		480	0.14	
	80	120	0.67	80.8
		208	0.39	
		240	0.34	
		277	0.29	
		347	0.23	
		480	0.17	
	95	120	0.78	93.2
		208	0.45	
		240	0.39	
		277	0.34	
		347	0.27	
		480	0.19	
	115	120	0.92	109.8
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
	135	120	1.14	137.1
		208	0.66	
		240	0.57	
		277	0.49	
		347	0.40	
		480	0.29	
	155	120	1.31	156.8
		208	0.75	
		240	0.65	
		277	0.57	
		347	0.45	
		480	0.33	

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RATIO Wall

RWL1/RWL2 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

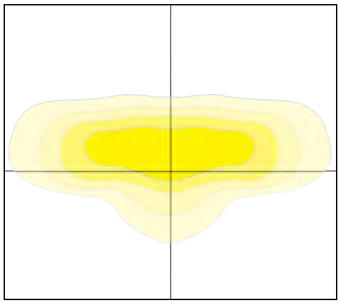
ELECTRICAL DATA: STRIKE

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL2	39	120	0.38	45.1
		208	0.22	
		240	0.19	
		277	0.16	
		347	0.13	
		480	0.09	
	55	120	0.53	63.1
		208	0.30	
		240	0.26	
		277	0.23	
		347	0.18	
		480	0.13	
	85	120	0.73	88.0
		208	0.42	
		240	0.37	
		277	0.32	
		347	0.25	
		480	0.18	
	105	120	0.93	111.7
		208	0.54	
		240	0.47	
		277	0.40	
		347	0.32	
		480	0.23	
	120	120	1.05	126.2
		208	0.61	
		240	0.53	
		277	0.46	
		347	0.36	
		480	0.26	

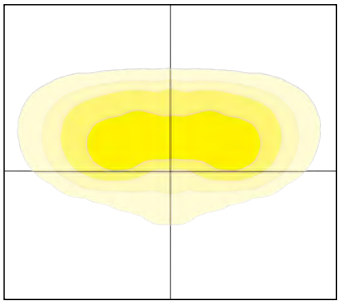
PHOTOMETRY

Mounting Height: 30ft

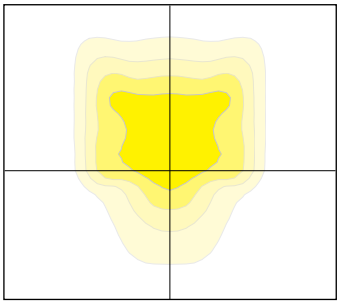
Type 2



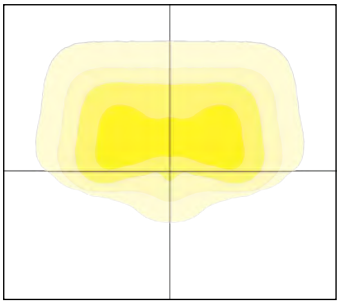
Type 3



Type 4F



Type 4W



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RATIO Wall

RWL1/RWL2 LED WALLPACK

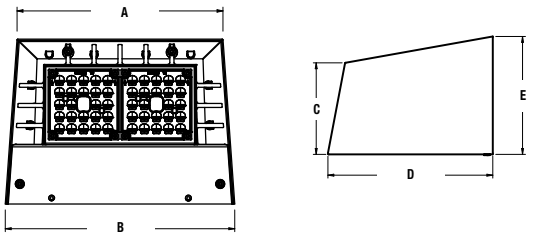
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TYPE: PROJECT:

CATALOG #:

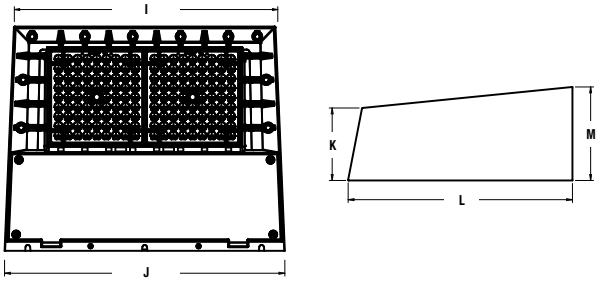
DIMENSIONS

RWL1



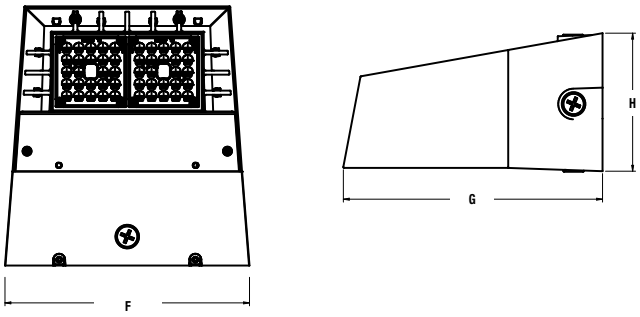
A	B	C	D	E	Weight
8.7"	9.7"	3.9"	7.0"	5.0"	6.5 lbs (2.95 kgs)
221mm	246mm	99mm	178mm	127mm	

RWL2



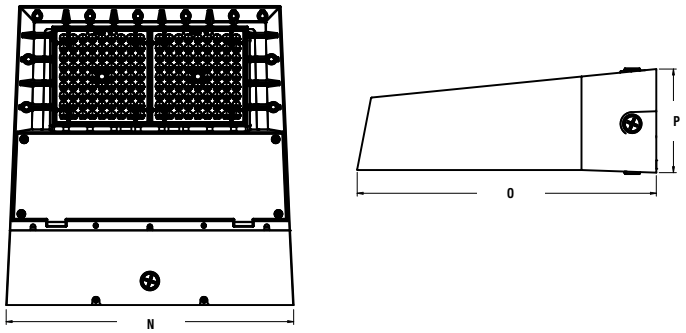
I	J	K	L	M	Weight
14.0"	15.0"	3.9"	12.0"	5.0"	16.5 lbs (7.48 kgs)
356mm	381mm	99mm	305mm	127mm	

RWL1 with Integral Back Box



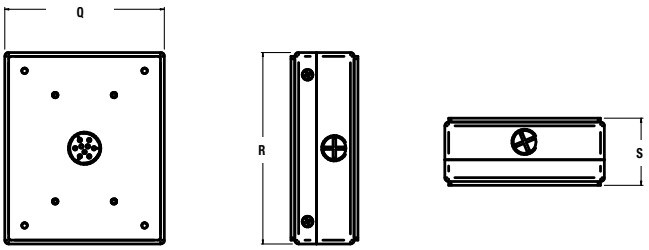
F	G	H
10.4"	11.0"	5.9"
264mm	279mm	150mm

RWL2 with Integral Back Box



N	O	P
15.4"	16.0"	5.5"
391mm	406mm	140mm

Back Box Accessory



Q	R	S
4.9"	5.9"	2.1"
124mm	150mm	53mm

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BEACON
design . performance . technology

RATIO Wall

RWL1/RWL2 LED WALLPACK

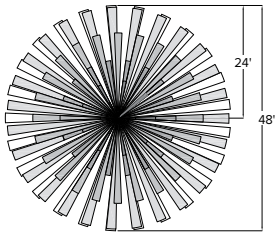
DATE: LOCATION:

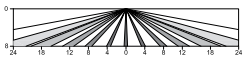
TYPE: PROJECT:

CATALOG #:

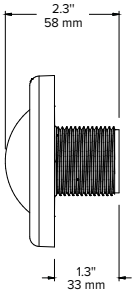
ADDITIONAL INFORMATION

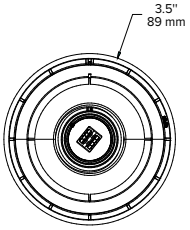
NXSP-14F



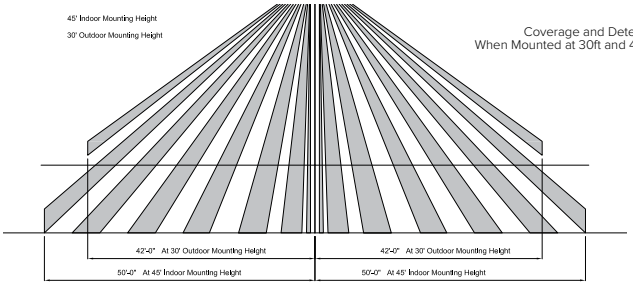


Sensor Lens Coverage and Detection Patterns
When Mounted at 8ft with Low Mount Lens

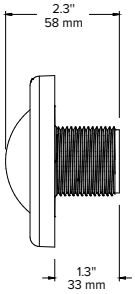


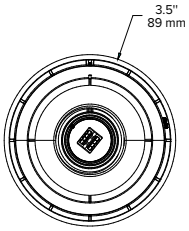


NXSP-40F

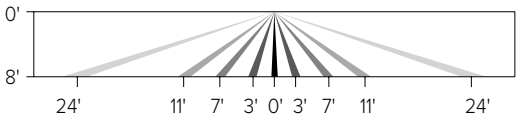


Coverage and Detection Patterns
When Mounted at 30ft and 45ft with Standard Lens

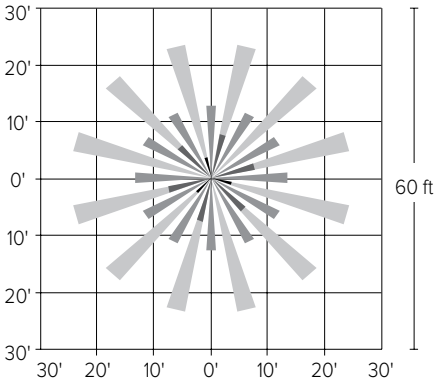


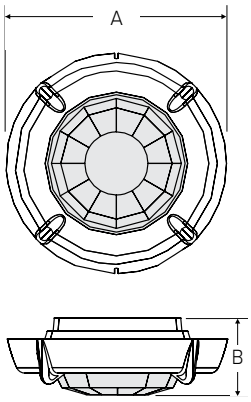


SCP-8F



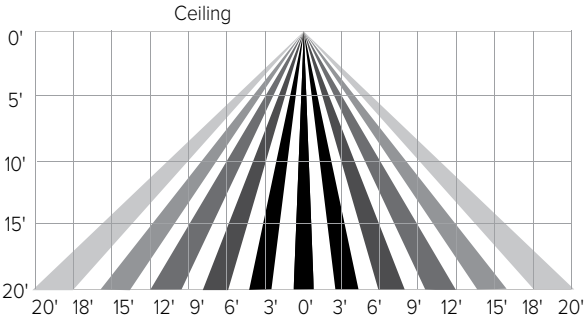


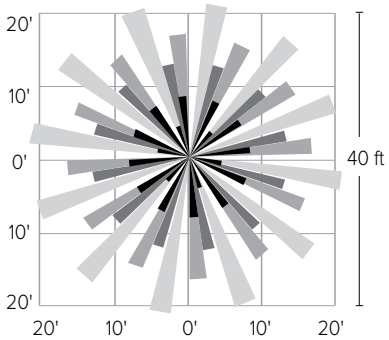


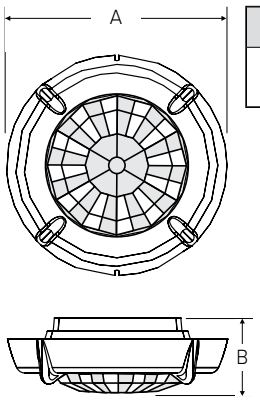


A	B
2.3" (59mm)	.8" (20mm)

SCP-2OF







A	B
2.3" (59mm)	.8" (20mm)

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ATTACHMENT 1

CONSERVATION FUND AGREEMENT

STATE OF MAINE
BUREAU OF PARKS & RECREATION

LAND & WATER CONSERVATION FUND
and
MUNICIPAL RECREATION FUND
PROJECT AGREEMENT

Political Subdivision City of Portland

Project Title Riverton School Park

Project Period 6/23/75 to 12/31/77 Project No. 23-00276

Project Scope: This project consists of the development by the City of Portland of six (6) tennis courts and a softball field located in the Riverton School Park in the Riverton section of Portland, Cumberland County.

The development will be accomplished in one stage and will include a portion of the Master Site Planning, Engineering, Site Preparation, Paving, Fencing, Backstops, Walks and Finish Grading.

THIS AGREEMENT is hereby made between the STATE OF MAINE, by and through the BUREAU OF PARKS AND RECREATION, hereinafter called the STATE, and the (City) ~~(Town)~~ of Portland, hereinafter called the RECIPIENT.

WITNESS:

WHEREAS, the United States of America, represented by the Director, Bureau of Outdoor Recreation, United States Department of the Interior, and the State of Maine have entered into an agreement (which with its attachments and all regulations and provisions incorporated therein, is hereinafter referred to as the "Agreement") pursuant to the Land & Water Conservation Fund Act of 1965, 78 Stat. 897, (1964) providing for the acquisition and/or construction of the above described project (hereinafter referred to as the "Project"), for the benefit of the RECIPIENT; and,

WHEREAS, the Agreement between the United States of America and the STATE imposes responsibilities upon the STATE which the STATE has assured will apply to the RECIPIENT and which the RECIPIENT agrees to perform;

NOW, THEREFORE, for valuable consideration, the STATE and the RECIPIENT agree as follows:

1. The Agreement is hereby attached and made a part hereof this agreement, and the RECIPIENT hereby agrees to discharge, perform, and fully satisfy all provisions of the Agreement directly or indirectly applicable to the RECIPIENT, and the RECIPIENT further agrees that it shall not, through any act or omission, violate any provision of the Agreement.

2. In connection with all phases of the Project, including all work to be performed in the development thereof, the RECIPIENT agrees as follows:

   A. RECIPIENT shall comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P. L. 91-646; 84 Stat. 1894) including amendments thereto and regulations thereunder, as permitted by Title I M.R.S.A. Chapter 23.

   B. RECIPIENT agrees to execute and complete the Project strictly within the above referenced Project Scope. Subsequent to this Agreement, any change in the use or the substantial change in the design or arrangement of the Project must have the prior written approval of the STATE and the Bureau of Outdoor Recreation of the U. S. Department of the Interior.

   C. RECIPIENT shall not advertise any work on the Project for bidding, enter into any contract for work to be performed, or undertake any work on the Project unless and until the RECIPIENT shall have submitted reasonably detailed plans and specifications of the Project to the STATE for approval and shall have received the written approval of the STATE.

   D. All contracts for work on the Project in excess of $2,500 shall be awarded through competitive bidding.

   E. RECIPIENT shall establish a separate account for all funds received and expended in connection with the Project and shall preserve (and permit inspection of) such financial records for a period of three (3) years following final completion of the Project.

   F. The eligibility of any cost incurred or proposed to be incurred in connection with the Project shall be determined by the criteria set forth in the Bureau of Outdoor Recreation Grants-in-Aid Manual.

3. The RECIPIENT agrees that after completion of the Project it will, at its sole expense, retain the land acquired and/or improvements thereon developed (as the case may be) as a result of the Project (hereinafter referred to as the "Facilities") and operate the Facilities in a first-class manner for the service of the general public for the lifetime of the Facilities. In addition, the RECIPIENT shall comply with the following particular requirements:

A. The Facilities shall be retained by the RECIPIENT and not transferred or encumbered and shall be used exclusively for public outdoor recreation. The use of the Facilities shall not be changed from that contemplated and approved as of the date hereof, unless prior written approval of such a change is obtained from the STATE and the Bureau of Outdoor Recreation. The Facilities shall be kept open at reasonable hours and times of the year consistent with the type of recreation offered and shall be open to use and entry by all members of the public, regardless of race, color, creed, national origin, sex, or residence, who are otherwise eligible according to reasonable published rules applicable to use of the Facilities.

B. The Facilities shall be operated and maintained to present an attractive and inviting appearance to the public. Sanitation and sanitary facilities shall be provided and maintained at least in accordance with applicable State and Local public health laws or regulations. The Facilities shall be kept reasonably safe for public use and shall be kept in good and operable condition and repair, reasonable wear only excepted, throughout the lifetime of the Facilities.

4. If the RECIPIENT fails to comply with any provision of this agreement, including particular provisions relating to operation, maintenance, and repair of the Facilities, the STATE may, in addition to other legal rights it may have, operate the Facilities or perform the required maintenance and repairs, in which event the RECIPIENT, shall, promptly upon request, reimburse the STATE for all funds expended for the operation of and for the maintenance or repairs performed by or at the direction of the STATE.

5. The RECIPIENT shall post in a prominent place on the Facilities, and maintain in good condition, a sign giving permanent public acknowledgment of assistance from the Land and Water Conservation Fund.

6. The Project and Facilities and all records pertaining thereto shall, at all reasonable times, be available for inspection by the STATE OR ITS AGENTS OR DESIGNEES.

7. The STATE shall obligate from the Municipal Recreation Fund (Title 12 M.R.S.A. § 602 Sub § 14) to the RECIPIENT $____----____, and tender to the RECIPIENT that portion of the obligation which is required to pay the STATE's share of the cost of the Project, which share is to be at a percentage rate of ____-----____%.

8. The following special terms and conditions are made a part of this agreement:

None

IN WITNESS WHEREOF, the parties hereto have, by their duly authorized agents, executed this agreement as of the dates entered hereinbelow.

STATE OF MAINE

Date July 3 19 75

BY Ted M. Bartlett
Supervisor, Federal Aid
Bureau of Parks & Recreation

POLITICAL SUBDIVISION

City of Portland

Date July 25 19 75

BY John E. Menario
John E. Menario
City Manager

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Outdoor Recreation
Land and Water Conservation Fund Project Agreement

State MAINE	Project Number 23-00276

Project Title RIVERTON SCHOOL PARK

Project Period APPROVED TO 12-31-77

Project Scope (Description of Project)

This project consists of the development by the City of Portland of six (6) tennis courts and a softball field located in the Riverton School Park in the Riverton section of Portland, Cumberland County.

The development will be accomplished in one stage and will include a portion of the Master Site Planning, Engineering, Site Preparation, Paving, Fencing, Backstops, Walks and Finish Grading.

Project Stage Covered by this Agreement

COMPLETE DEVELOPMENT

Project Cost

Total Cost	$	140,200
Fund Support		50 %
Fund Amount	$	70,100
Cost of this Stage	$	140,200
Assistance this Stage	$	70,100

The following attachments are hereby incorporated into this agreement:

1. General Provisions dtd. Dec., 1965
2. Project Proposal
3. _____
4. _____

BOR 8-92
(Rev. April 1974)

The United States of America, represented by the Director, Bureau of Outdoor Recreation, United States Department of the Interior, and the State named above (hereinafter referred to as the State), mutually agree to perform this agreement in accordance with the Land and Water Conservation Fund Act of 1965, 78 Stat. 897 (1964), and with the terms, promises, conditions, plans, specifications, estimates, procedures, project proposals, maps, and assurances attached hereto and hereby made a part hereof.

The United States hereby promises, in consideration of the promises made by the State herein, to obligate to the State the amount of money referred to above, and to tender to the State that portion of the obligation which is required to pay the United States' share of the costs of the above project stage, based upon the above percentage of assistance. The State hereby promises, in consideration of the promises made by the United States herein, to execute the project described above in accordance with the terms of this agreement.

The following special project terms and conditions were added to this agreement before it was signed by the parties hereto:

Pre-agreement costs incurred from January 1, 1974 to date of project approval in an amount not to exceed $10,000 shall be allowable under this agreement.

The State agrees to turn over to the City of Portland all funds granted hereunder.

Section B.2d and D.4 of the General Provisions dated December, 1965 are not binding upon this project.

Reference to $10,000 in B.2(a), (b) and (c) of the General Provisions is changed to $2,500.

In witness whereof, the parties hereto have executed this agreement as of the date entered below.

THE UNITED STATES OF AMERICA

By Earle A. Hunter
(Signature)

ACTING Assistant Regional Director
(Title)

Bureau of Outdoor Recreation
United States Department of
the Interior

Date June 23, 1975

STATE

MAINE
(State)

By Fred M. Bartlett
(Signature)

Fred M. Bartlett
(Name)

State Liaison Officer
(Title)

INT:1585-74

Att. P

EASEMENT DEED

Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS that BERNARD N. LARSEN of Portland, Cumberland County, Maine for consideration paid, grants to 3 BELFORT, LLC, a Maine limited liability company with a mailing address of 1584 Forest Avenue, Portland, ME 04103, with quitclaim covenant, an easement over a portion of property located in Portland, Cumberland County, Maine, and more particularly described as follows:

A perpetual easement encumbering a portion of the premises described in deeds recorded in the Cumberland County Registry of Deeds in Book 3150, Page 622 and Book 3150, Page 626 (the "Burdened Property"). Said easement is bounded and described as follows:

Commencing on the westerly side of Forest Avenue at the corner of land now or formerly of Almon D. Mann; thence running southeasterly by said Forest Avenue One Hundred Twenty-Four (124) feet, more or less, to land conveyed by Albert S. Cressey to Elizabeth M. Murray; thence southwesterly by said Murray land One Hundred Twenty-Seven and Fifty-Five hundredths (127.55) feet; thence northwesterly on a line parallel with the westerly line of said Forest Avenue One Hundred Twenty-Four feet, more or less, to said Mann land; thence northeasterly by said Mann land to said Forest Avenue at the point of beginning.

The Benefited Property is described in a deed dated November 9, 2016 from the Grantor herein to the Grantee herein, which property abuts the easement property described above. The above easement shall run with the respective properties benefited and burdened by the easement.

Without limitation, the permitted purposes for which this easement may be used are:

1. As a means for ingress and egress to and from the Benefitted Property;
2. As a parking area benefiting said property and any business conducted thereon;
3. As an area to be used for the plowing, removal, and deposit of snow removed from said property and the easement area;
4. As a space for outdoor activities benefiting said property (e.g. dining or farmer's market); and
5. To construct one building for any purposes reasonably related to the Benefitted Property and any business conducted thereon (e.g. food sales).

The easement rights also include, without limitation, the right to pave and stripe the easement area and to install and maintain such utility services, including, without limitation, such lighting as may be reasonably necessary for the use and enjoyment of this easement.

Excepting and reserving to the grantor, his heirs and assigns, the right to pass and repass through the above described easement area as now traveled.

Being a portion of the premises described in Warranty Deed and Quitclaim Deed to the Grantor herein and Dorothy A. Larson as joint tenants, and recorded in said Registry of Deeds in Book 3150, Page 622 and Book 3150, Page 626 respectively. Dorothy A. Larsen died on January 12, 2012 as a resident of Portland, Maine. Her estate was probated in the Cumberland County Registry of Probate, Docket No. 2012-0368.

Witness my hand and seal this 11th day of November, 2016.

Signed, Sealed and Delivered
in the presence of

Bernard N. Larsen

STATE OF MAINE
CUMBERLAND, SS. November 11, 2016

Then personally appeared the above-named Bernard N. Larsen and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Notary Public/Attorney at Law

G. Charles Shumway II
Printed Name

My Commission Expires: _____

Received
Recorded Register of Deeds
Nov 17,2016 09:01:53A
Cumberland County
Nancy A. Lane

Att. Q

June 18, 2025

Alex Coupe
President of ACRE Properties
Appraiser, Associate Broker
alex@danandersonrealestate.com

RE: 1582 Forest Ave
Portland, Maine
Letter of Ability to Serve Request

SAP TBD
Project Description:
The project proposes to build (2) 3 story apartment buildings with 25 units in each building located at 1582 Forest Ave Portland Maine.

CMP has the ability to serve the proposed project in accordance with our CMP Handbook (web link below). We can provide you the desired pad or pole mounted transformers per your request and city approval, in accordance with our CMP Handbook of Standard Requirements. If you have any questions on the process, or need help in completion of the documents, please contact CMP at 800-565-3181.

Here is our typical process for getting your three phase or CT rated single phase service installed. If you have any questions, please let us know. The underlined links will redirect you to the appropriate site for additional information.

Service Milestones for Three Phase Services and CT Rated Single Phase Services. There are additional requirements for primary metered Solar Service Installations listed in the Chapter 324 Interconnections section below. Please refer to CMP Installation Checklists for other installations.

- Call 800-750-4000 option 4 to establish a new account (if needed) and an SAP work order. Please provide both of these to me.
- Submit Load information. Please complete the attached EDET (excel file) using load information. Please complete this and email back to me. If the loads are over 500 kw, more in depth load studies may be required with our Distribution Planning and Transmission Planning Departments. Be advised that these involve more detailed load information, a load study agreement (signed contract), as well as other items. This additional study process may add up to two additional months to completion of the job.
- Submit the easement information worksheet, including where any CMP structures may be on ANY private property (Poles, Wires, Anchors). You are responsible for obtaining all information for all required easements. Please complete this form and either email or fax back to me.
- Submit any electronic drawings (PDF (preferred) or DWG files) of the site layout and proposed electrical connections.
- For Primary Metered installations (including PV), please have the access road in for pole staking.

Central Maine Power
An Avangrid company

- Preliminary meetings with CMP Advisor and Engineer to determine details of job (I will need to schedule with your electrician/contractor-please let me know who this is)
- Field planner design appointment scheduled once the preliminary information is complete. This will allow us to cost out the job and develop a CMP Invoice. The invoice is typically generated 5-6 weeks after the design appointment. This expires after 90 days from the invoice date.
- Submit completed W9 so that your bill can be properly processed. This is a new CMP process.
- CMP submits invoice to the customer for payment (typically via email). Payment received from customer.
- Easements (based on easement information worksheet) sent out, signed and originals returned to CMP.
- Job scheduled for completion after the electrical inspection has been received.

This process can take several months, depending upon several factors including transformer or materials delivery, return of completed paperwork, and other jobs in the system that may be ahead of yours. In addition, contact with the other utilities, including telephone and cable, should be commenced as soon as practical. They may have additional work or charges in addition to the CMP work required to bring your project online.

As you may be aware, there are global supply chain issues impacting the utility industry. CMP is closely monitoring and managing their inventory to serve our customers. Larger padmount transformers may not be readily available for the date that you will need to be energized. Please consider this as part of your construction plan. The energy service advisor will continue to work closely with you and let you know as soon as the transformer becomes available. Should you have any questions or concerns throughout this process, please do not hesitate to contact your ESA directly at the number or email provided.

Please complete the attached forms (the specific instructions are on each form) and email them back to me at your earliest convenience.

For your convenience, here is a link to the CMP Website which contains our Handbook with details on most service requirements: CMP Handbook of Standard Requirements An additional resource is our Distribution Construction Standards: CMP Distribution Construction Standards CMP Distribution Construction Standards.

You will be responsible for installing the customer connections, conduits, and metering in accordance with the CMP Handbook of Standard Requirements The transformer will be sized based on your submitted load sheets.

Your deposit amount will be typically based on an estimated two month bill, calculated from your completed load sheet unless otherwise determined by CMP.

In addition, we have recently added on an online map that shows single phase and three phase power locations within CMP. Here is that link: CMP ArcGIS Information

Central Maine Power
An Avangrid company

Metering:

All metering (including locations) must be preapproved by CMP. If you have any questions, please consult the CMP Handbook of Standard Requirements

Chapter 324 Interconnections:

Please be advised that if you plan to install solar/wind/hydro generation, you must complete an application under the MPUC mandated Chapter 324 Interconnection Standards. If you go to Chapter 324 Interconnection Standards and follow the instructions for the Small Generator Interconnection Procedures, CMP can do this work in parallel to your service request that will be handled by me. If you project is under 660 KW You will be able to have a Customer Net Energy Billing contract. Information concerning Customer Net Energy Billing can be accessed thru the Chapter 324 website or by clicking here: Net Energy Billing

Reallocation/Line Extensions:

Recently, changes were made to the three-phase construction policy, which require CMP to reallocate construction costs paid by customers. If applicable, those projects identified as "developments" do not qualify for reallocation of funds. Please see this document at our website for details about the reallocation conditions. Any reallocation charges will be specifically denoted on your invoice. The website address for this is: PolyphaseLineExtension.

This line extension will be part of Central Maine Power's distribution system. In the event the property served under this Agreement is sold or otherwise conveyed, all rights and obligations of the Agreement shall stay with the property. Please note that if you rent or lease this property to another and you want to receive the reimbursement payments, you must make special arrangements with the Central Maine Power Company. Otherwise, any reimbursement payments will be sent to the "Customer" taking service at the service location.

Central Maine Power
An Avangrid company

Electricity Supplier Information:

Central Maine Power Company (CMP) will provide your facility with electric delivery service. If you don't already have a provider, you will need to make arrangements with a competitive electricity provider in order to receive electricity supply for your facility. In the event you fail to choose a competitive electricity provider, you will receive Standard Offer service arranged by the Maine Public Utilities Commission. If you wish to be served by a competitive electricity provider immediately upon establishment of delivery service, you must arrange for this service directly through your chosen competitive electricity provider, who must enroll your account no later than 5 PM on the business day prior initiation of delivery service by CMP. An up-to-date list of competitive suppliers can be found at the:

1. Maine Public Utilities Commission (MPUC) web site- **Maine PUC**
2. By calling the MPUC at (207) 287-3831

Attachments:

Excel Load Sheet (EDET)
Easement Worksheet and Sample Standard Easement
W9

Kind Regards,
Kathy

Sincerely,

Katherine Dumont

Katherine Dumont
Energy Service Specialist
162 Canco Rd
Portland, ME 04103

207-242-5744
katherine.dumont@cmpco.com

Maine Community Solar Project

Member-Owned Community Solar Share Proposal for Alex Coupe

June 18, 2025

Solar Design Summary

CSF Share Size (kW DC)	226.54
Annual Generation (kWh)	280,000

Investment Summary

CSF Share Cost	$799,937
Investment Tax Credit	$239,981
Estimated Depreciation Benefits	$181,195
Net investment	$378,760
Annual Assessment (10-yr avg)	$5,942

Pricing guaranteed for 30 days.

Example of a ReVision Community Solar Project



CSF Share Savings

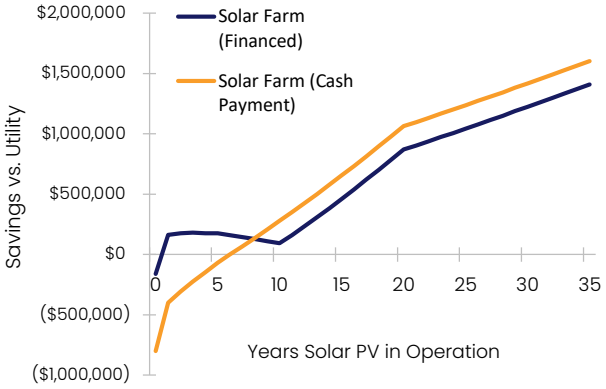
Energy Savings (Year 1)	$65,520
Simple Payback (Years)*	5
Purchase 25-Year Internal Rate of Return*	14.17%
25-Year Net Savings	$1,237,362
35-Year Net Savings (Commercial Lifespan)	$1,604,125

**Analysis assumes energy savings invested back into company (untaxed)*

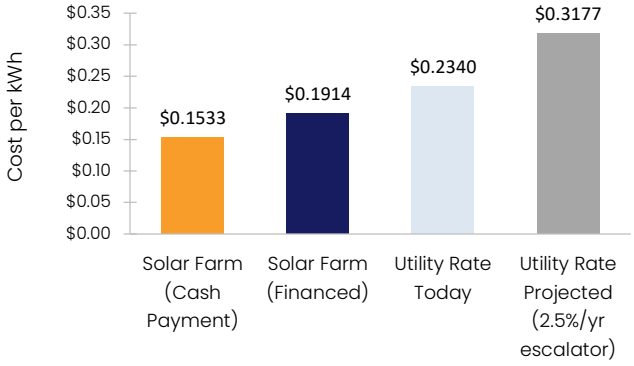
Environmental Benefits

Annual CO2e Offset (pounds)	271,600
Equivalent To...	
Gallons of Gasoline Not Burned	13,862
Passenger Cars Removed From the Rc	27
Pounds of Coal Not Burned	135,738
Tons of Waste Recycled	42

Solar Savings vs. Utility



Levelized Cost of Energy (25 Years)



REVISION ENERGY
An Employee-Owned Solar Company

Department of Public Works
Mike Murray
Director

Date: March 5, 2025
Re: Wastewater Capacity Authorization
Address: 1582 Forest Avenue
Applicant: ACRE Properties
Planner: Eric Freeman

Estimate of Anticipated Wastewater Flows				
Development	**Unit Size**	**Number of Units**	**Gallons per Day per Unit**	**Total Gallons per Day**
Existing Flow to Remain				
Vacant				
Proposed flow				
Multiple Family Dwelling Units	1-Bedroom	20	120	2400
Multiple Family Dwelling Units	2-Bedroom	30	180	5400
Net Change				**+ 7,800**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition				

Comments:
The Department of Public Works, which includes the Water Resource Division, have reviewed and determined that the downstream sewers from the project address have the capacity to convey the estimated dry weather wastewater flows which will be generated from this development.

However, storm drainage and sanitary sewer flows in this project area drain to the City's combined sewer system. Lack of wet weather capacity results in frequent system wide combined sewer overflows. City wide mitigation of combined sewer overflows is required as part of the City's CSO consent decree administered by the EPA and Maine DEP.

Section 5.2.4 of the City's Technical Manual requires DPW Water Resources approval when rain water is being proposed to discharge into a sewer which conveys sanitary waste. Applicable projects proposing to make a stormwater connection into the City's combined sewer system shall:
1. Provide a minimum on-site stormwater detention volume equal to the greater of:

a. 1" of rainfall times the TOTAL impervious area within the project's disturbance limits;
b. The project's proposed increase in average daily sewer flow being added to the combined sewer system.

2. Control stormwater discharge rates into the City's combined sewer system to a maximum flow rate of 0.1 CFS until the on-site detention system reaches its design capacity.

You are also reminded that new connections into the combined sewer system shall be equipped with backflow prevention in accordance with Section 2.6.10 of the City's Technical Manual.

If the City can be of further assistance, please contact me at 207-874-8840 or brad@portlandmaine.gov

Sincerely,



Bradley A. Roland, P.E.,
Senior Project Engineer

Portland Water District
FROM SEBAGO LAKE TO CASCO BAY

December 9, 2024

Kassey Northrop
Gorill Palmer
300 Southborough Drive, Suite 200
South Portland, ME 04106

Re: 1584 Forest Avenue, PO
Ability to Serve with PWD Water

Dear Ms. Northrop:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on November 20, 2024. Based on the information provided per plans dated December 9, 2024, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed and is valid for eighteen (18) months after the date of issue. Any changes affecting the approved water system will require further review and approval by PWD.**

Conditions of Service

The following conditions of service apply:

- A new 6-inch fire service may be installed from the water main in Belfort Street to serve the proposed development. The service shall enter the property along its frontage on Beforst Street, no closer than 10' to any side property line.
- The existing 2-inch domestic water service in Belfort Street may be used to provide domestic service to the site. A 1-inch meter will be required. Because the length of this service line will exceed 300-feet, a meter pit will be required. The meter pit shall be located on private property within 10-20 feet of the property line at Belfort Street unless otherwise approved by PWD.
- An approved backflow prevention device (non-testable dual check on domestic service line and testable double check on fire service line) must be installed on each service line directly after the meter and before the sprinkler riser prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.
- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.
- The Portland Water District acknowledges all occupants of a multi-unit building as customers of the District. As such, all tenants of the building must be able to access the water meter. The method of access to the meter by the tenants is at the discretion of the owner of the building, provided that the tenants can freely access the meter in accordance with the Portland Water District Terms & Conditions.

Prior to construction, the owner or contractor will need to complete a Service Application and pay all necessary fees for each proposed service. When the project is ready for construction, an Application for each service can be requested by contacting the MEANS Group at MEANS@pwd.org or 207-774-5961 ext. 3199. Once a completed Application has been submitted with payment, please allow seven (7) days for processing.

Existing Site Service

According to District records, the project site does currently have existing water service. Please refer to the "Conditions of Service" section of this letter for requirements related to the use of this service.

Water System Characteristics

According to District records, there is an 8-inch diameter ductile iron water main in Belfort Street and a public fire hydrant located approximately 350 feet from the site. The estimated static pressure in the area is 73 psi.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. It is your responsibility to contact the City of Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project.

Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District



Robert A. Bartels, P.E.
Senior Project Engineer

ATTACHMENT 6

NEIGHBORHOOD MEETING PACKAGE

Neighborhood Meeting Certification

I, Doug Reynolds, P.E., hereby certify that a neighborhood meeting was held on Wednesday, February 5, 2025 at the Talbot Community School at 1600 Forest Avenue, Portland, Maine at 5:30 P.M.

I also certify that on January 24, 2025, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development.

2. Residents on the "Interested parties" list.

Signed,



Doug Reynolds, P.E.

February 6, 2025

(date)

Attached to this certification are:

1. Copy of notice sent

2. Sign-in sheet

3. Record of feedback

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

January 24, 2025

Dear Neighbor:

Please join ACRE Properties, for a Neighborhood Meeting to discuss their proposed 50-unit residential development consisting of two, three-story, multi-family dwellings, each with a building footprint of approximately 7,560 square feet at 1582 Forest Avenue, Portland, ME. The City of Portland identifies the property on the Maine Parcel Viewer as Parcel 299, Lot D1011001. The site is to be accessed via Belfort Street with pedestrian access via Forest Avenue.

Meeting Location: Talbot Community School

Meeting Date: February 5th, 2025

Meeting Time: 5:30pm-6:30pm

The City Code requires that the applicant shall mail notice to all property owners within 500 feet of the subject property boundaries, at least 10 calendar days prior to the neighborhood outreach or event. We will take attendance and submit a sign-in sheet to the Planning Board. The meeting will last no more than 60 minutes. If you have any questions, please feel free to contact Doug Reynolds 207.772.2515.

Sincerely,

GORRILL-PALMER



Douglas E. Reynolds, PE
Project Manager
Phone 207-772-2515
DReynolds@GorrillPalmer.com

Note: Under Section 13.5.5(B) Neighborhood Outreach of the City Code of Ordinances, an applicant for a Major Site plan development is required to mail notice to all property owners within 500 feet of the subject property boundaries, at least 10 calendar days prior to the neighborhood outreach or event. The notice shall contain a brief description of the proposal and information about how to access the neighborhood outreach (e.g. the date, time, and place of the neighborhood meeting or event or other relevant information regarding approved forms of neighborhood outreach). A digital copy of the neighborhood notice shall be sent to the Planning Authority, which shall be distributed to the City's list of interested citizens. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8683 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street, Portland, ME 04101.

"U:\ACRE Properties\4292 - 1582 Forest Ave Belfort Residential - ACRE Properties\G Abutters\Neighborhood meeting notice.docx"

20

Neighborhood Meeting Sign-In Sheet
Project: 1582 Forest Avenue, Portland, Maine

N

Date: February 5th, 2025

Time: 5:30 PM

Location: Talbot Community School

Name	Company	Telephone No.	Email Address
Kassey Northrop	Gorrill Palmer	315-600-6037	knorthrop@gorrillpalmer.com
Ethan Chadwick	Gorrill Palmer	207-595-5195	echadwick@gorrillpalmer.com
Alex Coupe	ACRE Properties	207-838-4546	acoupe@acreproperties.com
LEROY DOUCETTE		207-797-4215	ltdoucet@gmail.com
JENNIFER DOTT		207-939-3404	JSD84834@gmail.com
[illegible]		[illegible]	
Lynne Cain		797-6076	[illegible]
marian carpenter		207 329 1951	[illegible]
Carol DiPietro		207-808-9114	
Patty Debel		207 653 [illegible]	debelpatty@gmail.com
Jim Mary-Jo Brink		207-239-5261	mjobrink1@gmail.com
Alex Rand		207-899-8062	alexrand42@gmail.com
Debbie Papps		207 807 3112	Debpapps@gmail.com
PJ Kwiecien		732-644-9349	
Tom Flanaghan		207-233-2100	—
Michael J. McLeod	—	—	mjmc2454@yahoo.com
Amy L. Walsh			amyotrl@gmail.com
Melissa Blanchard		207 899 9034	joelmissy1968@gmail.com
Ryann Chamberlain		207-318-4781	ryannchamberlain@yahoo
GRANT CHAMBERLAIN		207-212-8447	GRANTC_1221@YAHOO
Lisa Coha		207-232-1416	[illegible] lcoha3@verizon.net
Cindy Russell		207 233 5117	cindyrussell76@mc.com
Justin Russell		207 310-7912	timetoclimb@pm.me
James Spear		207 272 7998	jamesspear99@gmail
Elizabeth Berg		207 272-2922	LBFMGT@yahoo.com
Toni Gilca		—	Runhappytoni@gmail.com
David Gilca		—	—
Paul Moore		207-730-3677	[illegible] Connedo4562@yahoo
CHRIS PAIGE		207-797-9896	
Haver Markham		716-640-5821	hamarkham@gmail.com
Shane White		207 135 7353	espnua@gmail.com

Name	Company	Telephone No.	Email Address
Alfred Hogan			Paradismforce27@outlook.com
PAMELA CARLSEN			stuffl.me@gmail.com
Sadie Jameson			sadie.jameson@gmail.com
Kate Sykes			ksykes@portlandmaine.gov
Cheri Hudson			chudsondks@gmail.com
Nick Miller			nicholascolemiller@gmail.com
Lauren Mokes			LKMokes@gmail.com
Cassidy LaCroix			C.LaCroix207@gmail.com
Mitch Sukey			mitchell.j.sukey@gmail.com
JOE ESPOSITO			joseph_esposito@hotmail.com
Erica Berry			eberrypr@gmail.com
Kyle Cahm			
Laura Kutch			lauraKutch74@gmail.com

RECORD OF FEEDBACK

Project: **1582 Forest Avenue, Portland, Maine**

Job #: **4292**

Date: **February 5, 2025**

Time: **5:30 P.M. – 6:30 P.M.**

Location: **Talbot Community School**

Subject: **Neighborhood Meeting**

Attendees: **See Attached Sign-In Sheet**

In accordance with the City of Portland's Major Site Plan Requirements, a Neighborhood Meeting was scheduled to discuss the proposed 50-unit residential development consisting of two, three-story, multi-family dwellings, each with a building footprint of approximately 7,560 square feet.

The meeting was held on Wednesday, February 5, 2025 at 5:30 P.M. and Alex Coupe, President of ACRE Properties, LLC (Applicant), as well as Kassey Northrop and Ethan Chadwick, representatives from Gorrill Palmer, were present on site from 5:15 P.M. – 7:00 P.M. Please note that there were approximately seventy-six (76) attendees at the meeting, however only forty-one (41) members of the public were willing to sign in.

PROJECT PARCEL SITE
PORTLAND ASSESSOR'S
PARCEL & LOT NUMBERS

PARECEL	LOT
299	D1011001

Applicant:

ACRE PROPERTIES
27 CYPRESS STREET
PORTLAND, ME 04103
ATTN: ALEX COUPE

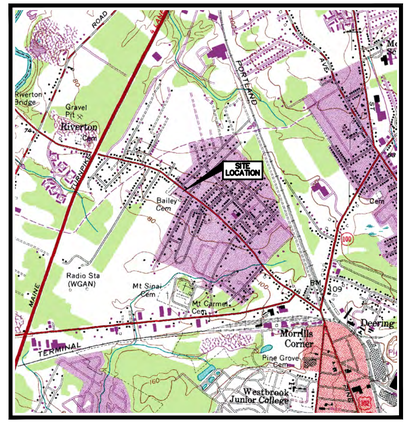
THE BELFORT LANDING RESIDENTIAL DEVELOPMENT 1582 FOREST AVENUE

PORTLAND, MAINE

PREPARED BY:

GORRILL PALMER
An LJB Engineering Company

Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106



LOCATION MAP
N.T.S.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BUILDING	
	RIGHT OF WAY	
	PROPERTY LINE	
	BUILDING SETBACK	
	ZONE LINE	
	WETLAND BOUNDARY	
	GUIDE RAIL	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL DRIVE	
—100—	GRADING CONTOUR LINE	100
X 226.4	SPOT ELEVATION	100.31
	TREELINE	
	TREES & HEDGES	
	POLE WITH LIGHT FIXTURE(S)	
	UTILITY POLE	
	FREESTANDING SIGN	
	PAINTED DIRECTIONAL TRAFFIC ARROW	
OE	OVERHEAD ELECTRIC/TELEPHONE	OHE/T
UE	UNDERGROUND ELECTRIC/TELEPHONE	UGE/T
W	WATER LINE	8"W
D	STORM DRAIN LINE	8"SD
	CULVERT	8"CULVERT
	HYDRANT	
WV	WATER GATE VALVE	
	WATER SHUT OFF VALVE	
	MANHOLE	
	CATCH BASIN	
	TEST PIT	
	IRON ROD (SET)	
	IRON ROD (FOUND)	
	MONUMENT	
	RIPRAP	
	SILT FENCE – PERIMETER	
	STONE SEDIMENT BARRIER	
x	FENCE	
W	WELL	

GENERAL NOTES

GENERAL NOTES

1. TOPOGRAPHIC DATA BOUNDARY SURVEY AND EXISTING CONDITIONS WERE PREPARED BY NORTHEAST CIVIL SOLUTIONS OF SCARBOROUGH, MAINE IN JULY OF 2022.

2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

3. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE OWNER, THE CITY OF PORTLAND OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.

4. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.

5. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND CITY OF PORTLAND SPECIFICATIONS.

6. PAVEMENT SECTIONS AT BELFORT STREET AND FOREST AVENUE MUST BE RESTORED TO THE EXISTING DEPTH WHEN DISTRUBED. A MINIMAL 1-FOOT WIDE, 1.5" DEPTH MILL FROM THE SAW CUT LIMIT MUST BE PERFORMED FOR A PROPER JOINT

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF A SITE PLAN APPROVAL FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE CITY OF PORTLAND LAND USE CODE WHICH IS AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

LAYOUT NOTES

1. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB.

2. OFFSETS TO CATCH BASINS AND MANHOLES ARE TO THE CENTER OF THE FRAME.

3. PIPE LENGTH EQUALS THE CENTER TO CENTER DISTANCES BETWEEN CATCH BASINS AND/OR MANHOLES MINUS ONE-HALF OF THE DIAMETER OF EACH CATCH BASIN OR MANHOLE.

4. PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTOR'S EXPENSE, BY A MAINE LICENSED LAND SURVEYOR.

5. PROPOSED RIGHT OF WAY MONUMENTS AND PROPERTY LINE PINS SHALL BE INSTALLED UNDER THE DIRECTION OF A MAINE LICENSED LAND SURVEYOR.

UTILITY NOTES

1. THE LOCATION OF THE PROPOSED UNDERGROUND ELECTRICAL SERVICE IS APPROXIMATE AND THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION WITH CENTRAL MAINE POWER COMPANY.

2. TEST PITS AT ALL UTILITY CROSSINGS SHALL BE COMPLETED TWO WEEKS IN ADVANCE OF THE START OF CONSTRUCTION OR ORDERING OF MATERIALS. TEST PIT INFORMATION SHALL BE PROMPTLY PROVIDED TO ENGINEER FOR REVIEW.

3. ALL WATER UTILITY MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO PORTLAND WATER DISTRICT STANDARDS. ALL WATER DISTRIUBUTION PIPING SHALL BE CLASS 52 DUCTILE IRON PIPE, DOUBLE CEMENT LINED AND BITUMINOUS COATED CONFORMING TO AWWA/ANSI C104/A21.4. DISINFECTION OF WATER LINES SHALL CONFORM TO AWWA STANDARD C651, LATEST REVISION.

4. THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL BE PLACED ON THE WATER DISTRIBUTION LINES AT ALL BENDS, TEES, VALVES, CHANGES IN DIRECTION, ETC. THE THRUST BLOCKS OR LOCKING RETAINER GLAND SHALL MEET THE REQUIREMENTS OF THE PORTLAND WATER DISTRICT STANDARDS.

5. THE CONTRACTOR SHALL RECEIVE THE CITY OF PORTLAND'S PUBLIC WORKS AUTHORITY ABILITY TO SERVE PRIOR TO MAKING ANY SEWER CONNECTIONS. IT IS INTENDED THAT THE ABILITY TO SERVE WILL BE DECIDED AS PART OF THE MAJOR SITE PLAN APPLICATION.

GRADING AND DRAINAGE NOTES

1. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS SECTION 603— PIPE CULVERTS AND STORM DRAINS, LATEST REVISION WITH THE EXCEPTION THAT THE ONLY ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE, CLASS III
POLYVINYL-CHLORIDE (PVC) PIPE
SMOOTH BORE POLYETHYLENE – ADS OR HANCOR

2. TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED ON SITE AT A LOCATION TO BE DESIGNATED BY THE OWNER. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFF SITE.

3. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

EROSION CONTROL NOTES

1. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.

2. PRIOR TO BEGINNING ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE SILT SACKS.

3. ALL GROUND AREAS DISTURBED FOR CONSTRUCTION WILL BE GRADED, LOAMED AND SEEDED AS SOON AS POSSIBLE. PERMANENT SEED MIXTURE SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION CONTROL REPORT PREPARED FOR THIS PROJECT.

4. PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SILT FROM ALL STORM DRAIN LINES.

5. ALL STORM DRAIN INLETS & OUTLETS ARE TO RECEIVE RIPRAP PROTECTION APRONS DURING CONSTRUCTION.

6. ALL CATCH BASINS WITH OUTLET PIPES 15" DIAMETER OR LESS SHALL BE PROVIDED WITH OUTLET HOOD (SNOUT) PER DETAIL.

7. THE MAINTENANCE SCHEDULE FOR THE CATCH BASIN SEDIMENT SUMPS IS AS FOLLOWS:
THESE DEVICES SHALL BE INSPECTED IN APRIL AND OCTOBER OF EACH YEAR. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE CATCH BASIN WHEN THE DEPTH OF THE SEDIMENT IS GREATER THAN ONE FOOT. THE SEDIMENT WILL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

8. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS BASED UPON ANY THIRD PARTY REVIEW (ie MDEP) MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.

9. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED, UNLESS OTHERWISE DIRECTED BY THE OWNER.

10. ALL DISTURBED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL PRIOR TO PERMANENT SEEDING.

CALL BEFORE YOU DIG
1-888-344-7233

UTILITIES

WATER:

PORTLAND WATER DISTRICT
225 DOUGLASS STREET
PORTLAND, MAINE 04102
(207) 761-8300
CONTACT: ROBERT BARTELS

SEWER:

PORTLAND PUBLIC WORKS DEPT.
212 CANCO ROAD
PORTLAND, MAINE 04101
(207) 874-8871
CONTACT: BRAD ROLAND

ELECTRIC:

CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
(207) 826-2869
CONTACT: JAMIE COUGH

TELEPHONE:

CONSOLIDATED COMMUNICATIONS
5 DAVIS FARM ROAD
PORTLAND, MAINE 04103
(207) 797-1866

CABLE:

TIME WARNER CABLE
118 JOHNSON ROAD
PORTLAND, MAINE 04102
(207) 775-3431
CONTACT: MARK PELLETIER

INDEX

C001	COVER SHEET, GENERAL NOTES, & LEGEND
–	EXISTING CONDITIONS PLAN (NORTHEAST CIVIL SOLUTIONS)
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C102	GRADING AND EROSION CONTROL PLAN
C103	DRAINAGE PLAN
C301	SUBSURFACE SAND FILTER DETAILS
C302	DRIP STRIP DETAILS
C303	OUTLET CONTROL STRUCTURE DETAILS
C401	SITE DETAILS
C402	SITE AND UTILITY DETAILS
C403	UTILITY DETAILS
C404	EROSION CONTROL DETAILS
C405	EROSION CONTROL NOTES
C406	PUMP STATION PLAN AND DETAILS
C407	PUMP STATION DETAILS
L101	LANDSCAPING PLAN AND DETAILS

PERMITS

TYPE OF PERMIT	GOVERNING BODY	STATUS
MAJOR SITE PLAN APPLICATION	CITY OF PORTLAND PLANNING AND URBAN DEVELOPMENT 389 CONGRESS STREET PORTLAND, MAINE 04101-3509 (207) 874-8703	SUBMITTED: DECEMBER 2024
BUILDING PERMIT	CITY OF PORTLAND PLANNING AND URBAN DEVELOPMENT 389 CONGRESS STREET PORTLAND, MAINE 04101-3509 (207) 874-8703	ANTICIPATED SUBMITTAL: 2025

STATE OF MAINE
DOUGLAS E. REYNOLDS
No. 9620
LICENSED
PROFESSIONAL ENGINEER
6/27/25

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: NTS	Job No.: 4292
File Name: 4292-COVER.dwg		

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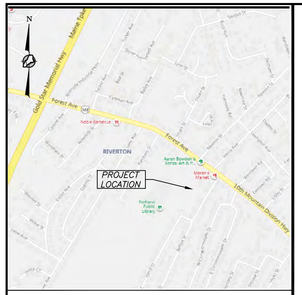
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South Portland, ME 04106

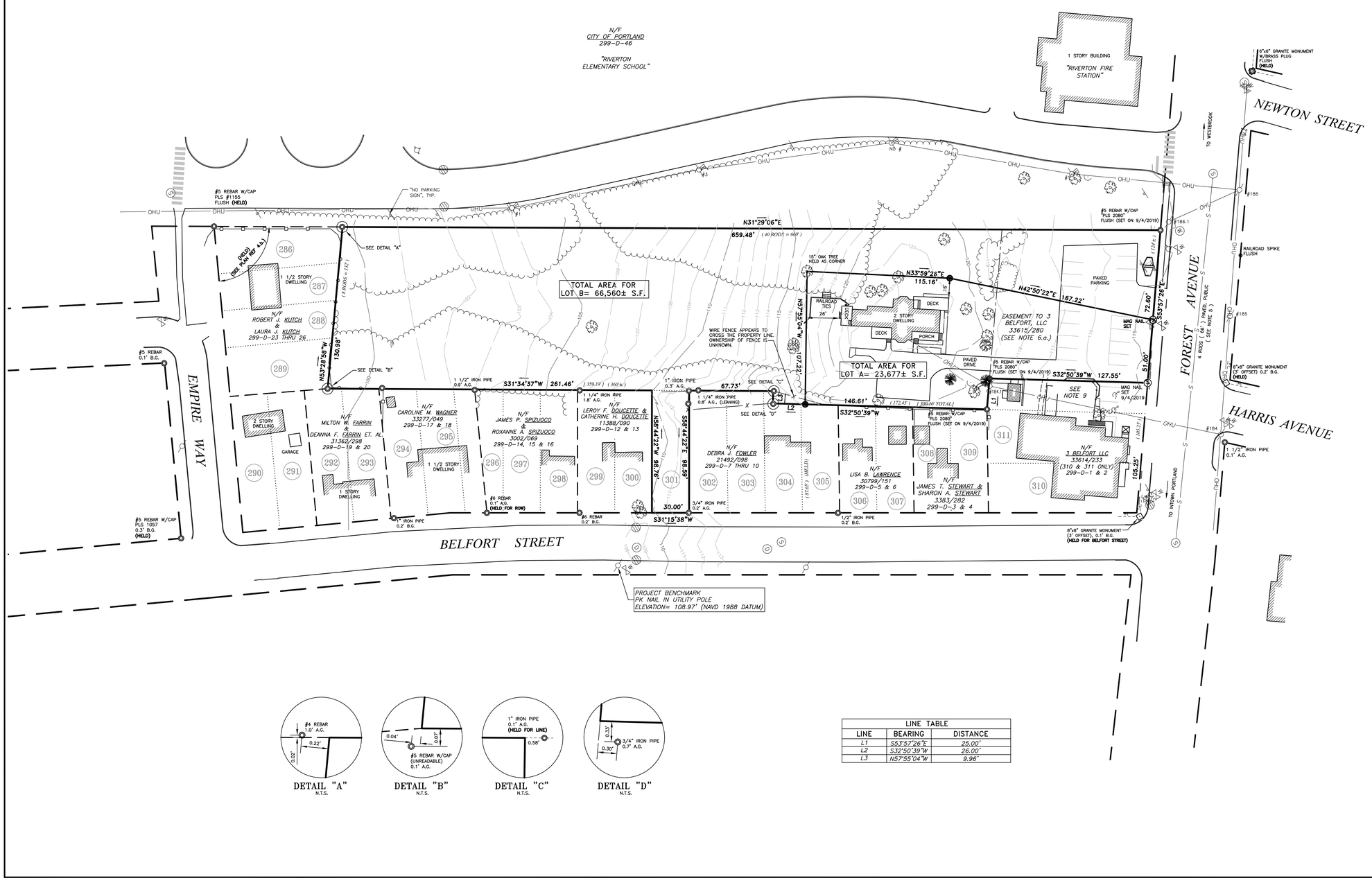
Drawing Name: **Cover Sheet, General Notes, & Legend**
Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine
Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. *C001*

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VICINITY MAP
N.T.S.



DETAIL "A"
N.T.S.

DETAIL "B"
N.T.S.

DETAIL "C"
N.T.S.

DETAIL "D"
N.T.S.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S53°57'26"E	25.00'
L2	S32°50'39"W	26.00'
L3	N57°55'04"W	9.96'

LEGEND

●	#5 REBAR WITH CAP (NCS 2080) SET ON JUNE 24, 2022
○	FOUND IRON (SIZE & TYPE AS NOTED)
⊡	FOUND MONUMENT (SIZE & TYPE AS NOTED)
	UTILITY POLE (NUMBER AS NOTED)
	GUY WIRE ANCHOR
	FOUND DECIDUOUS TREE (SIZE AS NOTED)
	FOUND CONIFEROUS TREE (SIZE AS NOTED)
	TREE LINE (APPROXIMATE)
	BOUNDARY LINE
	EDGE OF PAVEMENT
	RIGHT-OF-WAY LINE
	ABUTTER LINE
OHU	OVERHEAD UTILITY
N/F	NOW OR FORMERLY OWNED BY
1234/567	DEED BOOK AND PAGE
12-34	TAX MAP-LOT
(123.45')	PARENTHESIS DENOTE RECORD DATA

NOTES

1. RECORD OWNER OF THE PARCEL SURVEYED IS ACRE PROPERTIES AS DESCRIBED IN DEED FROM ALEXANDER COUPE, DATED MAY 31, 2022 AND RECORDED IN BOOK 39465, PAGE 256 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.

   TOTAL LOT AREA IS: 87,277 S.F. OR 2.00 Ac.

2. THE PARCEL SURVEYED IS IDENTIFIED ON THE CITY OF PORTLAND TAX ASSESSOR'S MAP 299, BLOCK D, PARCEL 027.

3. THE BEARINGS SHOWN ON THIS PLAN ARE BASED ON MAINE COORDINATE SYSTEM OF 1983, WEST ZONE, GRID NORTH.

4. PLAN REFERENCES:
   a. "PORTLAND VILLA SITES, PORTLAND, CUMBERLAND CO. MAINE, OWNED BY J.W. WILBUR CO., INC." BY ERNEST W. BRANCH, CIVIL ENGINEER, DATED JULY 9, 1918, RECORDED IN PLAN BOOK 14, PAGE 7.

   b. "VERRILL & WIRT STREETS, PORTLAND, MAINE, AMENDED RECORDING PLAT" BY LAND USE CONSULTANTS, DATED JULY 10, 1989, RECORDED IN PLAN BOOK 184, PAGE 15.

   c. "SUBDIVISION SITE PLAN FOR DAVID CHASE, VERRILL & WIRT STREETS" BY DOWNEAST SURVEYING AND DEVELOPMENT, DATED DECEMBER 15, 1998, RECORDED IN PLAN BOOK 199, PAGE 129.

   d. STREET LINE RECORDS PROVIDED BY CITY OF PORTLAND PUBLIC WORKS

5. THE WIDTH OF FOREST AVENUE IS 66' BASED ON CITY OF PORTLAND RECORDS. THE LAYOUT OF THE RIGHT-OF-WAY LIMITS IS BASED ON SAID RECORDS AND MONUMENTATION FOUND.

6. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   a. EASEMENT FROM BERNARD N. LARSEN TO 3 BELFORT, LLC FOR INGRESS, EGRESS, PARKING, UTILITIES, OUTDOOR ACTIVITIES AND CONSTRUCTION OF 1 BUILDING RELATED TO THE USE OF THE EASEMENT, DATED NOVEMBER 11, 2016, RECORDED IN BOOK 33615, PAGE 280.

7. AS OF THE ORIGINAL DATE OF THIS PLAN, THE PARCEL SURVEYED IS LOCATED IN THE R3 ZONE. OTHER MUNICIPAL AND STATE OVERLAY ZONES MAY EXIST AND APPLY. BEFORE PROCEEDING ON ANY PROJECT WE RECOMMEND VERIFYING CURRENT ZONE AND ALL APPLICABLE SETBACKS AND RESTRICTIONS WITH THE APPROPRIATE AGENCIES.

8. ELEVATIONS AND CONTOURS ARE BASED ON NAVD 1988 DATUM OBTAINED BY RTK-GPS. SEE PLAN FOR TBM DESCRIPTION.

9. THE UTILITIES SHOWN ON THIS PLAN WERE FROM FIELD OBSERVATION ONLY. THERE MAY BE OTHER UTILITIES EXISTING THAT ARE NOT SHOWN. CONTACT DIG-SAFE (888)DIG-SAFE PRIOR TO ANY EXCAVATION WORK.

10. THE 25' X 127.55' PARCEL WAS ONCE PART OF THE ABUTTING PARCEL INCLUDED WITH LOTS 310 & 311 (SEE BOOK 2176, PAGE 164, MURRAY TO MURRAY'S THRIFT STORE). THE NEXT CONVEYANCE IN THIS CHAIN OF TITLE (BOOK 2357, PAGE 457 MURRAY'S THRIFT STORE TO THOMAS MORAN, JR. & DOROTHY MORAN), AND SUBSEQUENT DEEDS THEREAFTER, APPEAR TO DROP THE 25' X 127.55' PARCEL. THE LAST KNOWN OWNER OF THIS PARCEL IS MURRAY'S THRIFT STORE. TITLE ATTORNEY SHOULD BE CONSULTED TO RESOLVE OWNERSHIP OF THIS AREA.

Revision:	By:	Date:	Change:

PROJECT: 41969.01	DRAWING NAME: 41969 LOT SPLIT.dwg		
ISSUED: JULY 5, 2022	SCALE: 1"=40'	FB # 471	DRAWN BY: ASF
FIELDED BY: ASF/KSK/TFM	FIELD DATE: 6/29/2022		CHECKED BY: DMM / TFM

Drawing Name and Location:
LOT SPLIT AND TOPOGRAPHIC SURVEY
1582 FOREST AVENUE, PORTLAND, MAINE

Owner:
ACRE PROPERTIES
1326 WASHINGTON AVENUE, PORTLAND, MAINE

Prepared For:
ACRE PROPERTIES

SURVEYING ● ENGINEERING ● LAND PLANNING
Northeast Civil Solutions
INCORPORATED
381 PAYNE ROAD, SCARBOROUGH, MAINE 04074
tel 207.883.1000 fax 207.883.1001 e-mail / website info@northeastcivilsolutions.com www.northeastcivilsolutions.com

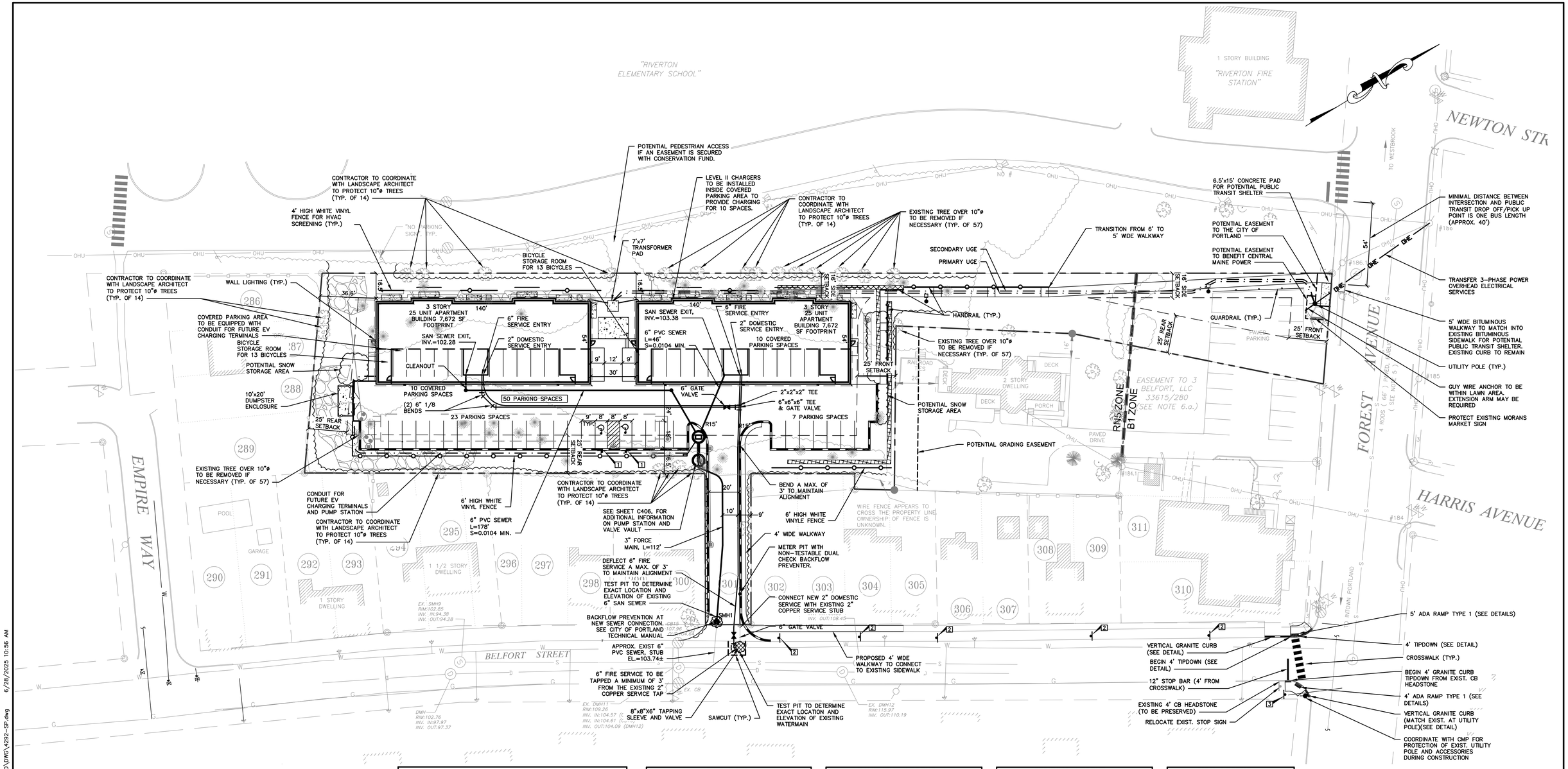
0 40' 80' 160'

STAMP AND SIGNATURE

07/08/2022
TROY F. McDONALD
MAINE PROFESSIONAL LAND SURVEYOR No. 2080
DATE

STATE OF MAINE
TROY F. McDONALD
#2080
PROFESSIONAL LAND SURVEYOR

E:\Land Projects\41000\41969 - Kevin Lynch - Forest Avenue - Portland\dwg\41969 LOT SPLIT.dwg



NOTES:

1. CONTRACTOR SHALL SCHEDULE A WATER RESOURCES INSPECTOR TO INSPECT THE PROPOSED FORCE MAIN/GRAVITY SEWER TRANSITION MANHOLE (SMH-1) CONNECTION TO THE EXISTING 6" PVC SEWER STUB IN BELFORT STREET.

2. CONTRACTOR SHALL REMOVE THE EXISTING VERTICAL GRANITE CURB AS NEEDED WITHIN THE LIMITS OF THE PROPOSED SPOT IMPROVEMENTS AT THE BELFORT STREET AND FOREST AVENUE INTERSECTION FOR CONSTRUCTION.

3 THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING OR APPROVED EQUAL TO DELINEATE AND PROTECT CRITICAL ROOT ZONES ASSOCIATED WITH THE TREES TO BE PRESERVED (NOTED ON THIS PLAN). CRITICAL ROOT ZONES AND PROTECTIVE BARRIERS SHALL BE INSPECTED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.THE CONTRACTOR SHALL NOT DISTURB THE ESTABLISHED CRITICAL ROOT ZONES WITHOUT PRIOR WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH DAMAGED TREES THAT ARE INTENDED TO BE PRESERVED, INCLUDING BUT NOT LIMITED TO; REPLACING THE TREE AND PAYING FINES.

SPACE AND BULK STANDARDS

ZONE: RN-5	REQUIRED	PROVIDED
MIN. LOT SIZE	1,200 SF/UNIT MIN. 40,000 SF	1,331 SF/UNIT
MIN. STREET FRONTAGE	50'	72'
MAX. LOT COVERAGE (RESIDENTIAL)	60%	23%
LANDSCAPED OPEN SPACE RATIO (RESIDENTIAL)	30%	43%
SETBACKS*		
FRONT	25'	29.5'
REAR	25'	36.6'
SIDE	16'	16.5'
MAX. STRUCTURE HEIGHT	55'	47'
MAX. BUILDING LENGTH	180'	140'

* BUILDING MOUNTED MECHANICAL EQUIP. MAY ENCROACH INTO A REQUIRED SETBACK TO AN RN ZONE BY NO MORE THAN 50% OF THE WIDTH OF SUCH REQUIRED SETBACK. PARKING SPACES MAY BE LOCATED WITHIN A REQUIRED INTERIOR SIDE OR REAR SETBACK

SITE DATA

ZONE: RN-5

BUILDING AREA		
MULTI FAMILY (25 UNITS)	7,672 S.F.	
MULTI FAMILY (25 UNITS)	7,672 S.F.	
TOTAL FOOTPRINT AREA	15,344 S.F.	

PARKING	REQUIRED	PROVIDED
NEW STRUCTURE		
VEHICLE SPACES (2 SP/UNIT MAX.)	<=100	50
TOTAL	<=100	50
BARRIER FREE	2	2
BICYCLE SPACES (1 SP/2 UNIT MIN.)	25	26

PAVEMENT LEGEND

ALL PAVEMENT SHALL BE STANDARD DUTY EXCEPT AS FOLLOWS:

- HEAVY DUTY BITUMINOUS CONCRETE
- PORTLAND CEMENT CONCRETE
- BITUMINOUS CONCRETE OVERLAY

CURBING LEGEND

- VERTICAL GRANITE CURB
- MONOLITHIC CONCRETE CURB
- BITUMINOUS CURB

STRIPING LEGEND

SIGNAGE, STRIPING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REGARDING SIZE, INSTALLATION, LOCATION & REFLECTIVITY.

- 12"SL – 12" WIDTH STOP LINE
- 4"SWLL – 4" WIDTH SOLID WHITE LANE LINE
- 4"DYCL – 4" WIDTH DOUBLE YELLOW CENTERLINE
- 4"DWLL – 4" WIDTH DASHED WHITE LANE LINE

SIGN LEGEND

R7-8 12"x 18"	R7-1R 12"x 18"	R1-1 30"x 30"
1	2	3

SANITARY SEWER SCHEDULE

STRUCTURE	SIZE	RIM	INV. IN/SIZE (FROM)	INV. OUT/SIZE (TO)
SMH1	4'ø	110.10	103.84/8"(EXIST)	104.74/4"(PS)

SPACE AND BULK STANDARDS

ZONE: B-1	REQUIRED	PROVIDED
MIN. STREET FRONTAGE	20'	72'

1 inch = 30 ft.

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 2862 — 6/27/25 — LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292
File Name: 4292-SP.dwg		

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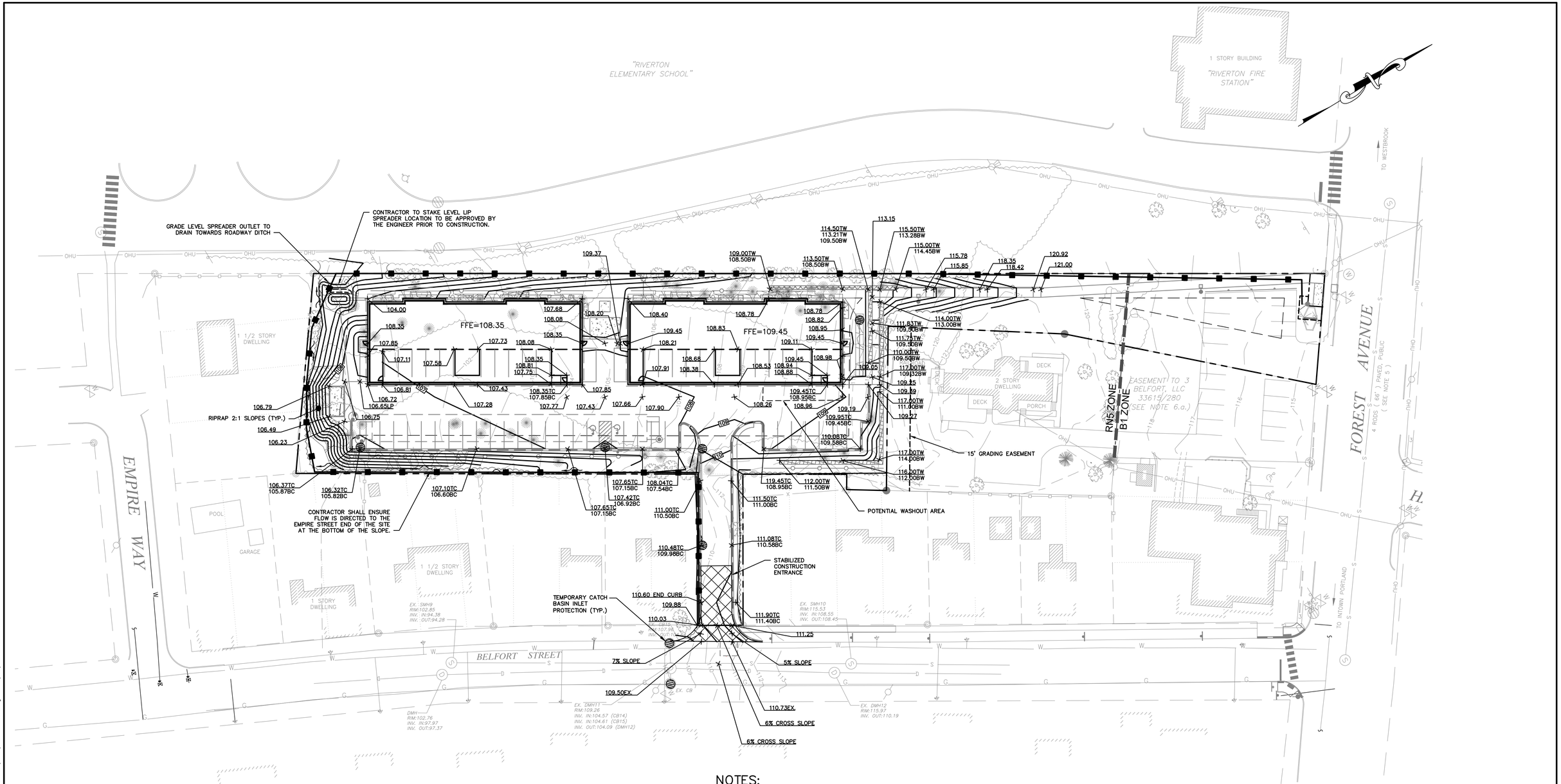
Drawing Name: Site and Utility Plan

Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine

Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. **C101**

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NOTES:

1. SEE SHEET C403 FOR EROSION AND SEDIMENTATION CONTROL DETAILS.
2. SEE SHEET C404 FOR EROSION AND SEDIMENTATION CONTROL NOTES.
3. LIMIT OF GRADING SHALL BE CONSIDERED LIMIT OF DISTURBANCE.
4. WASHOUT AREAS FROM CONCRETE, STUCCO, PAINE, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE LOCATED A MINIMUM OF 50 FEET FROM ALL DRAINAGE STRUCTURES, DITCHES, WATERBODIES, AND RESOURCE AREAS, AS WELL AS PROPERTY BOUNDARIES IF POSSIBLE. THE AREA SHALL NOT HAVE AN OUTLET TO DISCHARGE WASTES OR FLOWS. NO DETERGENTS SHALL BE USED OR VEHICLES WASHED IN THIS LOCATION. A LEAK-PROOF PIT OR CONTAINER SHALL BE ESTABLISHED IN THE WASHOUT AREA(S), TO WHICH WASHINGS SHALL BE DIRECTED. THIS AREA SHALL BE USED FOR WASHOUT CONTAINMENT AND DEWATERING BY EVAPORATION ONLY. THE PIT SHALL NOT ALLOW INFILTRATION TO OCCUR. TO PREVENT CLEAN WATER FROM ENTERING THE PIT, THE WASHOUT AREA SHALL BE COVERED DURING PRECIPITATION EVENTS. INSPECTIONS OF THE PIT SHALL BE CONDUCTED DAILY TO ENSURE NO LEAKS ARE PRESENT AND NO DISCHARGE IS OCCURRING

LEGEND:

SILT FENCE

DOUBLE ROW SILT FENCE

CONSTRUCTION ENTRANCE

30 0 15 30 60

1 inch = 30 ft.

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 20918 — 6/27/25 — LICENSED PROFESSIONAL ENGINEER

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Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
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RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292
File Name: 4292-GRADE.dwg		

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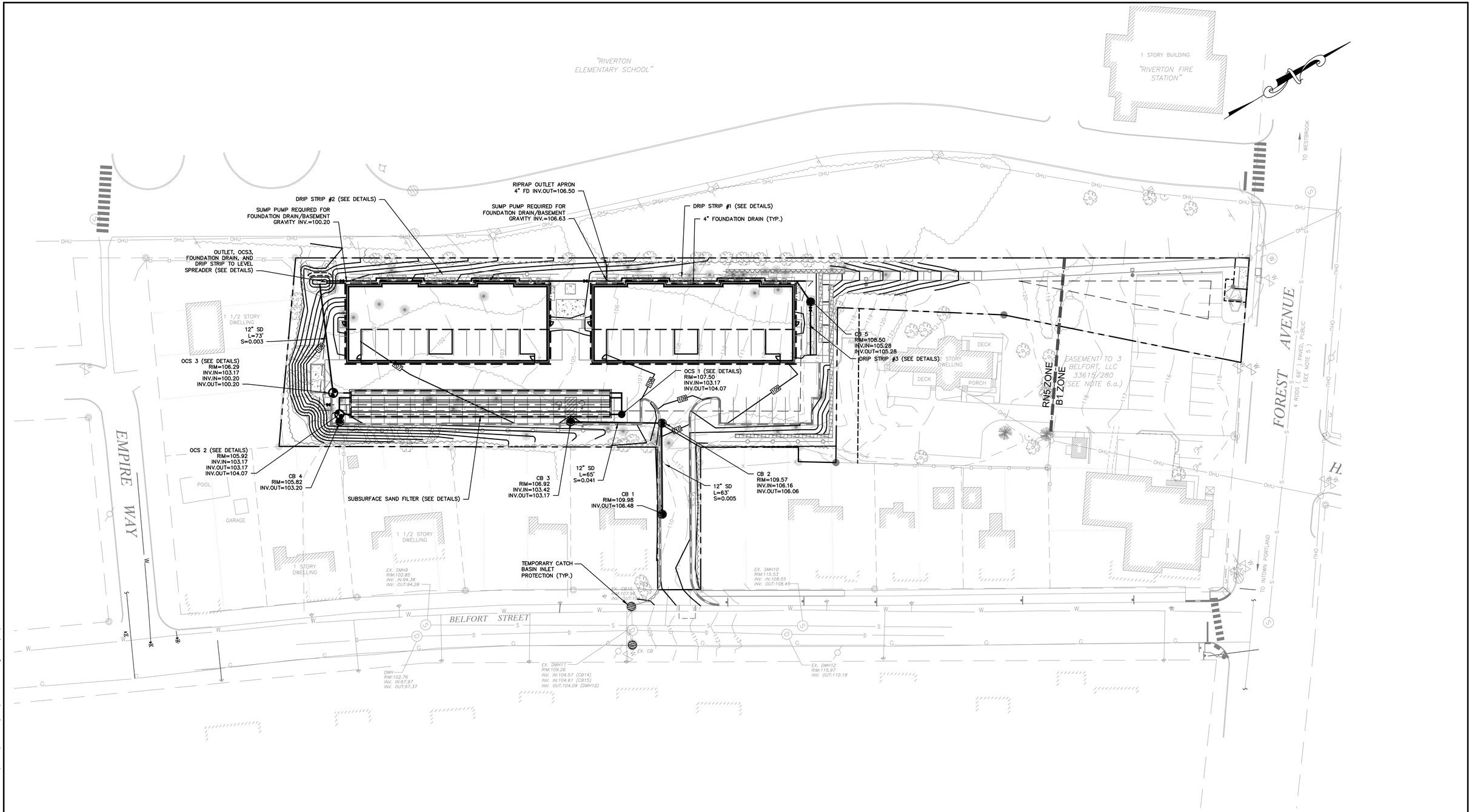
Drawing Name: **Grading and Erosion Control Plan**

Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine

Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. **C102**

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30 0 15 30 60

1 inch = 30 ft.

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
DOUGLAS E. REYNOLDS
No. 9620
LICENSED
6/27/25
PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292
File Name: 4292-GRADE.dwg		

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An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

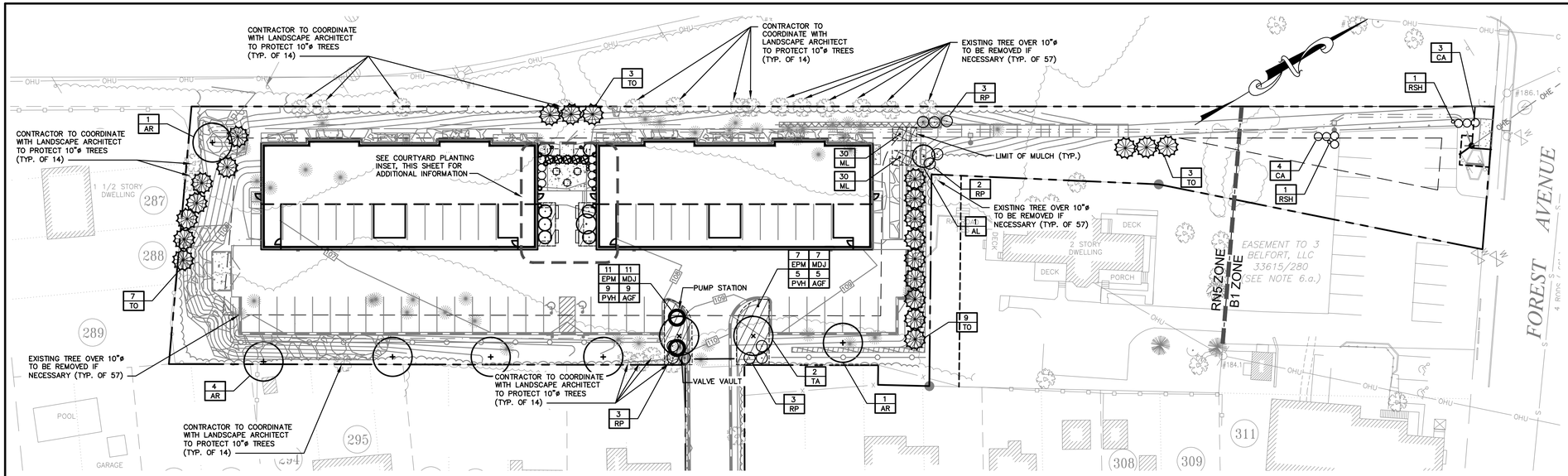
Drawing Name: **Drainage Plan**

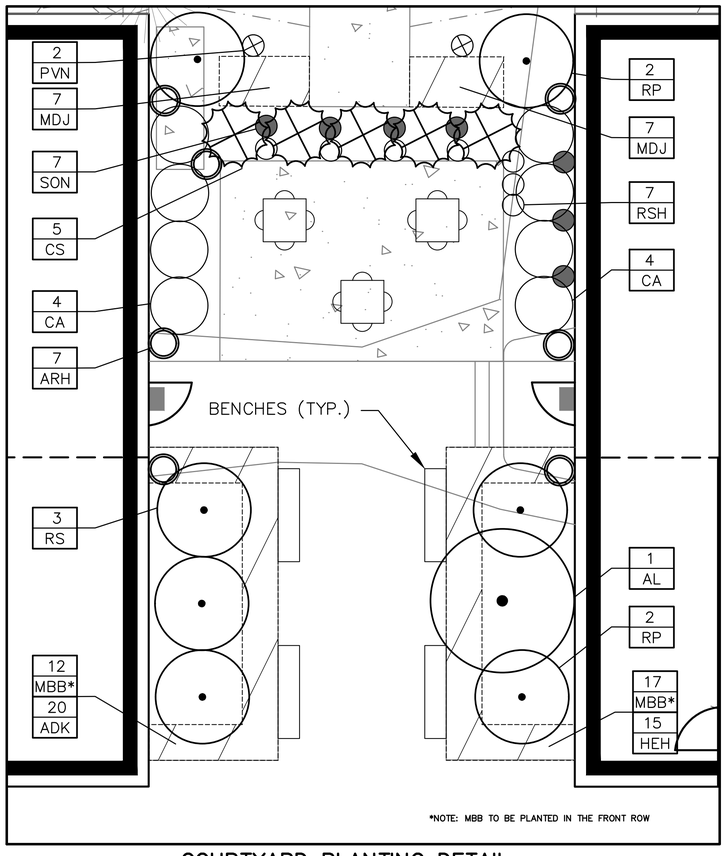
Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine

Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. *C103*

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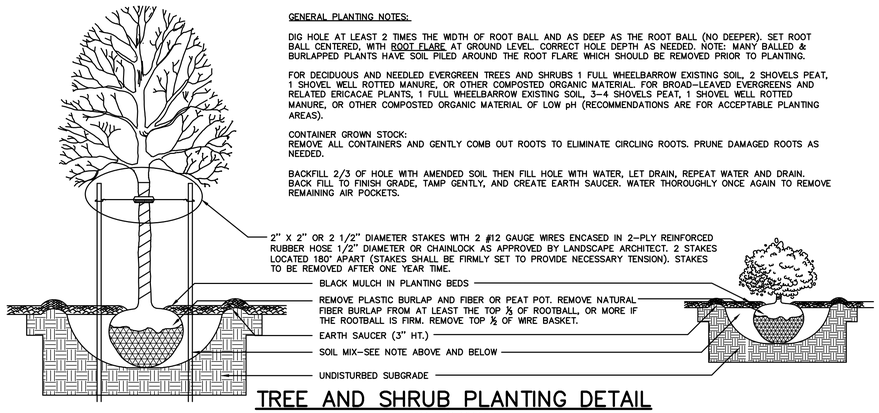
COURTYARD PLANTING DETAIL
1"=5'

GENERAL PLANTING NOTES

1. CALL DIG-SAFE (1-888-344-7233) PRIOR TO BEGINNING WORK. THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES PAVING, WALKS, CURBING, ETC. DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO OWNER.
2. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.
3. DO NOT SCALE FROM DRAWINGS. ANY OMISSIONS IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE LANDSCAPE ARCHITECT. ANY DISCREPANCIES BETWEEN DRAWINGS, PLANT QUANTITIES, DETAILS, NOTES AND SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE LANDSCAPE ARCHITECT FOR FURTHER DIRECTION AND RESOLUTION BEFORE ANY ADDITIONAL WORK PROCEEDS.
4. PROVIDE SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.
5. CONTRACTOR SHALL FURNISH AND PLACE 18 INCHES OF LOAM IN ALL SHRUB BEDS, 30 INCHES IN ALL TREE PITS, AND 6 INCHES UNDER ALL TURF AREAS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE SUBGRADE PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM.
6. ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OF "AMERICAN STANDARDS FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN".
7. ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
8. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING STAKING OR GUYING WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM THE OWNER.
9. ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
10. EXISTING TREES TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
11. THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING OR APPROVED EQUAL TO DELINEATE AND PROTECT CRITICAL ROOT ZONES ASSOCIATED WITH THE TREES TO BE PRESERVED (NOTED ON THIS PLAN). CRITICAL ROOT ZONES AND PROTECTIVE BARRIERS SHALL BE INSPECTED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.THE CONTRACTOR SHALL NOT DISTURB THE ESTABLISHED CRITICAL ROOT ZONES WITHOUT PRIOR WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH DAMAGED TREES THAT ARE INTENDED TO BE PRESERVED, INCLUDING BUT NOT LIMITED TO; REPLACING THE TREE AND PAYING FINES.
12. ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY, OR CONDITION SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT (AND MUNICIPAL AUTHORITY, IF APPLICABLE) PRIOR TO INSTALLATION ON SITE.
13. WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR GROUND COVER AND PERENNIAL BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.
14. DAMAGE TO EXISTING SITE IMPROVEMENTS DURING INSTALLATION OF LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
15. CONTRACTOR SHALL COORDINATE INSPECTION OF PLANT MATERIAL AND LOCATIONS WITH PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. ALL PLANT MATERIAL SHALL BE ON-SITE AND PLACED BEFORE INSPECTION CAN BE COMPLETED. A MINIMUM OF 48 HOUR NOTIFICATION SHALL BE REQUIRED.
16. MAINTENANCE REQUIREMENTS: PRUNE DEAD OR DAMAGED BRANCHES, MAINTAIN GUY POSTS AND WATER AS REQUIRED UNTIL PROJECT COMPLETION AND ACCEPTANCE BY OWNER.
17. WATERING: ALL PLANTINGS SHALL BE THOROUGHLY WATERED UPON INSTALLATION, AND THEN WEEKLY WHENEVER ANY DRY SPELLS OCCUR, UNTIL ACCEPTANCE BY OWNER.
18. LANDSCAPE CONTRACTOR OR PLANT SUPPLIER SHALL GUARANTEE PLANTS AND PROVIDE REPLACEMENTS FOR TWO YEARS FROM INSTALLATION.
19. CONTRACTOR SHALL PLACE 3" SHREDDED BARK MULCH AROUND SHRUB BEDS AND TREE PITS.
20. CONTRACTOR SHALL TILL SOILS TO A DEPTH OF 10" PRIOR TO REVEGETATION.
21. CONTRACTOR SHALL AMEND SOIL WITH ORGANIC MATTER AS DIRECTED BY THE LANDSCAPE ARCHITECT.

PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE
TREES			
AR	ACER RUBRUM 'BOWHALL'	BOWHHALL COLUMNAR RED MAPLE	2-1/2" CAL.
AL	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	8'-10' HGT. CLUMP
TO	THUJA OCCIDNETALIS 'NIGRA'	DARK AMERICAN ARBORVITAE	7'-8' HGT.
TA	TILIA AMERICANA	AMERICAN BASSWOOD	2-1/2" CAL.
SHRUBS			
CA	CLETHRA ALNIFOLIA 'VANILLA SPICE'	VANILLA SPICE SUMMERSWEET	24"- 30" HGT.
CS	CLETHRA ALNIFOLIA 'SUGARTINA CRYSTALINA'	SUGARTINA CRYSTALINASUMMERSWEET	#3 GAL.
ML	ARONIA MELANOCARPA 'LOW SCAPE MOUND'	LOW SCAPE MOUND CHOKEBERRY	#3 GAL.
RP	RHODODENDRON MAXIMUM 'ROSEUM'	PINK ROSEBAY RHODODENDRON	30"-36" HGT.
RS	RHODODENDRON X 'SKOOKUM'	SKOOKUM RHODODENDRON	18"- 24" HGT.
PERENNIALS			
ADK	ARUNCUS DIOICUS 'KNEIFFII'	KNEIFFII DWARF GOAT'S BEARD	NO. 1 CONT.
AGF	AGASTACHE FOENICULUM	ANISE HYSSOP	NO. 1 CONT.
ARH	ACTEA RACEMOSA 'HILLSIDE BLACK BEAUTY'	HILLSIDE BLACK BEAUTY SNAKE ROOT	NO. 2 CONT.
EPM	ECHINACEA PURPUREA 'MAGNUS'	MAGNUS PURPLE CONE FLOWER	NO. 1 CONT.
HEH	HELIPOSIS HELIANTHOIDES	FALSE SUNFLOWER	NO. 1 CONT.
MDJ	MONARDA DIDYMA 'JACOB CLINE'	JACOB CLINE BEE-BALM	NO. 1 CONT.
MBB	MONARDA BEE-YOU 'BEE-LIEVE'	BEE-YOU 'BEE-LIEVE' BEE-BALM	NO. 1 CONT.
PVN	PANICUM VIRGATUM 'NORTHWIND'	NORTHWIND SWITCH GRASS	NO. 2 CONT.
PVH	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL' SWITCH GRASS	NO. 1 CONT.
RSH	RUDEBECKIA SUBTOMENTOSA 'LITTLE HENRY'	SWEET CONE FLOWER	NO. 1 CONT.
SON	SORGHASTRUM NUTANS	INDIAN GRASS	NO. 1 CONT.



TREE AND SHRUB PLANTING DETAIL
NOT TO SCALE

30 0 15 30 60
1 inch = 30 ft.

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

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Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
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RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292
File Name: 4292-LANDSCAPE.dwg		

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Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name: **Landscaping Plan**
Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine
Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. *L100*

"NO PARKING SIGN", TYP.

#1

#3

#184.1

OHU

RAILROAD TIES

DECK

2 STORY DWELLING

DECK

PORCH

PAVED DRIVE

PAVED PARKING

EASEMENT TO 3 BELFORT, LLC 33615/280 (SEE NOTE 6.a.)

RN5 ZONE
B1 ZONE

WIRE FENCE APPEARS TO CROSS THE PROPERTY LINE. OWNERSHIP OF FENCE IS UNKNOWN.

1 1/2 STORY DWELLING

1 STORY DWELLING

EX. SMH9
RIM:102.85
INV. IN:94.38
INV. OUT:94.28

EX. CB15
RIM:107.96
INV. OUT:104.64

EX. SMH10
RIM:115.53
INV. IN:108.55
INV. OUT:108.45

BELFORT STREET

EX. CB

DMH
RIM:102.76
INV. IN:97.97
INV. OUT:97.37

EX. DMH11
RIM:109.26
INV. IN:104.57 (CB14)
INV. IN:104.61 (CB15)
INV. OUT:104.09 (DMH12)

EX. DMH12
RIM:115.97
INV. OUT:110.19

20 0 10 20 40
1 inch = 20 ft.





2-BRC 2-BEDROOM CORNER UNIT

2-BR 2-BEDROOM UNIT

1-BR 1-BEDROOM UNIT

WF INCLUSIONARY WORKFORCE HOUSING UNITS

3 PLAN **KEY PLAN - THIRD FLOOR**

SCALE: 3/32" = 1'-0"

2-BRC 2-BEDROOM CORNER UNIT

2-BR 2-BEDROOM UNIT

1-BR 1-BEDROOM UNIT

WF INCLUSIONARY WORKFORCE HOUSING UNITS

2 PLAN **KEY PLAN - SECOND FLOOR**

SCALE: 3/32" = 1'-0"

2-BEDROOM CORNER UNIT : TYPE "B"

2-BEDROOM UNIT : TYPE "A"

2-BEDROOM UNIT : TYPE "B"

1-BEDROOM UNIT : TYPE "B"

WF INCLUSIONARY WORKFORCE HOUSING UNITS

1 PLAN **KEY PLAN - FIRST FLOOR**

SCALE: 3/32" = 1'-0"

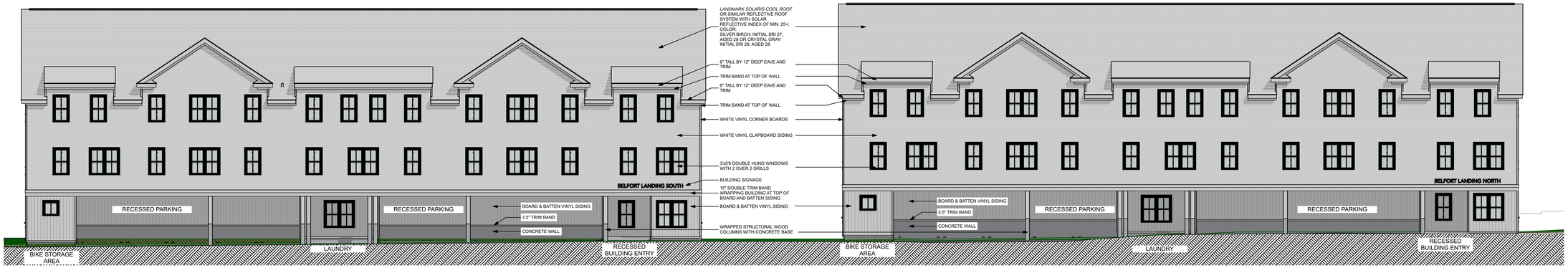
CALLENDER+DELANEY ARCHITECTS
PO BOX 1276, PORTLAND, ME 04104

THE BELFORT LANDING

AT 1584 FOREST AVE, PORTLAND ME

6/26/25

PLAN



1 EAST (BELFORT FACING) ELEVATION 3/32" = 1'-0"



2 SOUTH ELEVATION 3/32" = 1'-0"



3 NORTH (FOREST) ELEVATION 3/32" = 1'-0"



4 WEST ELEVATION 3/32" = 1'-0"

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PO BOX 1276, PORTLAND, ME 04104

THE BELFORT LANDING

AT 1584 FOREST AVE, PORTLAND ME

6/26/25

ELEVATIONS

ATTACHMENT 3

LANDMARK SOLARIS ROOF DATA SHEETS

COOL ROOFS

Shingle Selections

certainteed
SAINT-GOBAIN



CRRC
COOL ROOF
RATING COUNCIL ®
RATED
PRODUCT

Landmark, shown in Solaris Aged Cedar

SAINT-GOBAIN

The Heat Reflects Away, And Your Home Stays Cool.

The CertainTeed Cool Roof Shingle Collection is a brilliant breakthrough that puts cool roof technology to work for you.

The secret is in CertainTeed's advanced roofing granules that reflect solar energy and radiant heat far better than traditional roofing shingles, reducing your roof's temperature in the summer. By lowering roof temperature, Solaris shingles can help reduce home cooling costs.

Cool roof performance, combined with CertainTeed's palette of rich, authentic colors makes Solaris an easy choice for eco-friendly living.

So cool, it's rated for rebates.

CertainTeed Cool Roof Shingles may qualify for credits/points in LEED®, NAHB® and other "green" programs.

And some utility companies offer a rebate for CertainTeed Cool Roof Shingles that can put as much as $600 back into a homeowner's pocket for an average 3,000 sq. ft. roof.



LANDMARK®

Classic shades and dimensional appearance of natural wood or slate.



Silver Birch
CRRC Product ID 0668-0072

Scan code for more information



Landmark, shown in Silver Birch

LANDMARK® Solaris® CoolRoof

A subtle color palette featuring soft earth tones.



Solaris Graphite
CRRC Product ID 0668-0155



Solaris Aged Cedar
CRRC Product ID 0668-0055



Solaris Crystal Gray
CRRC Product ID 0668-0058



Solaris Weathered Wood
CRRC Product ID 0668-0119



Solaris Resawn Shake
CRRC Product ID 0668-0118

Not available in all areas.

Scan code for more information

LANDMARK® PRO



Landmark PRO Silver Birch is available in Hawaii only.

Landmark® PRO is designed specifically for the professional roofing contractor that takes pride in providing more to their customer. Landmark Pro offers the industry's strongest warranty. Protecting your reputation and safeguarding homeowners from manufacturing and aesthetic defects.

- **Impact Resistance:**
  UL classified to meet UL 2218 Class 3



Scan code for more information

PRESIDENTIAL SHAKE SOLARIS



Not available in all areas.

Presidential Shake is a solar reflective asphalt roofing that is designed to replicate the look of authentic wood shakes, delivering the charm of hand-split wood shakes with durability and strength that outperforms wood.

The rich mixture of surface granules adds a new dimension to the shingle.

- **Impact Resistance:**
  UL classified to meet UL 2218 Class 3

Scan code for more information


Landmark Solaris, shown in Graphite



Mountain Ridge® Solaris Accessory

Available in complementary colors to Landmark shingles.

- Fiberglass reinforced SBS modified bitumen
- Five layer design with tri-laminate base
- 10" width
- 8" exposure
- UL 2218 Class 4 Impact Resistant

Solaris® CoolRoof

Solar Reflectivity

Cool Roof Shingles

DESIGNER SHINGLES		Shingle Construction and Description	UL Class A Fire Resistance Rating	UL Certified to Meet ASTM D3462	UL Certified to Meet ASTM D3018 Type 1	UL 2218 Impact Resistance Rating	ASTM D3161 Wind Resistance	Miami-Dade Product Control Acceptance	Conforms To CSA Standard A123.5	ICC-ES ESR-1389 & ESR-3537	Limited Transferable Warranty Against Manufacturing Defects On Residential Applications *50-Year on Group-owned or Commercial Applications	StreakFighter algae-resistance Warranty (where available)	SureStart Protection	Wind-Resistance Warranty Upgraded wind warranty available. See warranty for details and limitations.	Shingle Size	Bundles Per Square (Cartons Per Square for Presidio)
Landmark Solaris		Two-piece laminated fiber glass base construction; Classic shades and dimensional appearance of natural wood or slate	✔	✔	✔		Class F, 110 mph	✔	✔	✔	Lifetime*	25-year	10-year	15-year 110 mph **	13 1/4" x 38 3/4" 5 5/8" Exposure	3
Landmark		Two-piece laminated fiber glass base construction; Classic shades and dimensional appearance of natural wood or slate	✔	✔	✔		Class F, 110 mph		✔	✔	Lifetime	25-year	10-year	15-year 110 mph **	13 1/4" x 38 3/4" 5 5/8" Exposure	3
Landmark PRO		Two-piece laminated fiber glass base construction; Classic shades and dimensional appearance of natural wood or slate	✔	✔	✔	Class 3	Class F, 110 mph		✔	✔	Lifetime*	30-year	10-year	15-year 110 mph **	13 1/4" x 38 3/4" 5 5/8" Exposure	3
Presidential Shake Solaris		Two-piece laminated fiber glass base construction; Distinctive sculpted, rustic look	✔	✔	✔	Class 3	Class F, 110 mph		✔	✔	Lifetime*	30-year	10-year	15-year 110 mph **	14 1/4" x 40" 4" Exposure	5

** Wind warranty upgrade to 130 mph available. CertainTeed starter and CertainTeed hip and ridge required. *** To achieve 130 mph wind warranty 3 more screws centered between the pre-punched holes are required.

Solar Reflectivity (SR), Thermal Emittance (TE) & Solar Reflectance Index (SRI) Data

PRODUCT - COLOR	CRRC Product ID Number	Aged Solar Reflectance	Thermal Emittance	Solar Reflective Index (SRI)
Landmark - Solaris Silver Birch	0668-0072	0.27	0.89	28‡
Landmark Solaris® - Solaris Aged Cedar	0668-0055	0.24	0.92**	25‡
Landmark Solaris® - Solaris Crystal Gray	0668-0058	0.26	0.93**	28‡
Landmark Solaris® - Solaris Graphite	0668-0155	0.21‡	0.91**	21‡
Landmark Solaris® - Solaris Resawn Shake	0668-0118	0.20	0.93	20
Landmark Solaris® - Solaris Weathered Wood	0668-0119	0.21	0.91	21
Landmark® PRO - Solaris Silver Birch	0668-0072	0.27	0.89	28‡
Presidential Shake® Solaris® - Solaris Country Gray	0668-0149	0.21	0.92	21

‡ Aged value calculated using the California Title 24 Solar Reflective Index (SRI) Calculation Worksheet

** Indicates Initial Thermal Emittance



Integrity Roof System™

A COMPLETE APPROACH TO LONG LASTING BEAUTY AND PERFORMANCE

With as much care as you take in selecting the right contractor, choosing the right roof system is equally as important. A CertainTeed Integrity Roof System combines key elements that help ensure you have a well-built roof for long-lasting performance.

1. Waterproofing Underlayment

The first step in your defense against the elements. Self-adhering underlayment is installed at vulnerable areas of your roof to help prevent leaks from wind-driven rain and ice dams.

2. Water-Resistant Underlayment

Provides a protective layer over the roof deck and acts as a secondary barrier against leaks.

3. Starter Shingles

Starter Shingles are the first course of shingles that are installed and designed to work in tandem with the roof shingles above for optimal shingle sealing and performance.

4. Shingles

Choose from a variety of Good-Better-Best styles to complement any roof design and fit your budget.

5. Ventilation

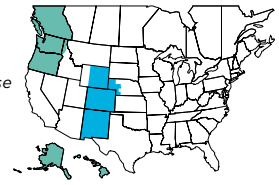
A roof that breathes is shown to perform better and last longer. Ridge Vents, in combination with Intake Vents, allow air to flow on the underside of your roof deck, keeping the attic cooler in the summer and drier in the winter.

6. Hip & Ridge Caps

Available in numerous profiles, these accessories are used on the roof's hip and ridge lines for a distinctive finishing touch to your new roof.

Available in areas shown

Green: Northwest Region
Blue: Serviced by Denver Warehouse



learn more at:
certainteed.com/roofing

SAINT-GOBAIN

CertainTeed

CEILINGS • GYPSUM • INSULATION • ROOFING • SIDING • TRIM
20 Moores Road, Malvern, PA 19355 Professional: 800-233-8990 Consumer: 800-782-8777 certainteed.com

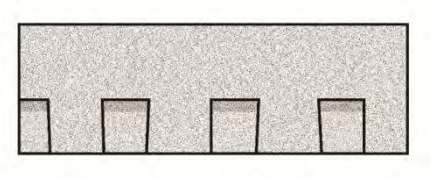
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CertainTeed SAINT-GOBAIN

Technical Data Sheet

Landmark Solaris®

PRODUCT INFORMATION



Landmark Solaris® innovative technology produces a shingle that reflects solar energy in a traditional color palette. All colors are rated by Cool Roof Rating Council (CRRC) and meet California's Title 24 requirements for cool steep slope roofing. Landmark Solaris shingles are manufactured using the same high standards as all CertainTeed roofing products and are covered by the same superior warranty protection. These shingles are available in "Metric" dimensions 13 1/4" x 38 3/4". This product also features CertainTeed's NailTrak® that offers a wider nailing area.

Landmark Solaris algae-resistant (AR) shingles have the additional attribute of resisting the growth of algae especially in damp regions. AR shingles are not available in all regions.

Colors: Please refer to product brochure or CertainTeed website for the colors available in your region.

Color	Solar Radiative Properties							Energy Star Certified?
	CRRC Product ID#	Solar Reflectance		Thermal Emittance		Solar Reflective Index		
		Initial	Aged	Initial	Aged	Initial	Aged	
Aged Cedar **	0668-0055	0.26	0.24	0.92	0.90	28	24	Yes
Birchwood	0668-0084	0.21	0.21	0.92	0.83	21	17	No
Burnt Sienna **	0668-0153	0.20	Pending	0.92	Pending	20	20 *	No
Crystal Gray **	0668-0058	0.27	0.26	0.93	0.90	29	27	Yes
Georgetown Gray **	0668-0116	0.20	0.20	0.91	0.92	19	20	No
Graphite **	0668-0155	0.21	Pending	0.91	Pending	21	21 *	No
Heather Blend **	0668-0117	0.20	0.20	0.91	0.92	19	20	No
Mist White **	0668-0071	0.26	0.28	0.92	0.90	28	29	Yes
Moiré Black	0668-0129	0.19	0.18	0.91	0.92	18	17	No
Mojave Tan	0668-0115	0.19	0.20	0.88	0.90	17	19	No
Resawn Shake **	0668-0118	0.19	0.20	0.92	0.93	19	20	No
Silver Birch **	0668-0072	0.26	0.27	0.90	0.89	27	28	Yes
Weathered Wood **	0668-0119	0.20	0.21	0.91	0.91	19	21	No

* Aged SRI is calculated using the California Energy Commission's Solar Reflective Index (SRI) Calculation Worksheet.
** Product meets the cool roofing requirements of Green Building Standards Code of Los Angeles County for residential buildings.

Limitations: Use on roofs with slopes greater than 2" per foot. Low-slope applications (2:12 to < 4:12) require additional underlayment. In areas prone to snow and ice, apply CertainTeed WinterGuard® Waterproofing Shingle Underlayment, or its equivalent along the eaves, according to application instructions provided with the product and on the shingle package.

Product Composition: Landmark Solaris shingles are composed of a fiber glass mat base. Ceramic-coated mineral granules with high solar reflectance are tightly embedded in carefully refined, water-resistant asphalt. Two pieces of the shingle are firmly laminated together in special tough asphaltic cement. All Landmark Solaris shingles have self-sealing adhesive strips.

Applicable Standards:

ASTM E108 Class A Fire Resistance
UL 790 Class A Fire Resistance
ASTM D3462
ASTM D3018 Type I
ASTM D3161 Class F Wind Resistance
Miami-Dade County Product Control Approved
Meets TDI Windstorm Requirements
ASTM D7158 Class H Wind Resistance
CSA Standard A123.5
ICC-ES ESR-1389 & ESR-3537
Florida Product Approval # FL5444
Can be used to comply with California Title 24, Part 6 (Steep Slope)

Technical Data:

Weight/Square (approx.)	216 lb
Shingles/Square (approx.)	66 *
Dimensions (overall)	13 1/4" x 38 3/4"
Weather Exposure	5 5/8"

*Based on 100 sq. ft. of exposed area.

INSTALLATION

Detailed installation instructions are supplied on each bundle of shingles and must be followed. Separate application sheets may also be obtained from CertainTeed.

Hips and Ridges: Use CertainTeed Shadow Ridge® or Mountain Ridge® shingles of a like color for capping hips and ridges.

MAINTENANCE

These shingles do not require maintenance when installed according to manufacturer's application instructions. However, to protect the investment, any roof should be routinely inspected at least once a year. Older roofs should be looked at more frequently.

WARRANTY

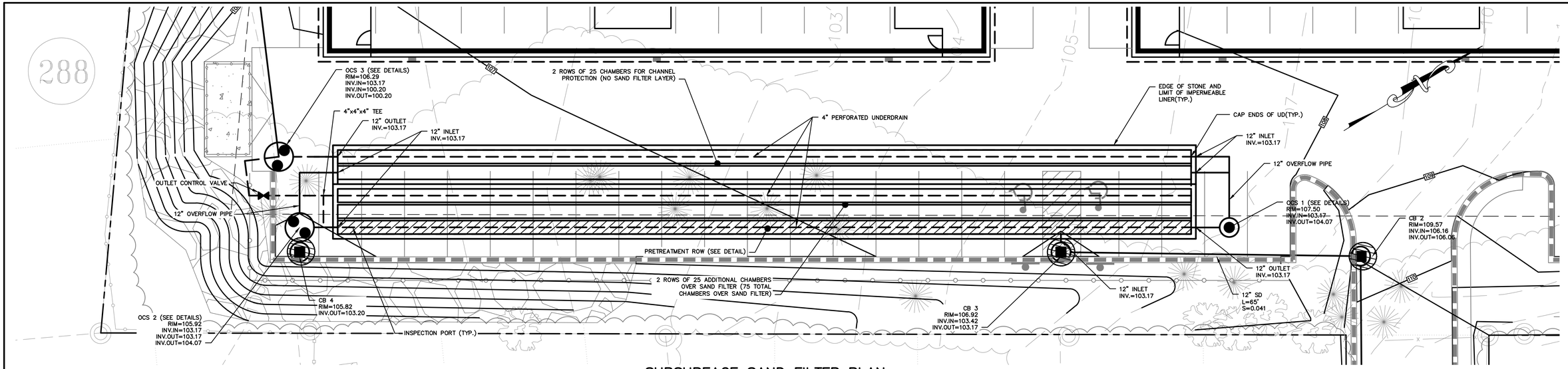
Landmark Solaris shingles carry a Lifetime Limited Warranty and 10-year SureStart™ protection when applied to stated CertainTeed application instructions for this product. Landmark Solaris AR shingles carry a 10-year algae resistance warranty. For specific warranty details and limitations, refer to the warranty itself (available from the local supplier, roofing contractor or on-line at www.certainteed.com).

FOR MORE INFORMATION

Sales Support Group: 800-233-8990
Web site: www.certainteed.com

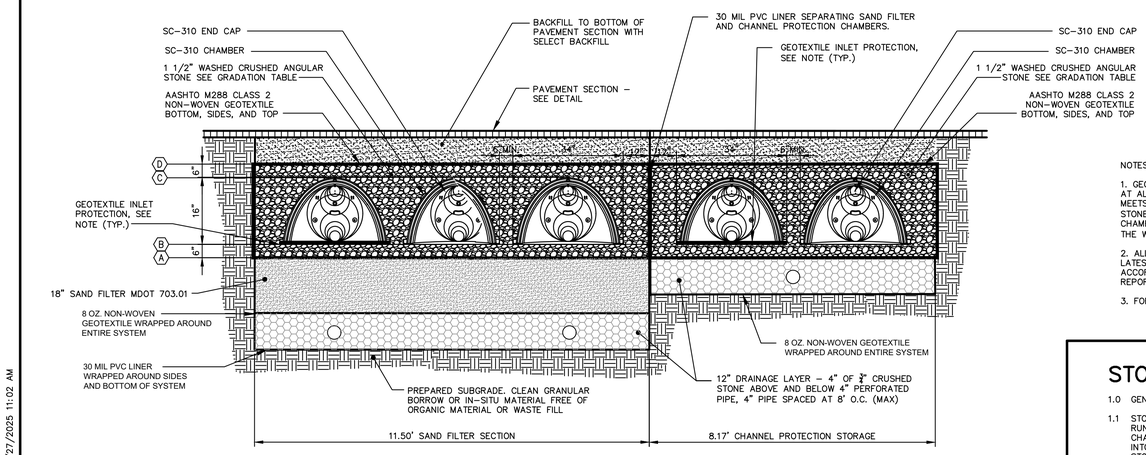
CertainTeed
20 Moores Road
Malvern, PA 19355

© 12/20 CertainTeed



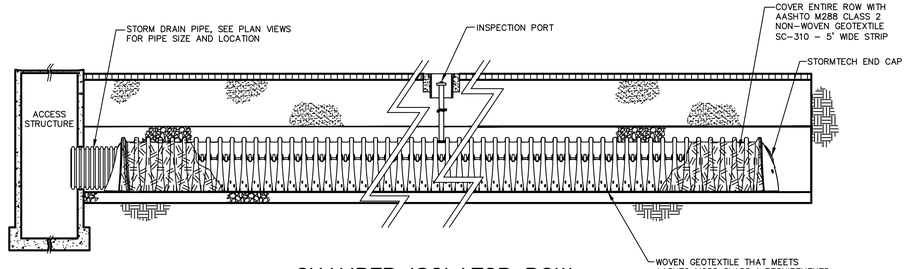
SUBSURFACE SAND FILTER PLAN

1"=10'



SUBSURFACE SAND FILTER WITH STORMTECH STORAGE SECTION

NOT TO SCALE



CHAMBER ISOLATOR ROW

NOT TO SCALE

ELEVATION				
POND	A	B	C	D
SSF #1	102.37	103.07	104.40	104.90

NOTES:

1. GEOTEXTILE INLET PROTECTION NOTE:
AT ALL PIPE INLETS TO CHAMBER PLACE WOVEN GEOTEXTILE THAT MEETS AASHTO M288 CLASS 1 REQUIREMENTS BETWEEN FOUNDATION STONE AND CHAMBER. PLACE A 5' – 6' WIDE STRIP CENTERED ON CHAMBER WIDTH WITH A LENGTH ALONG THE CHAMBERS EQUAL TO THE WIDTH OF THE FABRIC ROLL, BUT NOT LESS THAN 10'.

2. ALL MATERIALS SHALL CONFORM TO MDOT SPECIFICATIONS, LATEST REVISION. COMPACTION OF ALL MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORT.

3. FOR STORMTECH INFORMATION CALL 1-888-892-2694

1 1/2" CRUSHED ANGULAR STONE GRADATION	
SIEVE DESIGNATION (US CUSTOMARY)	PERCENT BY WEIGHT PASSING
2"	100
1 1/2"	90-100
1"	20-55
3/4"	0-15
3/8"	0-5

MAINE DOT SPECIFICATIONS FOR AGGREGATE (MEDOT 703.01)	
SIEVE DESIGNATION (US CUSTOMARY)	PERCENT BY WEIGHT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#60	10-30
#100	2-10
#200	0-5 (8-10% is preferred)

MAINE DOT SPECIFICATIONS FOR UNDERDRAIN TYPE B (MEDOT 703.22)	
SIEVE DESIGNATION (US CUSTOMARY)	PERCENT BY WEIGHT PASSING
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

SUBSURFACE SAND FILTER		
	REQUIRED	PROVIDED
FILTER AREA	1,307	2,084
WATER QUALITY VOLUME	2,178	2,233
PRE-TREATMENT CHAMBERS	6	25
TOTAL SAND FILTER CHAMBERS		75
CHANNEL PROTECTION CHAMBERS		50
TOTAL CHAMBERS		125

STORMTECH PRODUCT SPECIFICATIONS

1.0 GENERAL

1.1 STORMTECH CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF. AS A SUBSURFACE RETENTION SYSTEM, STORMTECH CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL. AS A SUBSURFACE DETENTION SYSTEM, STORMTECH CHAMBERS DETAIN AND ALLOW FOR THE METERED FLOW OF WATER TO AN OUTFALL.

2.0 CHAMBER PARAMETERS

2.1 THE CHAMBER SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESCR), AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.

2.2 THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-740 SHALL BE 30.0 INCHES TALL, 51.0 INCHES WIDE AND 90.7 INCHES LONG. THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-310 SHALL BE 16.0 INCHES TALL, 34.0 INCHES WIDE AND 90.7 INCHES LONG. THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 85.4 INCHES.

2.3 THE CHAMBER SHALL HAVE A CONTINUOUSLY CURVED SECTION PROFILE.

2.4 THE CHAMBER SHALL BE OPEN-BOTTOMED.

2.5 THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED. THE OVERLAPPING CORRUGATION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH.

2.6 THE NOMINAL STORAGE VOLUME OF A JOINED STORMTECH SC-740 CHAMBER SHALL BE 74.9 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 2.2 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED. THE NOMINAL STORAGE VOLUME OF AN INSTALLED STORMTECH SC-310 CHAMBER SHALL BE 31.0 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 1.3 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED.

2.7 THE CHAMBER SHALL HAVE FORTY-EIGHT ORIFICES PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER.

2.8 THE CHAMBER SHALL HAVE TWO ORIFICES NEAR ITS TOP TO ALLOW FOR EQUALIZATION OF AIR PRESSURE BETWEEN ITS INTERIOR AND EXTERIOR.

2.9 THE CHAMBER SHALL HAVE BOTH OF ITS ENDS OPEN TO ALLOW FOR UNIMPEDED HYDRAULIC FLOWS AND VISUAL INSPECTIONS DOWN A ROW'S ENTIRE LENGTH.

2.10 THE CHAMBER SHALL HAVE 14 CORRUGATIONS.

2.11 THE CHAMBER SHALL HAVE A CIRCULAR, INDENTED, FLAT SURFACE ON THE TOP OF THE CHAMBER FOR AN OPTIONAL 4-INCH INSPECTION PORT OR CLEAN-OUT.

2.12 THE CHAMBER SHALL BE ANALYZED AND DESIGNED USING AASHTO METHODS FOR THERMOPLASTIC CULVERTS CONTAINED IN THE LRFD BRIDGE DESIGN SPECIFICATIONS, 2ND EDITION, INCLUDING INTERIM SPECIFICATIONS THROUGH 2001. DESIGN LIVE LOAD SHALL BE THE AASHTO HS20 TRUCK. DESIGN SHALL CONSIDER EARTH AND LIVE LOADS AS APPROPRIATE FOR THE MINIMUM TO MAXIMUM SPECIFIED DEPTH OF FILL.

2.13 THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.

3.0 END CAP PARAMETERS

3.1 THE END CAP SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING, AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.

3.2 THE END CAP SHALL BE DESIGNED TO FIT INTO ANY CORRUGATION OF A CHAMBER, WHICH ALLOWS: CAPPING A CHAMBER THAT HAS ITS LENGTH TRIMMED; SEGMENTING ROWS INTO STORAGE BASINS OF VARIOUS LENGTHS.

3.3 THE END CAP SHALL HAVE SAW GUIDES TO ALLOW EASY CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET THE SYSTEM.

3.4 THE END CAP SHALL HAVE EXCESS STRUCTURAL ADEQUACIES TO ALLOW CUTTING AN ORIFICE OF ANY SIZE AT ANY INVERT ELEVATION.

3.5 THE PRIMARY FACE OF AN END CAP SHALL BE CURVED OUTWARD TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS.

3.6 THE END CAP SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.

STORMTECH GENERAL NOTES

1. STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S TO SPEAK TO A TECHNICAL 1-888-892-2694 CONSTRUCTION. CALL TO WWW.STORMTECH.COM SERVICE REPRESENTATIVE OR VISIT RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
3. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT
DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
4. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
5. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
6. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
7. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
8. THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
9. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
10. STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL 1-888-892-2694 STORMTECH OR VISIT WWW.STORMTECH.COM.

SUBSURFACE DETENTION SYSTEMS MAY BE SUBSTITUTED WITH AN ENGINEER APPROVED EQUAL WHICH PROVIDES EQUAL DETENTION STORAGE AND WATER QUALITY TREATMENT

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
DOUGLAS E. REYNOLDS
No. 20928
6/27/25
LICENSED
PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292
File Name: 4292-GRADE.dwg		

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An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

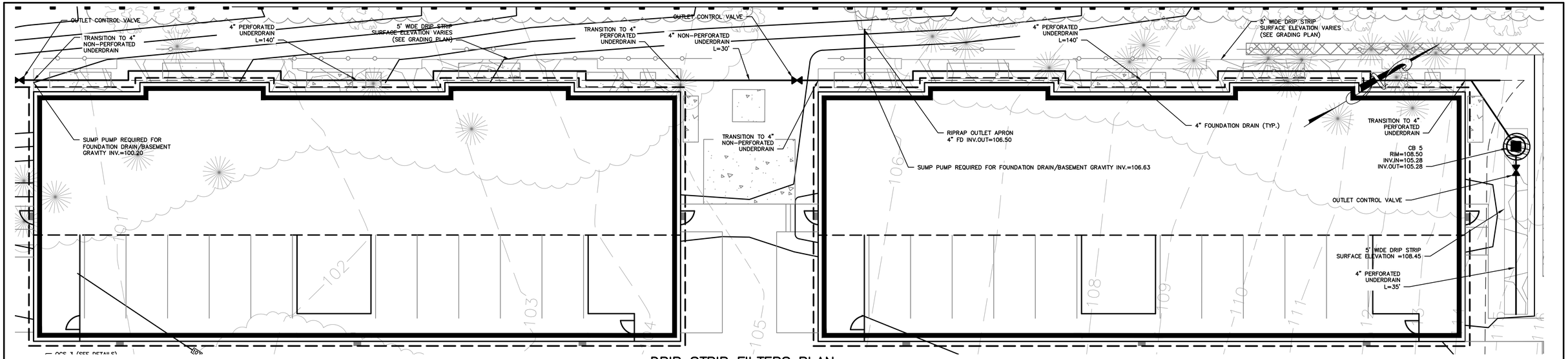
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Project: The Belfort Landing
1582 Forest Ave, Portland, Maine

Client: ACRE Properties
27 Cypress Street, Portland, Maine 04103

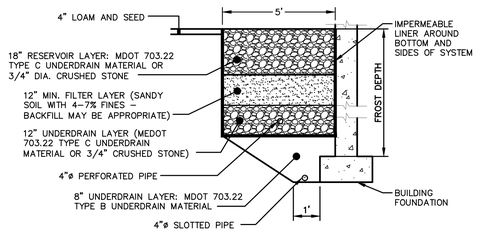
Drawing No. C301

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DRIP STRIP FILTERS PLAN

1"=10'



DRIP STRIP & FOUNDATION DRAIN SECTION

NOT TO SCALE

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
DOUGLAS E. REYNOLDS
No. 2982
6/27/25
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292
File Name: 4292-GRADE.dwg		

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(207) 772-2515
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South Portland, ME 04106

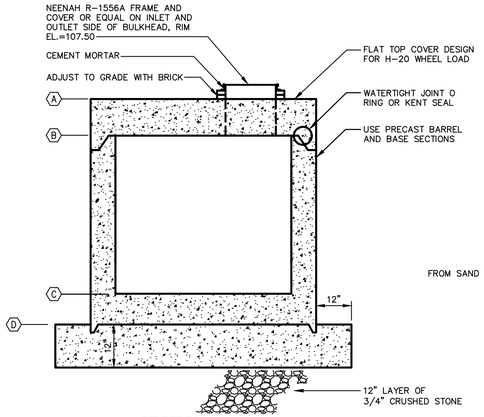
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Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine

Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. C302

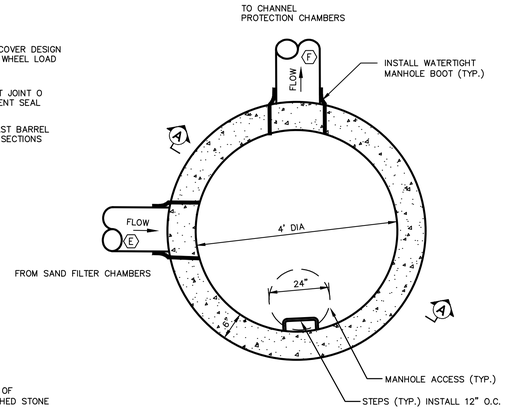
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SECTION A-A

OUTLET CONTROL STRUCTURE 1 (OCS1)

NOT TO SCALE

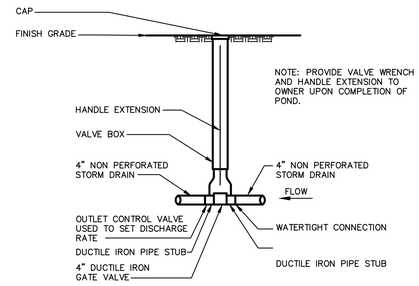


PLAN VIEW

6' OUTLET CONTROL STRUCTURE (OCS1)

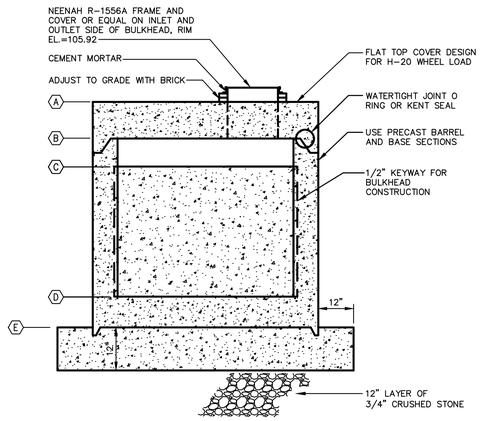
NOT TO SCALE

SCHEDULE C		
⬡	ITEM DESCRIPTION	ELEVATION
A	TOP OF STRUCTURE	107.00
B	UNDERSIDE TOP SLAB	106.33
C	MANHOLE INVERT	102.17
D	BOTTOM OF STRUCTURE	101.17
E	PIPE DIAMETER	12"
	INVERT IN	103.17
F	PIPE DIAMETER	12"
	INVERT OUT	104.07



OUTLET VALVE

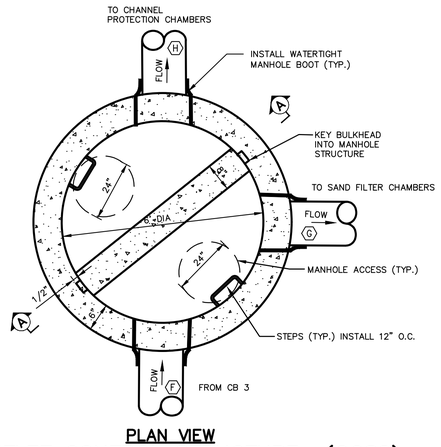
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SECTION A-A

OUTLET CONTROL STRUCTURE 2 (OCS2)

NOT TO SCALE

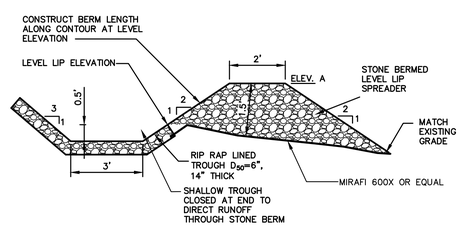


PLAN VIEW

6' OUTLET CONTROL STRUCTURE (OCS2)

NOT TO SCALE

SCHEDULE C		
⬡	ITEM DESCRIPTION	ELEVATION
A	TOP OF STRUCTURE	105.42
B	UNDERSIDE TOP SLAB	104.75
C	TOP CONCRETE BULKHEAD	104.07
D	MANHOLE INVERT	100.17
E	BOTTOM OF STRUCTURE	99.50
F	PIPE DIAMETER	12"
	INVERT IN	103.17
G	PIPE DIAMETER	12"
	INVERT OUT	103.17
H	PIPE DIAMETER	12"
	INVERT OUT	103.17



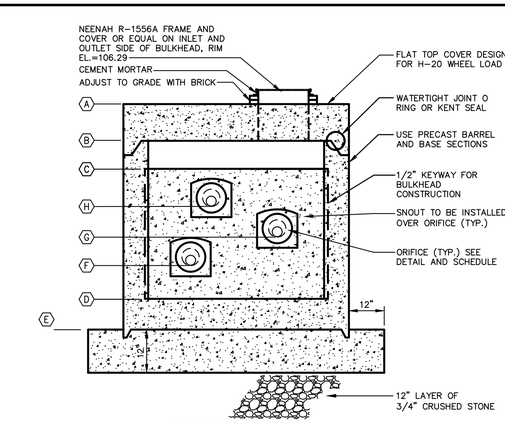
BERM STONE SIZE	
SIEVE DESIGNATION (US CUSTOMARY)	PERCENT BY WEIGHT PASSING
12 IN	100
6 IN	84–100
3 IN	68–83
1 IN	42–55
NO. 4	8–12

LEVEL LIP SPREADER SCHEDULE		
LEVEL LIP	ELEVATION A	LENGTH
1	101.50	15'

NOTE: PRIOR TO CONSTRUCTION OF ANY ONSITE DRAINAGE FEATURES, THE CONTRACTOR SHALL STAKE OUT THE LEVEL LIP SPREADERS FOR REVIEW BY GORRILL-PALMER. THE CONTRACTOR SHALL NOTIFY GORRILL-PALMER WHEN STAKE OUT IS COMPLETE, AND PROVIDE GROUND SURVEYED ELEVATIONS OF THE LEVEL LIP SPREADER LOCATION. GORRILL-PALMER WILL CONDUCT A SITE WALK WITHIN 48 HOURS TO CONFIRM LOCATION AND ORIENTATION TO VERIFY DESIGN INTENT.

STONE BERM LEVEL LIP SPREADER

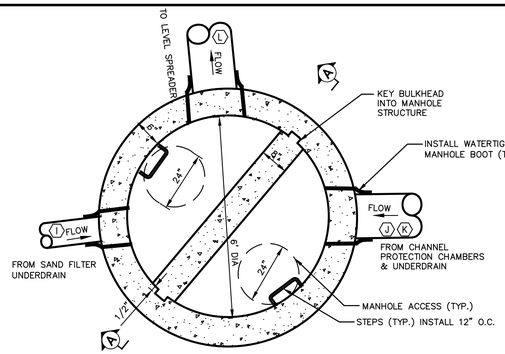
NOT TO SCALE



SECTION A-A

OUTLET CONTROL STRUCTURE 3 (OCS3)

NOT TO SCALE



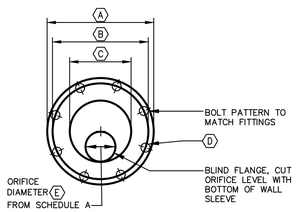
PLAN VIEW

6' OUTLET CONTROL STRUCTURE (OCS3)

NOT TO SCALE

SCHEDULE C		
⬡	ITEM DESCRIPTION	ELEVATION
A	TOP OF STRUCTURE	105.70
B	UNDERSIDE TOP SLAB	105.04
C	TOP CONCRETE BULKHEAD	104.80
D	MANHOLE INVERT	99.65
E	BOTTOM OF STRUCTURE	98.98
F	ORIFICE DIAMETER	2"
	ORIFICE INVERT	101.70
G	ORIFICE DIAMETER	3.5"
	ORIFICE INVERT	102.30
H	ORIFICE DIAMETER	3.5"
	ORIFICE INVERT	103.85
I	PIPE DIAMETER	4"
	INVERT IN	100.20
J	PIPE DIAMETER	12"
	INVERT IN	103.17
K	PIPE DIAMETER	4"
	INVERT IN	101.90
L	PIPE DIAMETER	12"
	INVERT OUT	100.20

SCHEDULE B ORIFICE				
⬡	ITEM DESCRIPTION	DIMENSION/ ELEVATION	DIMENSION/ ELEVATION	DIMENSION/ ELEVATION
A	FLANGE O.D.	13.5"	13.5"	13.5"
B	BOLT CIRCLE	11.75"	11.75"	11.75"
C	NOMINAL PIPE DIAMETER	8"	8"	8"
D	BOLT HOLE DIAMETER	0.875"	0.875"	0.875"
E	ECCENTRIC ORIFICE DIAMETER	2"/101.70	3.5"/102.30	3.5"/103.85



ORIFICE DETAIL

SEE SCHEDULE B

NOT TO SCALE

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 9982 — 6/27/25 — LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: 1"=30'	Job No.: 4292
File Name: 4292-GRADE.dwg		

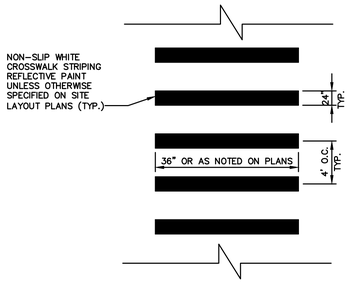
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An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Drawing Name:	Outlet Control Structure Details
Project:	The Belfort Landing 1582 Forest Ave, Portland, Maine
Client:	ACRE Properties 27 Cypress Street, Portland, Maine 04103

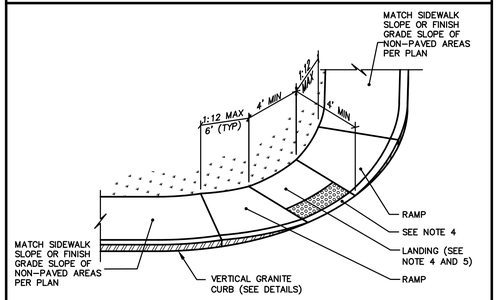
Drawing No. C303

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CROSSWALK STRIPING

NOT TO SCALE



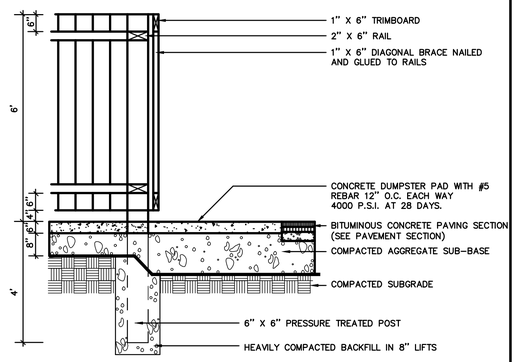
TYPE 1

NOTE:

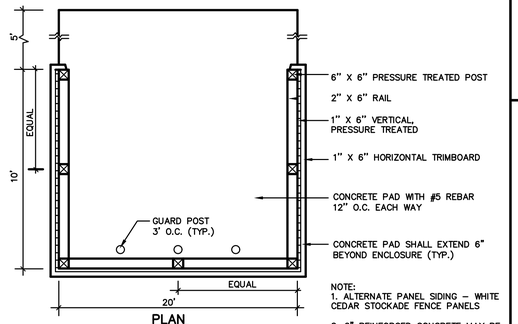
1. CURB RAMP LENGTHS ARE BASED ON SIX (6) INCH CURB REVEAL HEIGHT AND NO RUNNING SLOPE. RAMP LENGTHS SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE VARYING CURB REVEAL HEIGHTS AND TO MATCH RUNNING SLOPES OF ADJACENT ROADWAY AND SIDEWALK SLOPES TO MAINTAIN A RAMP THAT DOES NOT EXCEED THE MAXIMUM RAMP SLOPE OF 1:12.
2. DETECTABLE WARNINGS SHALL BE NEENAH MODEL R-4984 RED POWDER COAT FINISH INSTALLED WITH THE TOP OF PLATE FLUSH WITH THE SURFACE OF THE CONCRETE.
3. DETECTABLE WARNING ZONES SHALL BE INSTALLED SIX (6) INCHES (OR THE HORIZONTAL THICKNESS OF THE ADJACENT CURB) FROM THE FLOW LINE OF THE CURB, EXTEND INTO THE SIDEWALK FOR A 24" DEPTH, AND COVER THE COMPLETE WIDTH OF THE SIDEWALK OR RAMP AREA. DETECTABLE WARNING ZONES SHALL CONFORM TO THE SLOPE REQUIREMENTS OF THE RAMP, LANDING, OR ACCESSIBLE ROUTE AS DEFINED IN THE SPECIFIED DETAIL. DETECTABLE WARNINGS SHALL NOT BE INSTALLED IN FLARED SIDES, IF THE RAMP INCLUDES FLARED SIDES.
4. ALL LANDING AREAS SHALL BE 4 FEET WIDE BY 4 FEET LONG (MINIMUM DIMENSIONS). THE SLOPE OF THE LANDING AREA SHALL NOT EXCEED A 1:48 IN ANY DIRECTION.
5. ALL ACCESSIBLE ROUTE SLOPES ADJOINING THE LANDING AREA, EXCLUDING THE CURB RAMP, SHALL NOT EXCEED A SLOPE OF 1:20 UNLESS OTHERWISE NOTED.

BARRIER FREE RAMP

NOT TO SCALE



SECTION

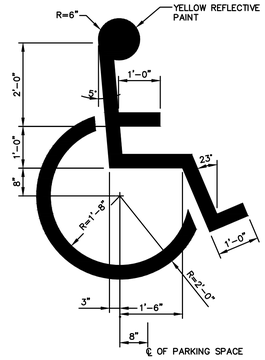


PLAN

DUMPSTER ENCLOSURE

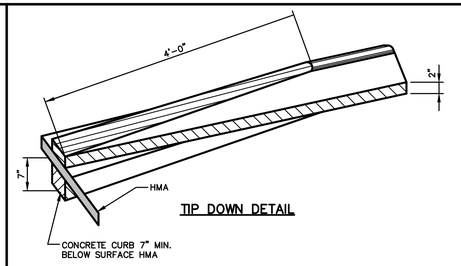
NOT TO SCALE

NOTE:
1. ALTERNATE PANEL SIDING – WHITE CEDAR STOCKADE FENCE PANELS
2. 6" REINFORCED CONCRETE MAY BE SUBSTITUTED WITH 7" THICK CLASS A-3 CONCRETE UPON APPROVAL BY ENGINEER.
3. EXPANSION JOINTS EVERY 10' OF CONCRETE SLAB.



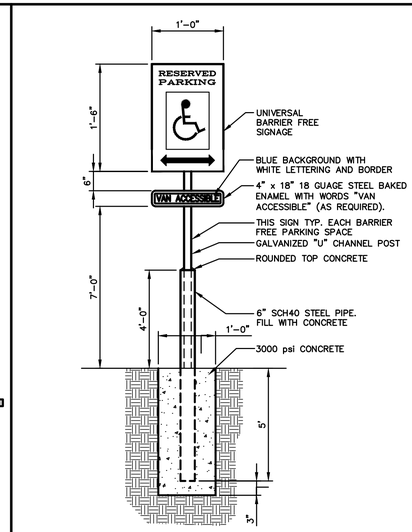
INTERNATIONAL BARRIER FREE SYMBOL

NOT TO SCALE



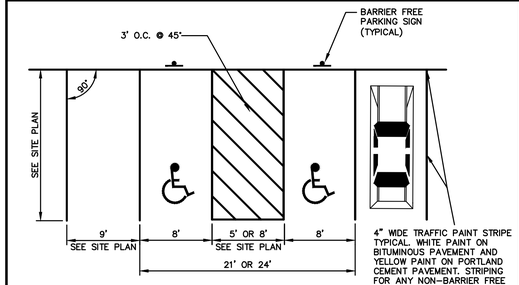
CURB TIPDOWN

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BARRIER FREE PARKING SIGN

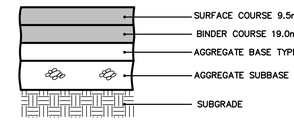
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4" WIDE TRAFFIC PAINT STRIPE TYPICAL. WHITE PAINT ON BITUMINOUS PAVEMENT AND YELLOW PAINT ON PORTLAND CEMENT PAVEMENT. STRIPING FOR ANY NON-BARRIER FREE PARKING SPACE WITH A WIDTH LESS THAN 9' OR A LENGTH LESS THAN 18' SHALL BE PAINTED BLUE.

PARKING SPACE DIMENSIONS

NOT TO SCALE

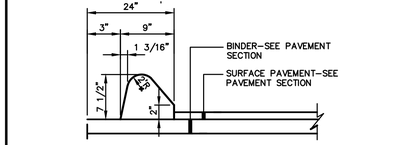


NOTE:
COMPACT SUBBASE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

LAYERS	STANDARD DUTY PAVEMENT
SURFACE COURSE 9.5mm HMA	1.5"
BINDER COURSE 19.0mm HMA	2.5"
AGGREGATE BASE TYPE A	3"
AGGREGATE SUBBASE TYPE D	15"

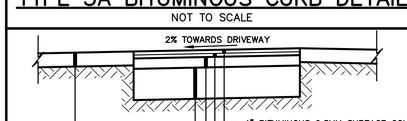
BITUMINOUS PAVEMENT SECTION

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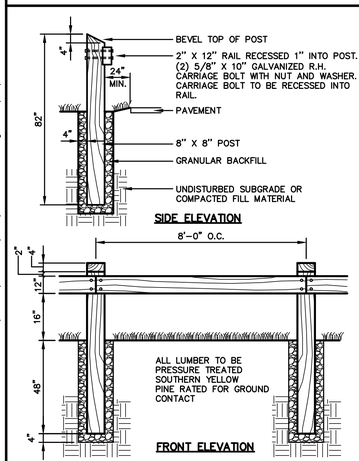
TYPE 3A BITUMINOUS CURB DETAIL

NOT TO SCALE



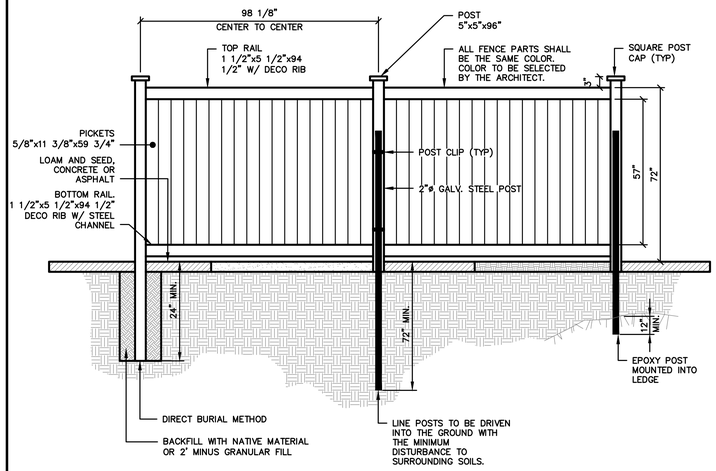
BITUMINOUS WALKWAY

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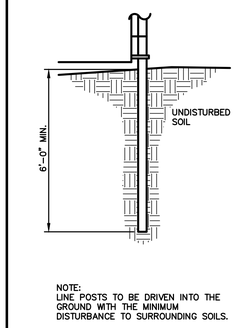
WOOD GUARD RAIL

NOT TO SCALE



6' HIGH PRIVACY FENCE DETAIL

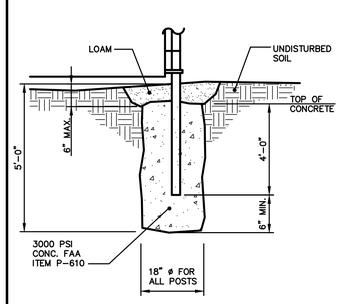
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NOTE:
LINE POSTS TO BE DRIVEN INTO THE GROUND WITH THE MINIMUM DISTURBANCE TO SURROUNDING SOILS.

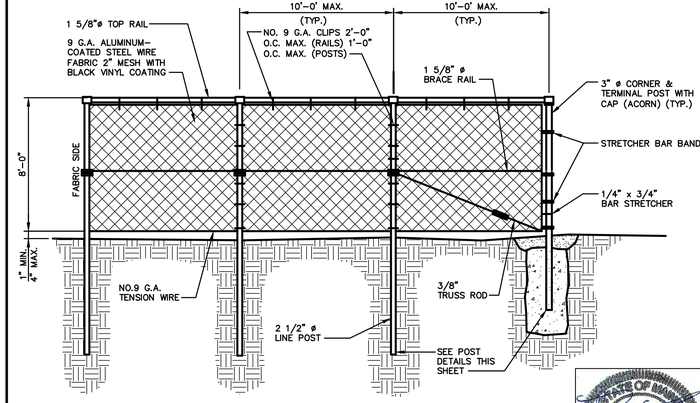
INTERMEDIARY LINE POST

NOT TO SCALE



CORNER & TERMINAL POST

NOT TO SCALE



VINYL COATED CHAIN LINK FENCE

NOT TO SCALE

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 9868 — 6/27/25 — LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

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RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
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RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: NTS	Job No.: 4292
File Name: 4292-DETAILS.dwg		

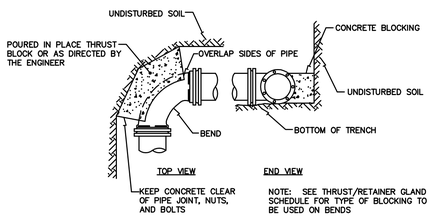
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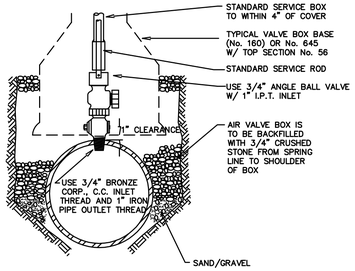
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Project: The Belfort Landing
1582 Forest Ave, Portland, Maine
Client: ACRE Properties
27 Cypress Street, Portland, Maine 04103

Drawing No. C401

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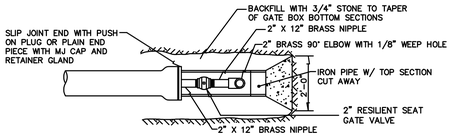


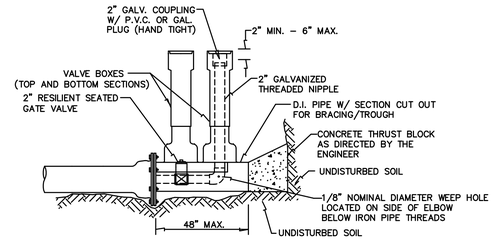
STANDARD BEND BLOCKING



TYPICAL AIR VALVE (1")

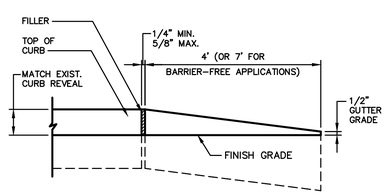
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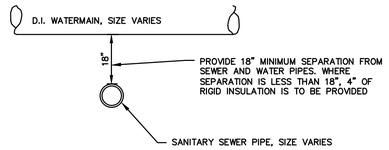
STANDARD 2" BLOW OFF

NOT TO SCALE



GRANITE TIPDOWN CURB

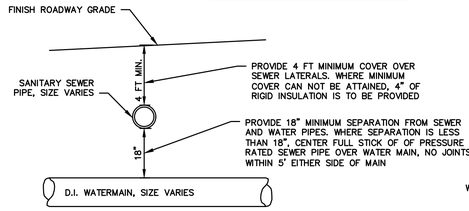
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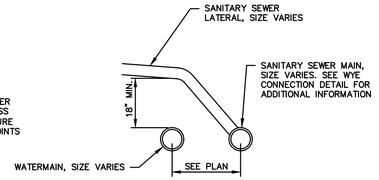
METHOD 1 – WATER ABOVE SEWER

NOTE:

SITE CONDITIONS TO DETERMINE WHICH METHOD IS UTILIZED.



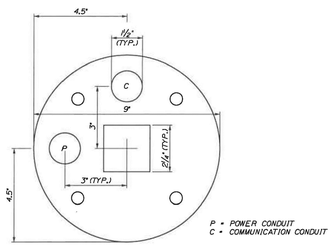
METHOD 2 – SEWER ABOVE WATER



METHOD 2 – CROSS SECTION VIEW

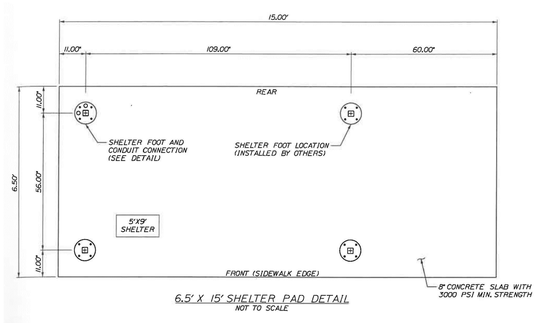
TYPICAL SEWER AND WATERMAIN CROSSING

N.T.S.



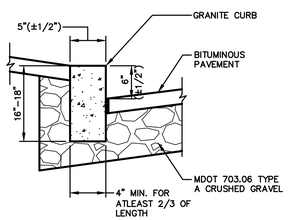
SHELTER FOOT & CONDUIT CONNECTION DETAIL

NOT TO SCALE



6.5' X 15' SHELTER PAD DETAIL

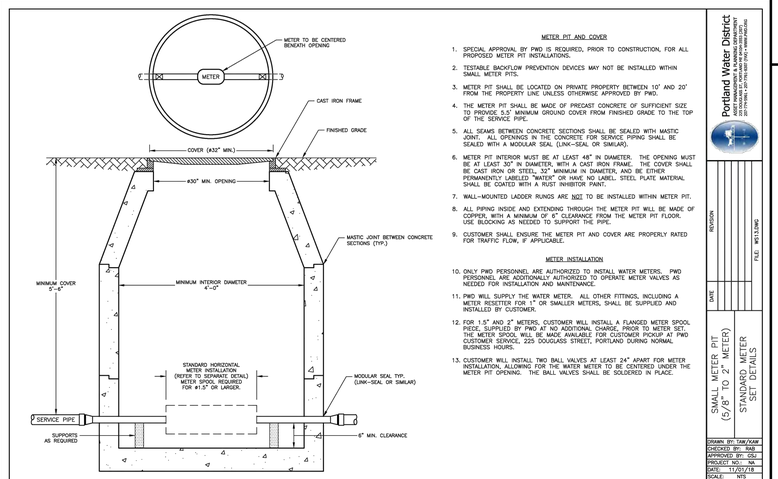
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NOTE: VERTICAL GRANITE CURB SHALL MEET THE REQUIREMENTS OF SECTION 609 OF THE MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD SPECIFICATIONS, LATEST REVISION, AND THE DIMENSIONS SHOWN ON THE DRAWINGS. SLOPED GRANITE CURB SHALL MEET THE REQUIREMENTS OF SECTION 609 OF THE STANDARD SPECIFICATIONS, LATEST REVISION, AND THE DIMENSIONS SHOWN ON THE DRAWINGS.

VERTICAL GRANITE CURB

NOT TO SCALE



METER PIT AND COVER

1. SPECIAL APPROVAL BY PWD IS REQUIRED, PRIOR TO CONSTRUCTION, FOR ALL PROPOSED METER PIT INSTALLATIONS.
2. TESTABLE BACKFLOW PREVENTION DEVICES MAY NOT BE INSTALLED WITHIN SMALL METER PITS.
3. METER PIT SHALL BE LOCATED ON PRIVATE PROPERTY BETWEEN 10' AND 20' FROM THE PROPERTY LINE UNLESS OTHERWISE APPROVED BY PWD.
4. THE METER PIT SHALL BE MADE OF PRECAST CONCRETE OF SUFFICIENT SIZE TO PROVIDE 5.5' MINIMUM GROUND COVER FROM FINISHED GRADE TO THE TOP OF THE SERVICE PIPE.
5. ALL SEAMS BETWEEN CONCRETE SECTIONS SHALL BE SEALED WITH MASTIC JOINT. ALL OPENINGS IN THE CONCRETE FOR SERVICE PIPING SHALL BE SEALED WITH A MODULAR SEAL (LINK-SEAL OR SIMILAR).
6. METER PIT INTERIOR MUST BE AT LEAST 48" IN DIAMETER. THE OPENING MUST BE AT LEAST 30" IN DIAMETER, WITH A CAST IRON FRAME. THE COVER SHALL BE CAST IRON OR STEEL, 32" MINIMUM IN DIAMETER, AND BE EITHER PERMANENTLY LABELLED "WATER" OR HAVE NO LABEL. STEEL PLATE MATERIAL SHALL BE COATED WITH A RUST INHIBITOR PAINT.
7. WALL-MOUNTED LADDER RUNGS ARE NOT TO BE INSTALLED WITHIN METER PIT.
8. ALL PIPING INSIDE AND EXTENDING THROUGH THE METER PIT WILL BE MADE OF COPPER, WITH A MINIMUM OF 6" CLEARANCE FROM THE METER PIT FLOOR. USE BLOCKING AS NEEDED TO SUPPORT THE PIPE.
9. CUSTOMER SHALL ENSURE THE METER PIT AND COVER ARE PROPERLY RATED FOR TRAFFIC FLOW, IF APPLICABLE.

METER INSTALLATION

10. ONLY PWD PERSONNEL ARE AUTHORIZED TO INSTALL WATER METERS. PWD PERSONNEL ARE ADDITIONALLY AUTHORIZED TO OPERATE METER VALVES AS NEEDED FOR INSTALLATION AND MAINTENANCE.
11. PWD WILL SUPPLY THE WATER METER. ALL OTHER FITTINGS, INCLUDING A METER RESETTER FOR 1" OR SMALLER METERS, SHALL BE SUPPLIED AND INSTALLED BY CUSTOMER.
12. FOR 1.5" AND 2" METERS, CUSTOMER WILL INSTALL A FLANGED METER SPOOL PIECE, SUPPLIED BY PWD AT NO ADDITIONAL CHARGE, PRIOR TO METER SET. THE METER SPOOL WILL BE MADE AVAILABLE FOR CUSTOMER PICKUP AT PWD CUSTOMER SERVICE, 225 DOUGLASS STREET, PORTLAND DURING NORMAL BUSINESS HOURS.
13. CUSTOMER WILL INSTALL TWO BALL VALVES AT LEAST 24" APART FOR METER INSTALLATION, ALLOWING FOR THE WATER METER TO BE CENTERED UNDER THE METER PIT OPENING. THE BALL VALVES SHALL BE SOLDERED IN PLACE.

Portland Water District
PO BOX 3553 PORTLAND, MAINE 04104-3553
(207) 774-5961 FAX (207) 774-1043
www.portlandwater.org

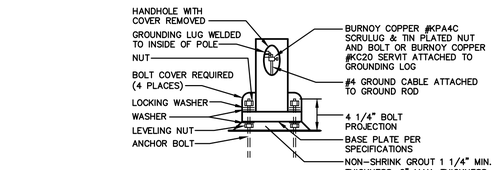
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SMALL METER PIT (5/8" TO 2" METER)
STANDARD METER SET DETAILS

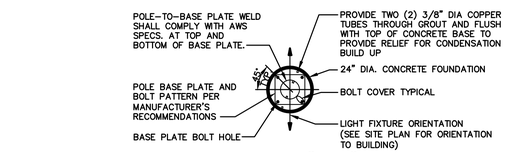
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CHECKED BY: RAB	
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PROJECT NO.: NA	
DATE: 11/07/18	
SCALE: NTS	
SHEET: 1 OF 1	

WATER METER DETAIL

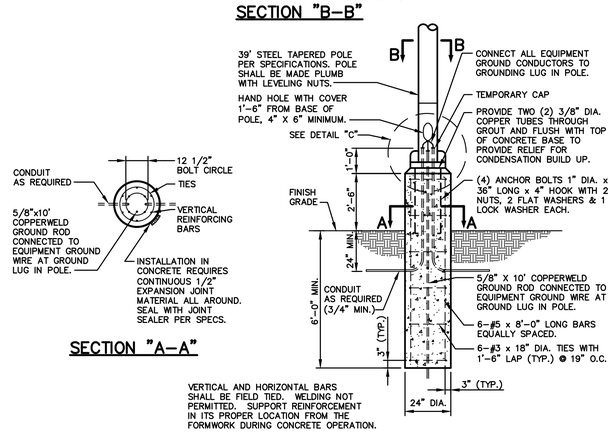
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DETAIL "C"



SECTION "B–B"



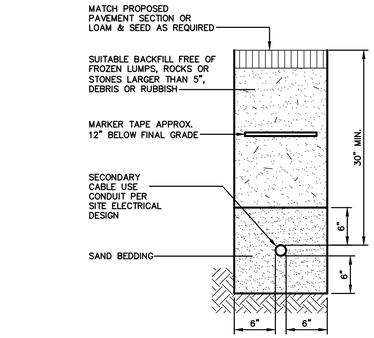
SECTION "A–A"

VERTICAL AND HORIZONTAL BARS SHALL BE FIELD TIED. WELDING NOT PERMITTED. SUPPORT REINFORCEMENT IN ITS PROPER LOCATION FROM THE FORMWORK DURING CONCRETE OPERATION.

NOTES:
1. 3500 P.S.I. MIN. 28 DAY COMPRESSIVE STRENGTH CONC. WITH GRADE 60 REINF. STEEL.
2. IF WATER IS PRESENT IN HOLE, REMOVE BEFORE POURING CONCRETE.
3. FOUNDATION EXCAVATION SHALL BE BY 24" AUGER IN UNDISTURBED OR PROPERLY COMPACTED FILL PER SPECIFICATIONS.
4. FOUNDATION SHALL HAVE A MINIMUM ALLOWABLE END BEARING OF 2000 PSF.
5. FOUNDATION HAS BEEN DESIGNED FOR A COHESIVE SOIL BASED ON A MINIMUM COHESIVE VALUE OF 1000 PSF.
6. FOUNDATION HAS BEEN DESIGNED FOR A GRANULAR SOIL BASED ON A MINIMUM LATERAL SOIL PRESSURE OF 1000 PSF,
7. UTILIZING AASHTO FIGURE 1.8.2C(4) OF "EMBEDMENT OF POSTS WITH OVERTURNING LOADS".
8. EXPOSED CONCRETE AND GROUT SHALL BE PAINTED TRAFFIC YELLOW.
9. DETAIL FOR 25' POLE WITH MAX. FIXTURE EPA 4.6 S.F.

PARKING LOT LIGHTING POLE FOUNDATION

NOT TO SCALE



SECONDARY ELECTRICAL TRENCH

NOT TO SCALE

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STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 9868 — 6/27/25 — LICENSED PROFESSIONAL ENGINEER

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LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: NTS	Job No.: 4292
File Name: 4292–DETAILS.dwg		

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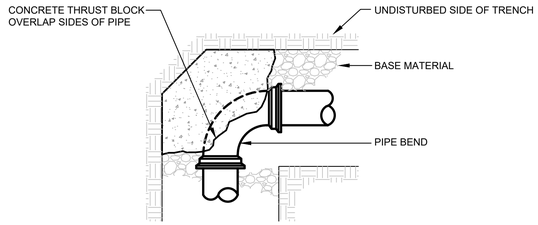
Drawing Name: Site and Utility Details

Project: The Belfort Landing
1582 Forest Ave, Portland, Maine

Client: ACRE Properties
27 Cypress Street, Portland, Maine 04103

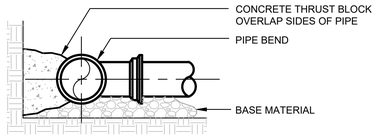
Drawing No. C402

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PLAN

NOTE:
KEEP CONCRETE CLEAR OF
PIPE JOINT, NUTS AND BOLTS



SECTION

THRUST/RETAINER GLAND SCHEDULE		
¼ BEND	(90°)	USE POURED-IN-PLACE THRUST BLOCK WITH GRIPRING™ MECHANICAL JOINT RESTRAINT
⅛ BEND	(45°)	THRUST BLOCK W/ GRIPRING™
1/16 BEND	(22 ½°)	THRUST BLOCK W/ GRIPRING™
1/32 BEND	(11 ¼°)	THRUST BLOCK W/ GRIPRING™

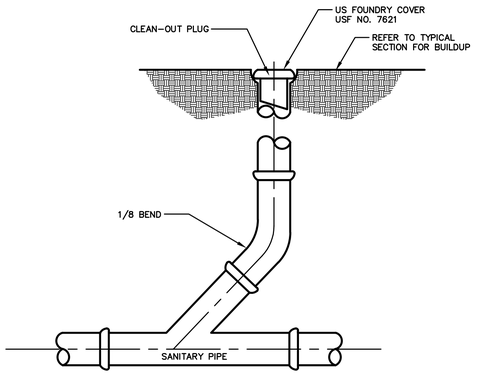
THE ABOVE SCHEDULE IS SUBJECT TO THE APPROVAL OF THE ON-SITE INSPECTOR DUE TO SOILS AND WORKING PRESSURES IN THE AREA.

NOTES:

1. THE PORTLAND WATER DISTRICT MAY HAVE INSPECTION FEES AND REQUIRE OBSERVATION OF ALL PIPING INSTALLATION BEFORE BURIAL. REFER TO SPECIFICATIONS.
2. FOR WATER MAIN LAYOUT SEE DRAWING C-5.0
3. FOR WATER MAIN TRENCH DETAILS SEE DRAWING C-7.4
4. REFER TO SPECIFICATIONS FOR TESTING AND CHLORINATION REQUIREMENTS.
5. ALL HYDRANTS AND VALVES TO BE EPOXY COATED, NUTS & BOLTS TO BE STAINLESS STEEL.
6. SERVICE RODS FOR DOMESTIC SERVICE OR AIR VALVES TO BE STAINLESS STEEL.

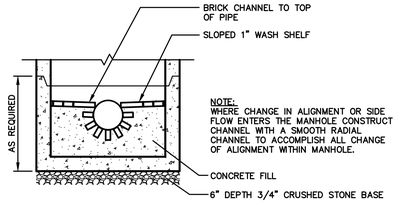
THRUST BLOCK PLACEMENT ON BENDS

NOT TO SCALE



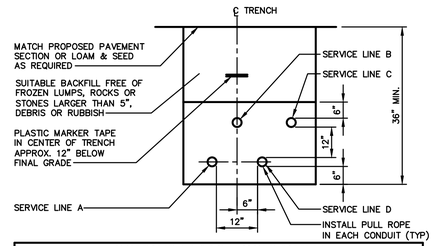
CLEANOUT

NOT TO SCALE



SANITARY SEWER MANHOLE BRICK CHANNEL INSTALLATION

NOT TO SCALE



CONDUIT TYPE SCHEDULE				
SERVICE	CONDUIT SIZE	GRASS & PAVED AREAS	UTILITY	REMARKS
A	2–5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE
B	2–4"	SCHEDULE 40	TELEPHONE	SEE NOTE
C	2–4"	SCHEDULE 40	CABLE	SEE NOTE
D	2–4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARES	SEE NOTE

NOTE:
ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL
LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT
TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

1. THE BEARING SURFACE OF THE THRUST BLOCK SHALL BE THE SURFACE AREA OF THE THRUST BLOCK WHICH IS CAST AGAINST THE TRENCH WALL. THE BEARING SURFACE SHALL NOT EXCEED THE FOLLOWING LOADINGS:

IN-SITU CONDITION	ALLOWABLE
BEDROCK	3,000 psf
SAND OR OUTWASH DEPOSITS	1,500 psf
OTHER SOILS	1,000 psf

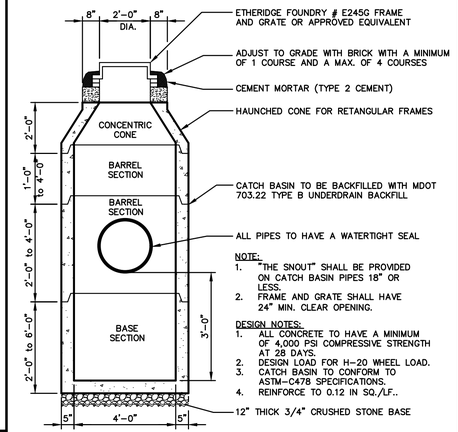
THE THRUST SHALL BE COMPUTED ON THE BASIS OF 150 psi x THE CROSS SECTIONAL AREA OF THE PIPE. FOR EXAMPLE, A THRUST BLOCK FOR A 1/4 BEND ON AN 8" WATER MAIN BEARING AGAINST CLAY WOULD REQUIRE A BEARING SURFACE OF 7.5 s.f.

$$\frac{150 \text{ psi} \times 50 \text{ sq. in.}}{1{,}000 \text{ psf}} = 7.5 \text{ s.f.}$$

2. INSTALL POLY BARRIER BETWEEN PIPE AND ALL THRUST BLOCKS.

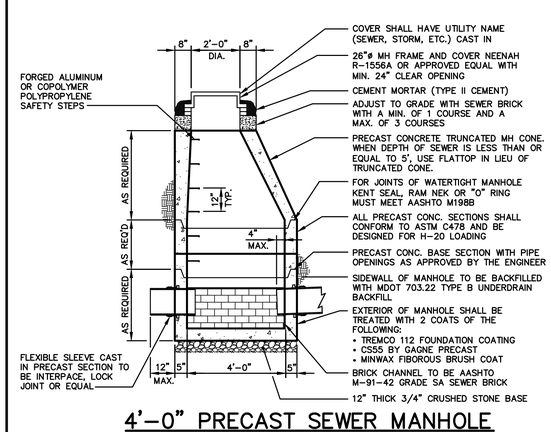
3. ANY WORK RELATED TO WATER PIPING OR DETAILS SHALL BE IN ACCORDANCE WITH THE MAINE WATER COMPANY SPECIFICATIONS.

THRUST BLOCK NOTES



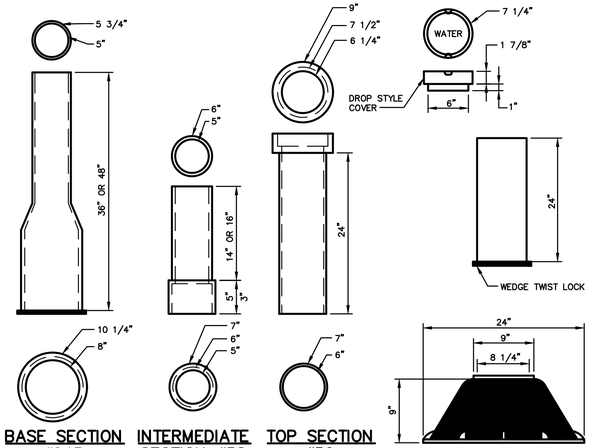
4'–0" PRECAST CATCH BASIN

NOT TO SCALE



4'–0" PRECAST SEWER MANHOLE AND DRAIN MANHOLE

NOT TO SCALE



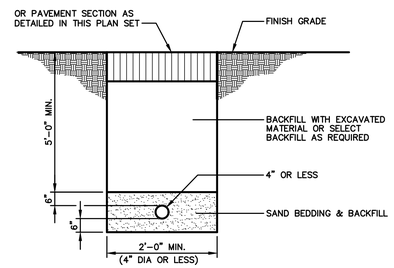
BASE SECTION #645 | INTERMEDIATE SECTION #58 | TOP SECTION #56

NOTE:
BUFFALO VALVE BOXES
NUMBERS ARE FOR 5.25"

VALVE BOX BASE FOR USE WITH # 160 AIR VALVES

TYPICAL VALVE BOXES

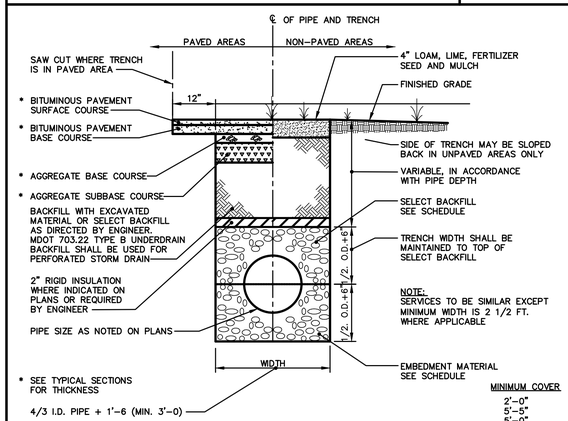
NOT TO SCALE



SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

WATER SERVICE TRENCH SECTION

NOT TO SCALE



SCHEDULE OF TRENCH BACKFILL		
TYPE OF PIPE	EMBEDMENT MATERIAL	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC-SDR 35 HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
PERFORATED PVC-SDR35 HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTE:
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES, 12" BELOW FINISH GRADE.

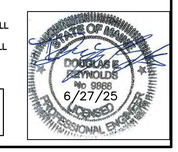
MINIMUM COVER	PIPE
2'–0"	DRAIN (1)
5'–5"	WATER
5'–0"	SEWER

(1) COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION.

TRENCH SECTION

N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.



Rev.	Date	Revision

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RESPONSE TO LOCAL COMMENTS	6/27/25	DER
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RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: NTS	Job No.: 4292

File Name: 4292-DETAILS.dwg

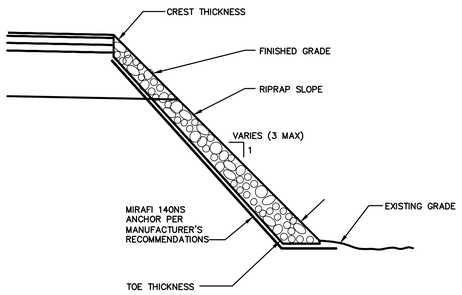
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South Portland, ME 04106

Drawing Name: Utility Details
Project: The Belfort Landing
1582 Forest Ave, Portland, Maine
Client: ACRE Properties
27 Cypress Street, Portland, Maine 04103

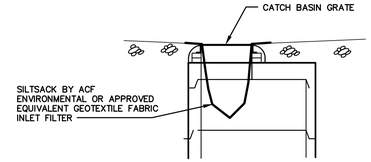
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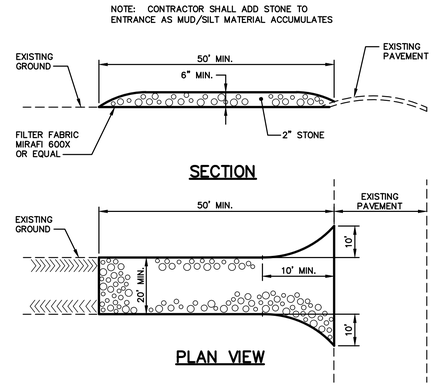


SLOPE HEIGHT	TOE THICKNESS	CREST THICKNESS	D_{100}	D_{50}
> 12'	30"	18"	24"	16"
10' – 12'	26"	18"	24"	12"
< 10'	20"	15"	16"	8"

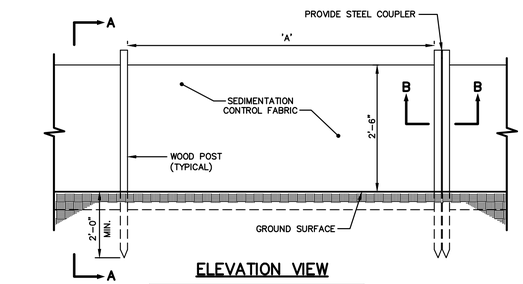
TYPICAL RIPRAP SLOPE
NOT TO SCALE



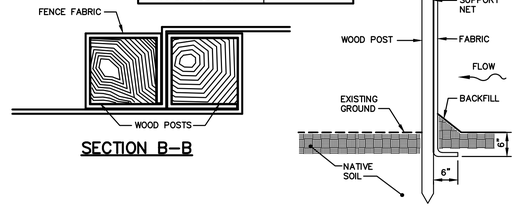
CATCH BASIN INLET FILTER
NOT TO SCALE



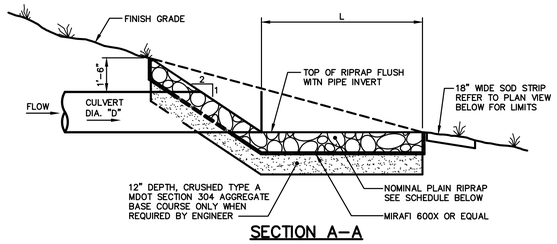
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



SILT FENCE	
SILT FENCE REINFORCEMENT	MAXIMUM SPACING "A"
NONE	6'
WIRE REINFORCE,MENT 14 GUAGE,6" MESH	10'



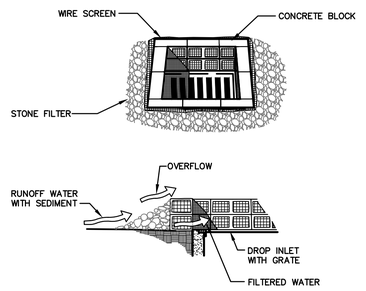
SILTATION FENCE
NOT TO SCALE



SECTION A–A

SCHEDULE				
CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W)	STONE d50	RIPRAP THICKNESS
4"	24"	12"	4"	12"
12"	54"	36"	6"	14"

CULVERT OUTLET APRON
NOT TO SCALE



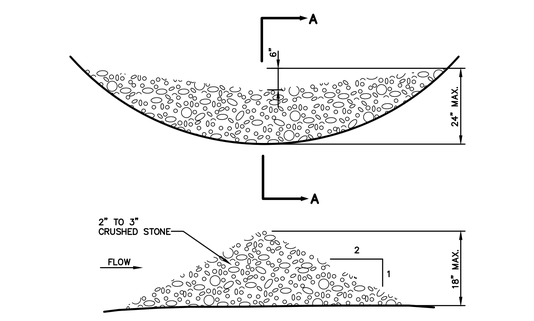
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

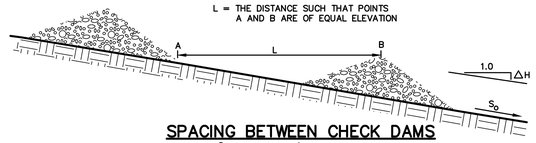
NOTES:

1. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4", 8" AND 12" WIDE BLOCKS. THE BARRIER OF BLOCKS SHALL BE AT LEAST 12 INCHES HIGH, AND NO GREATER THAN 24" HIGH.
2. WIRE MESH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2" OPENINGS SHALL BE USED.
3. STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK BARRIER, AS SHOWN IN DETAIL. THE STONE FILTER SHALL BE 3/4" CRUSHED STONE.
4. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT, SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.

STONE SEDIMENT BARRIER
NOT TO SCALE



SECTION A–A



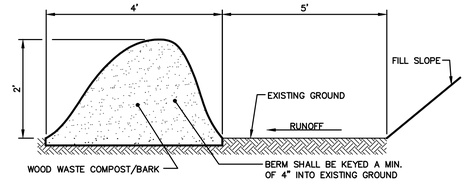
SPACING BETWEEN CHECK DAMS

S_o (FT./FT.)	L (FT.)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10

STONE CHECK DAM
NOT TO SCALE

NOTES:

1. THE WOOD WASTE COMPOST/BARK MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:
   - A. MOISTURE CONTENT – 30–60%
   - B. pH – 5.0 – 8.0.
   - C. SCREEN SIZE – 100% LESS THAN 3", MAX. 70% LESS THAN 1".
   - D. NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION.
   - E. NO STONES LARGER THAN 2" IN DIAMETER.
   - F. SILTS, CLAYS OR SUGAR SANDS ARE NOT ACCEPTABLE IN THE MIX.
2. THE COMPOST BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.
3. THE WOOD WASTE COMPOST/BARK FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 70% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.
5. WOODWASTE COMPOST BARK FILTER SHALL NOT BE USED IN WETLAND AREAS.



WOOD WASTE COMPOST/BARK FILTER BERM DETAIL
NOT TO SCALE

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 9959 — 6/27/25 — LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

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RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: NTS	Job No.: 4292
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Drawing Name: **Erosion Control Details**

Project: **The Belfort Landing**
1582 Forest Ave, Portland, Maine

Client: **ACRE Properties**
27 Cypress Street, Portland, Maine 04103

Drawing No. C404

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EROSION CONTROL MEASURES AND SITE STABILIZATION

THE PRIMARY EMPHASIS OF THE EROSION/SEDIMENTATION CONTROL PLAN, WHICH WILL BE IMPLEMENTED FOR THIS PROJECT, IS AS FOLLOWS:

- DEVELOPMENT OF A CAREFUL CONSTRUCTION SEQUENCE.
- RAPID REVEGETATION OF DENUDED AREAS TO MINIMIZE THE PERIOD OF SOIL EXPOSURE.
- RAPID STABILIZATION OF DRAINAGE PATHS TO AVOID RILL AND GULLY EROSION.
- THE USE OF ON-SITE MEASURES TO CAPTURE SEDIMENT (HAY BALES/STONE CHECK DAMS/SILT FENCE, ETC.)

THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVICES WILL BE IMPLEMENTED AS PART OF THE SITE DEVELOPMENT. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED WITHIN THIS REPORT. FOR FURTHER REFERENCE, SEE THE LATEST EDITION OF THE MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS.

A. DEWATERING

WATER FROM CONSTRUCTION TRENCH DEWATERING SHALL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 50 FEET OF A PROTECTED NATURAL RESOURCE.

B. INSPECTION AND CONSTRUCTION MONITORING

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. BEFORE AND WITHIN 24 HOURS AFTER EACH WET WEATHER EVENT THAT PRODUCES MORE THAN 0.5 INCH OF RAINFALL IN A CONSECUTIVE 24-HOUR PERIOD, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE QUALIFIED CONTRACTOR KNOWLEDGEABLE OF DEP STANDARDS SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. ADDITIONALLY, INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL IN THE SPRING INSPECT AND REPAIR ANY DAMAGES AND/OR UNESTABLISHED SPOTS. ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

THE FOLLOWING STANDARDS MUST BE MET DURING CONSTRUCTION.

1. INSPECTION AND CORRECTIVE ACTION. AN ENGINEER OR SOMEONE WITH KNOWLEDGE OF EROSION AND STORMWATER STANDARDS AS DESCRIBED IN THE CONDITIONS OF THE PERMIT SHALL INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES (INCLUDING CATCH BASIN INLET PROTECTION MEASURES, SEDIMENT FILTER MEASURES, AND STABILIZATION OF SLOPES), MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A STORM EVENT (WET WEATHER EVENT THAT PRODUCES MORE THAN 0.5 INCH IN A CONSECUTIVE 24-HOUR PERIOD), AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES.
2. MAINTENANCE. IF EROSION AND SEDIMENTATION CONTROL (ESC) MEASURES NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. THE CONTRACTOR IS RESPONSIBLE FOR ALL MAINTENANCE ASSOCIATED WITH THESE INSPECTIONS. IF ADDITIONAL ESC MEASURES OR SIGNIFICANT REPAIR OF ESC MEASURES ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (WET WEATHER EVENT THAT PRODUCES MORE THAN 0.5 INCH IN A CONSECUTIVE 24-HOUR PERIOD). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
3. DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, DISTURBED AND IMPERVIOUS AREAS, MATERIALS STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE ESC MEASURES THAT NEED MAINTENANCE, THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL ESC MEASURES ARE NEEDED. FOR EACH ESC MEASURE REQUIRING MAINTENANCE, NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL ESC MEASURES, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN.

THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

C. TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING MEASURES ARE PLANNED AS TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

1. A CRUSHED STONE-STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT THE APPROVED ACCESS DRIVE AS DEPICTED ON THE PLANS.
2. SILTATION FENCE OR WOOD WASTE COMPOST BERMS SHALL BE INSTALLED DOWNSTREAM OF ANY DISTURBED AREAS TO TRAP RUNOFF-- BORNE SEDIMENTS UNTIL GRASS AREAS ARE REVEGETATED. THE SILT FENCE AND/OR WOOD WASTE COMPOST BERMS SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THIS PACKAGE AND INSPECTED AT LEAST ONCE A WEEK AND BEFORE AND IMMEDIATELY AFTER A STORM EVENT OF 0.5 INCHES OR GREATER, AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE OR BERM LINE. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM. WOOD WASTE COMPOST BERMS ARE NOT TO BE USED ADJACENT TO WETLAND AREAS THAT ARE NOT TO BE DISTURBED.
3. STRAW OR HAY MULCH INCLUDING HYDROSEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND OCTOBER 15TH ON SLOPES OF LESS THEN 15 PERCENT SHALL BE ANCHORED BY APPLYING WATER; MULCH PLACED ON SLOPES OF EQUAL TO OR STEEPER THAN 15 PERCENT SHALL BE ANCHORED WITH A FABRIC NETTING AND STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. FABRIC NETTING AND STAPLES SHALL BE USED ON DISTURBED AREAS WITHIN 50' OF LAKES, STREAMS, AND WETLANDS REGARDLESS OF THE UPSTREAM SLOPE. MULCH PLACED BETWEEN OCTOBER 15TH AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT SHALL BE COVERED WITH A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SLOPES STEEPER THAN 3:1 AND EQUAL TO OR FLATTER THAN 2:1, WHICH ARE TO BE REVEGETATED, SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR OR EQUAL. SLOPES STEEPER THAN 2:1 SHALL RECEIVE RIPRAP AS NOTED ON THE PLANS. THE MULCH APPLICATION RATE FOR BOTH TEMPORARY AND PERMANENT SEEDING IS 75 LBS PER 1000 SF AS IDENTIFIED IN ATTACHMENT A OF THIS SECTION. MULCH SHALL NOT BE PLACED OVER SNOW.
4. TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION WILL BE PROTECTED AS FOLLOWS:
   - A.) TEMPORARY STOCKPILES SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY WETLANDS WHICH WILL NOT BE DISTURBED AND SHALL BE LOCATED AWAY FROM DRAINAGE SWALES.
   - B.) STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS BY EITHER TEMPORARILY SEEDING THE STOCKPILE BY A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH, SUCH AS HAY, STRAW, OR EROSION CONTROL MIX.
   - C.) STOCKPILES SHALL BE SURROUNDED BY SEDIMENTATION BARRIER AT THE TIME OF FORMATION.
5. ALL DENUDED AREAS THAT ARE WITHIN 50 FEET OF AN UNDISTURBED WETLAND, WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN A BUILDING PAD, PARKING AREA, OR ACCESS DRIVE SUBBASE AREA, SHALL RECEIVE MULCH OR EROSION CONTROL MESH FABRIC WITHIN 48 HOURS OF INITIAL DISTURBANCE OF SOIL. ALL AREAS WITHIN 100 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 48 HOUR WINDOW. IN OTHER AREAS, THE TIME PERIOD MAY BE EXTENDED TO 7 DAYS.
6. FOR WORK, WHICH IS CONDUCTED BETWEEN OCTOBER 15TH AND APRIL 15TH OF ANY CALENDAR YEAR, ALL DENUDED AREAS, SHALL BE COVERED WITH HAY MULCH OR EROSION CONTROL MIX, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH A FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH SHALL BE LIMITED TO 2 DAYS FOR ALL AREAS.
7. BELFORT STREET SHALL BE SWEPT TO CONTROL MUD AND DUST AS NECESSARY.
8. DURING GRUBBING OPERATIONS STONE CHECK DAMS SHALL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS AND AS DIRECTED ON THE EROSION CONTROL PLANS.
9. SILT FENCING WITH A MINIMUM STAKE SPACING OF 6 FEET SHALL BE USED, UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT OF MINIMUM 14 GAUGE AND WITH A MAXIMUM MESH SPACING OF 6 INCHES, IN WHICH CASE STAKES MAY BE SPACED A MAXIMUM OF 10 FEET APART. THE BOTTOM OF THE FENCE SHALL BE ANCHORED.
10. WOOD WASTE COMPOST/BARK BERMS MAY BE USED IN LIEU OF SILTATION FENCING. BERMS SHALL BE REMOVED AND SPREAD IN A LAYER NOT TO EXCEED 3" THICK ONCE UPSTREAM AREAS ARE COMPLETED AND A 90% CATCH OF VEGETATION IS ATTAINED.
11. WATER AND/OR CALCIUM CHLORIDE SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH MDOT SPECIFICATIONS -- SECTION 637 -- DUST CONTROL.
12. LOAM AND SEED IS INTENDED TO SERVE, AS THE PRIMARY PERMANENT REVEGETATIVE MEASURE FOR ALL DENUDED AREAS NOT PROVIDED WITH OTHER EROSION CONTROL MEASURES, SUCH AS RIPRAP. APPLICATION RATES ARE PROVIDED IN ATTACHMENT A OF THIS SECTION. SEEDING SHALL NOT OCCUR OVER SNOW.

D. PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, GRAVEL SUBBASE, ETC.) WILL BE LOAMED, LIMED, FERTILIZED, MULCHED, AND SEEDED. FABRIC NETTING, ANCHORED WITH STAPLES, SHALL BE PLACED OVER THE MULCH IN AREAS AS NOTED IN TEMPORARY EROSION CONTROL MEASURES PARAGRAPH 4 OF THIS REPORT. ALL AREAS WITHIN 50 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 48-HOUR WINDOW. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.
2. ALL STORM DRAIN PIPE OUTLETS SHALL HAVE RIPRAP APRONS AT THEIR OUTLET TO PROTECT THE OUTLET AND RECEIVING CHANNEL FROM SCOUR AND DETERIORATION. INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. THE APRONS SHALL BE INSTALLED AND STABILIZED TO THE EXTENT PRACTICABLE PRIOR TO DIRECTING RUNOFF TO THE TRIBUTARY PIPE OR CULVERT.

IMPLEMENTATION SCHEDULE

THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO ENSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES ARE OPTIMIZED:

IT IS ANTICIPATED THAT CONSTRUCTION WILL BEGIN IN SPRING OF 2025, WITH FIRST OCCUPANCY ANTICIPATED BY THE END OF 2025.

NOTE: FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE, THIS SHALL BE ACCOMPLISHED BY LIMITING THE DISTURBED AREA. AREA SHALL BE LIMITED TO NO MORE THAN THE CONTRACTOR CAN MULCH IN ONE DAY.

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES AT THE APPROVED LOCATIONS.
2. INSTALL PERIMETER SILT FENCE AND/OR WOOD WASTE BERMS.
3. INSTALL DIVERSION DIKES, OR CHECK DAMS (CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL BMP'S)
4. CLEAR AND GRUB SITE. INSTALL STONE CHECK DAMS AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
5. COMMENCE INSTALLATION OF DRAINAGE APPURTENANCES.
6. COMMENCE EARTHWORK FOR STORMWATER FACILITIES.
7. COMMENCE EARTHWORK AND GRADING TO SUBGRADE.
8. COMMENCE INSTALLATION OF RETAINING WALLS (IF NECESSARY).
9. COMMENCE INSTALLATION OF WATER AND SEWER LINES.
10. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
11. COMPLETE INSTALLATION OF UNDERGROUND UTILITIES TO WITHIN 5' OF FUTURE BUILDINGS.
12. INSTALL LIGHT POLE FOUNDATIONS AND LIGHT POLES.
13. COMPLETE REMAINING EARTHWORK OPERATIONS.
14. COMPLETE INSTALLATION OF DRAINAGE APPURTENANCES.
15. INSTALL SUB-BASE AND BASE GRAVEL WITHIN PARKING AREAS, WALKWAYS, AND ALL DRIVEWAYS.
16. INSTALL CURBING IN PARKING AREAS AS NEEDED.
17. INSTALL BASE COURSE PAVING FOR DRIVES AND PARKING AREA AS WELL AS CONCRETE SURFACES.
18. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
19. INSTALL SURFACE COURSE PAVING FOR DRIVES AND PARKING AREAS. STRIPE PER PLAN.
20. ONCE THE SITE IS STABILIZED AND A 90% CATCH OF VEGETATION HAS BEEN OBTAINED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
21. TOUCH UP LOAM AND SEED.

PRIOR TO CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE FOR THE COMPLETION OF THE WORK, WHICH WILL SATISFY THE FOLLOWING CRITERIA:

1. THE ABOVE CONSTRUCTION SEQUENCE SHOULD GENERALLY BE COMPLETED IN THE SPECIFIED ORDER; HOWEVER, SEVERAL SEPARATE ITEMS MAY BE CONSTRUCTED SIMULTANEOUSLY. WORK MUST ALSO BE SCHEDULED OR PHASED TO REDUCE THE EXTENT OF THE EXPOSED AREAS AS SPECIFIED BELOW. THE INTENT OF THIS SEQUENCE IS TO PROVIDE FOR EROSION CONTROL AND TO HAVE STRUCTURAL MEASURES SUCH AS SILT FENCE AND CONSTRUCTION ENTRANCES IN PLACE BEFORE LARGE AREAS OF LAND ARE DENUDED.
2. THE WORK SHALL BE CONDUCTED IN SECTIONS WHICH SHALL:
   - LIMIT THE AMOUNT OF EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE PROCEEDING 30 DAYS.
   - REVEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT; OR TEMPORARILY STABILIZED WITHIN 48 HOURS OF INITIAL DISTURBANCE OF SOIL FOR AREAS WITHIN 50 FEET OF AN UNDISTURBED WETLAND AND 7 DAYS FOR ALL OTHER AREAS. AREAS WITHIN 50 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 48 HOUR WINDOW.
   - INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEM AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE. THE DITCHES SHALL BE IMMEDIATELY LINED OR REVEGETATED AS SOON AS THEIR INSTALLATION IS COMPLETE.

EROSION, SEDIMENTATION AND STABILIZATION CONTROL PLAN

THE EROSION CONTROL INFORMATION IS INCLUDED IN THE PLAN SET.

DETAILS AND SPECIFICATIONS

THE EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

WINTER STABILIZATION PLAN

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD.

WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT ANY AREA LEFT EXPOSED CAN BE CONTROLLED BY THE CONTRACTOR. LIMIT THE EXPOSED AREA TO ONE ACRE OR AN AREA THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN PARKING AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 SQUARE-FEET (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.

FOR WORK, WHICH IS CONDUCTED BETWEEN OCTOBER 15TH AND APRIL 15TH OF ANY CALENDAR YEAR, ALL DENUDED AREAS, SHALL BE COVERED WITH HAY MULCH OR EROSION CONTROL MIX, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH A FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH SHALL BE LIMITED TO 2 DAYS FOR ALL AREAS.

THE CONTRACTOR SHALL INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES

   STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LBS./1,000 SQUARE-FEET (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE SHALL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 50 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCES PROTECTION

   ANY AREAS WITHIN 75 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 90% MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 75 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS

   DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING

   AN AREA SHALL BE CONSIDERED DENUDED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75-LBS./1,000 SQUARE-FEET OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. MULCH SHALL NOT BE SPREAD SO THICK THAT IT SMOTHERS GROWTH DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1,000 SQUARE FEET (3 TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH.

   BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH THEN COVER IS SUFFICIENT. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

5. MULCHING OF SLOPES AND DITCHES

   SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 230 LBS./1,000 SQUARE FEET ON ALL SLOPES GREATER THAN 8%

   MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 8%. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

6. SEEDING

   BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. DORMANT SEEDING MAY BE SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND FABRIC NETTING ANCHORED WITH STAPLES. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 100 LBS. PER 1,000 SQUARE-FEET. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 90% CATCH) SHALL BE REVEGETATED BY REPLANTING, LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

7. WINTER CONSTRUCTION INSPECTION

   AFTER EACH RAINFALL, SNOWSTORM OR PERIOD OF THAWING AND RUNOFF, THE QUALIFIED CONTRACTOR KNOWLEDGEABLE OF DEP STANDARDS SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. INSPECTIONS SHALL BE PERFORMED A MINIMUM OF ONCE PER WEEK AND SHALL BE CONDUCTED IN ACCORDANCE WITH THE EROSION CONTROL MEASURES AND SITE STABILIZATION WITHIN THE EROSION CONTROL REPORT.

STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

1. STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 1. IF THE APPLICANT FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 1, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.

   INSTALL A SOD LINING IN THE DITCH -- THE APPLICANT SHALL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.

   INSTALL A STONE LINING IN THE DITCH -- THE APPLICANT SHALL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE APPLICANT SHALL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE APPLICANT SHALL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 1. THE DEPARTMENT SHALL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF THE APPLICANT FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 1, THEN THE APPLICANT SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

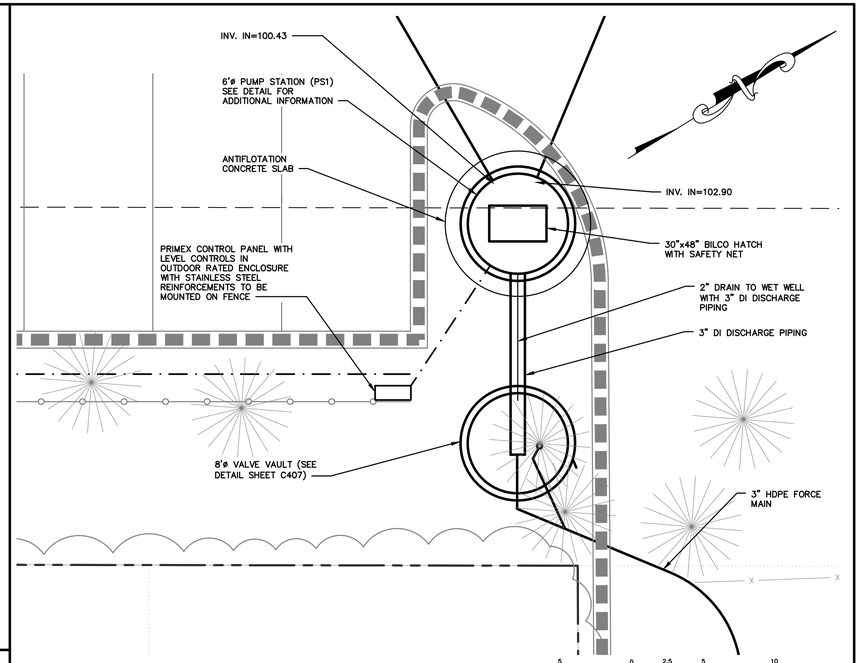
   STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS -- BY SEPTEMBER 1 THE APPLICANT SHALL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE APPLICANT SHALL MONITOR THE GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT SHALL COVER THE SLOPE WITH A LAYER OF WOOD WASTE COMPOST AS DESCRIBED IN ITEM III OF THIS STANDARD OR WITH STONE RIPRAP AS DESCRIBED IN ITEM IV OF THIS STANDARD.

   STABILIZE THE SLOPE WITH SOD -- THE APPLICANT SHALL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY SEPTEMBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE APPLICANT SHALL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).

   STABILIZE THE SLOPE WITH WOOD WASTE COMPOST -- THE APPLICANT SHALL PLACE A SIX-INCH LAYER OF WOOD WASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOOD WASTE COMPOST, THE APPLICANT SHALL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT SHALL NOT USE WOOD WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

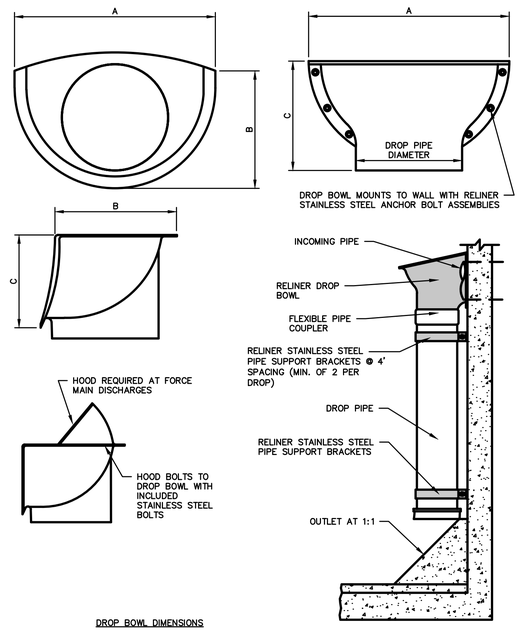
   STABILIZE THE SLOPE WITH STONE RIPRAP -- THE APPLICANT SHALL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER UNDERNEATH THE RIPRAP.

3. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED S



PUMP STATION PLAN

1"=5'



DROP BOWL DIMENSIONS

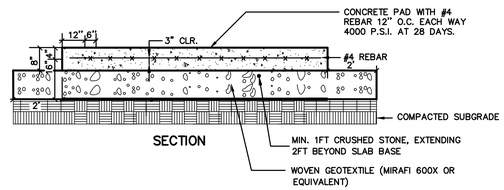
SERIES	DROP PIPE DIAMETER	WIDTH "A"	DEPTH "B"	HEIGHT "C"	ANCHOR BOLT QUANTITY & TYPE
A6	6"	12"	11.1"	8.8"	4 – 1" TAMP–IN

NOTES:

1. INSIDE DROP BOWL SHALL BE A RELINER DROP BOWL AS MANUFACTURED BY DURAN, INC.
2. RELINER INSIDE DROP BOWLS ARE FABRICATED IN MARINE GRADE FIBERGLASS AND FINISHED IN BRIGHT WHITE GEL COAT.
3. USE RELINER STAINLESS STEEL PIPE BRACKETS TO SUPPORT DROP PIPE. EXTERNAL PIPE COUPLER REQUIRED. PROVIDE SWEEP AT DROP PIPE OUTLET.

DROP BOWL DETAIL

NOT TO SCALE



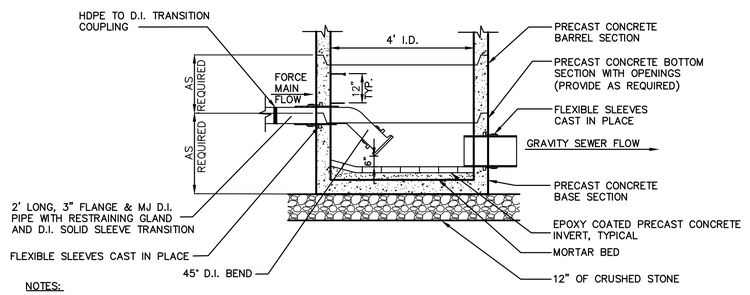
SECTION

NOTES:

1) CONTRACTOR TO PROVIDE SHOP DRAWINGS OF SLAB DESIGN INCLUDING GLOBAL STABILITY, AND ANTI FLOTATION DESIGN STAMPED BY A MAINE LICENSED PROFESSIONAL ENGINEER

ANTI FLOTATION CONCRETE SLAB DETAIL

NOT TO SCALE



NOTES:

1. PIPE SIZE & TYPE AS NOTE ON THE PLANS.

2. NEW CONNECTION INTO THE CITY'S SEWER SYSTEM SHALL BE EQUIPPED WITH BACKFLOW PREVENTION IN ACCORDANCE WITH THE CITY'S TECHNICAL MANUAL.

FORCE MAIN TERMINUS MANHOLE DETAIL

NOT TO SCALE

NOTE: THIS PLAN SET IS ISSUED FOR CONCEPTUAL PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 20918 — 6/27/25 — LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision

Issued For	Date	By
RESPONSE TO LOCAL COMMENTS	6/27/25	DER
RESPONSE TO LOCAL COMMENTS	6/20/25	DER
RESPONSE TO LOCAL COMMENTS	6/13/25	DER
RESPONSE TO LOCAL COMMENTS	5/22/25	DER
RESPONSE TO LOCAL COMMENTS	2/24/25	DER
LOCAL SITE PLAN APPLICATION	12/4/24	DER

Design: AJK	Draft: CJG	Date: NOV 2024
Checked: DER	Scale: AS NOTED	Job No.: 4292
File Name: 4292–DETAILS.dwg		

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Drawing Name: Pump Station Plan and Details

Project: The Belfort Landing
1582 Forest Ave, Portland, Maine

Client: ACRE Properties
27 Cypress Street, Portland, Maine 04103

Drawing No. C406

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